DESIGN AND ACCESS STATEMENT

PROPOSED THREE WIND TURBINES ON

LAND ADJACENT TO HAMELDON HILL WIND FARM

May 2016

Our Ref: 37105
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1.0 Introduction

1.1 Our consultants are members of the Royal Town Planning Institute (RTPI) and the Institute of Environmental Management and Assessment (IEMA). This Design and Access Statement (DAS) has been prepared by AAH Planning Consultants on behalf of FAB Energy Solutions Ltd to accompany an application under the Town and Country Planning Act 1990, made to Burnley Borough Council, as the Local Planning Authority (LPA), for permission to erect three wind turbines with a blade tip height up to a maximum of 100 metres (m), and associated ancillary infrastructure, on land adjacent to the existing Hameldon Hill Wind Farm, which is situated to the south of Burnley town.

1.2 Hameldon Hill Wind Farm ("the Development") is the subject of an Environmental Impact Assessment (EIA) under the Town and Country Planning (Environmental Impact Assessment) (England) Regulations 2011. This DAS compliments the EIA but does not unnecessarily duplicate or repeat information presented in those documents.

1.3 Consent is sought for the construction of the wind farm (with twelve months required) and operation for a period of 25 years from the first time electricity is exported from the Development. Twelve months would also be required for the decommissioning of the Development, which would involve the removal of the turbines and all above ground components.

1.4 Consent is sought by FAB Energy Solutions who are independent from the existing wind farm operators. Whilst the proposed development would be perceived as an extension to the wind farm (and subsequently described as such), they would not be functionally or financially linked.
2.0 Site Description

2.1 The proposed turbines adjacent to the existing Hameldon Hill Wind Farm would lie approximately 1km south-west of the outskirts of Burnley and 2km south of the M65 Motorway, within Hapton County Parish, Lancashire. The land available for development extends east and south from New Barn Farm and is shown in the map below:

Image 2.1: Site Location

2.2 The development site consists of an existing wind farm of three turbines (constructed in 2007) and three further turbines (constructed in 2013, under planning permission APP/2009/0756). The existing turbines comprise of three Repower MD70 (1.5MW models) and three Senvion MM82 (2.05 MW models). The models have been installed at a range of hub and tip heights as set out in the following table.
<table>
<thead>
<tr>
<th>Description</th>
<th>X</th>
<th>Y</th>
<th>Hub Height</th>
<th>Tip Height</th>
<th>Turbine Model</th>
<th>MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original and Installed Turbine 1</td>
<td>380750</td>
<td>430105</td>
<td>50</td>
<td>90</td>
<td>Repower MD70</td>
<td>1.5</td>
</tr>
<tr>
<td>Original and Installed Turbine 2</td>
<td>381124</td>
<td>429918</td>
<td>50</td>
<td>90</td>
<td>Repower MD70</td>
<td>1.5</td>
</tr>
<tr>
<td>Original and Installed Turbine 3</td>
<td>381165</td>
<td>430117</td>
<td>50</td>
<td>90</td>
<td>Repower MD70</td>
<td>1.5</td>
</tr>
<tr>
<td>Recently Installed Turbine 1</td>
<td>380730</td>
<td>429879</td>
<td>59</td>
<td>100</td>
<td>Senvion MM82</td>
<td>2.05</td>
</tr>
<tr>
<td>Recently Installed Turbine 2</td>
<td>380360</td>
<td>429876</td>
<td>69</td>
<td>110</td>
<td>Senvion MM82</td>
<td>2.05</td>
</tr>
<tr>
<td>Recently Installed Turbine 3</td>
<td>380276</td>
<td>430283</td>
<td>69</td>
<td>110</td>
<td>Senvion MM82</td>
<td>2.05</td>
</tr>
</tbody>
</table>

**Table 2.1: Breakdown of Installed Turbines**

2.3 The land extending south from New Barn Farm consists mainly of open moorland and grassland. The immediate surrounding area is now dominated by the wind farm activity, with the underlying character of the area dominated by the moorland and rough pasture as the land rises towards Helen Clough, Black Hill and Hameldon Hill at 339m above ordnance datum (AOD).

2.4 The following points summarises the main features of the development site and surrounding area:

- The application site lies within the Pennine Hills on a north to north-east facing slope of variable incline from gentle at its northern end to increasingly steep towards its southern end before levelling off to an in bye pasture and moorland plateau on Hameldon Hill, Great Hill End and Porter’s Gate Height;
- The entire area is grazed, the lower slopes by mixed cattle and sheep, the higher southern slopes by a few sheep only;
- The northern half of the application site is characterised by improved and semi-improved grasslands, punctuated by occasional wetter marshy grasslands;
- There are numerous cloughs draining through the landownership which tend to be bordered by scattered trees and scrub (predominantly hawthorn and ash);
• The Development Site is located within Flood Zone 1;
• The whole of the land-ownership is intersected by a series of field boundaries, the majority of which are dry stone walls;
• The farm at Lower Micklehurst would be the closest residential property to the wind farm;
• The proposed access route for delivery vehicles is from Aldam Terminal (Goole) via the A161 Normandy Way and A614 to Junction 36 of the M62. Then from Junction 18 of the M62, onto the M66, and via the A56 and A679 that runs across the north-western part of the land ownership. An existing access point will be used for entry into the application site;
• The application site lies at the boundary of National Character Areas (NCA) ‘36: Southern Pennines’ and ’35: Lancashire Valleys’;
• The Burnley Way passes close to the west and south of the Development site with Walk 5 from Towneley to Hapton adjacent to the site;
• There are no World Heritage Sites, Registered Battlefields, Registered Parks and Gardens or Conservation Areas within 2km of the application site;
• There are two Scheduled Monuments within 2km of the application site;
• There are ten listed buildings, all Grade II listed, recorded within 2km of the application site;
• Within the land ownership boundaries there are 24 recorded assets, including one designated Grade II listed building known as New Barn Farmhouse. The remainder are not designated and the majority of the sites date to the medieval and post-medieval period and relate to the agricultural and industrial use of the landscape;
• There are historic quarry, coal pit and colliery operations on the hill and made ground associated with historical quarrying/mining is evident on the geological maps;
• Eight named coal seams are present across the Proposed Development Site; Bassy Coal, Lower Foot Coal, Inch Coal, Upper Mountain (Top Bed) Coal, Cannel Coal, Cemetery Coal, Pasture Coal and Arley Coal;
• Hameldon Hill World War II bombing decoy has been identified as being present to the south of the application site.

2.5 A full and detailed description of the site is made in Chapter 3: Description of the Site of the accompanying Environmental Statement (ES).
3.0 Project Description

3.1 The development proposal is to extend the existing Hameldon Hill Wind Farm and construct and operate an additional three turbines with an installed capacity up-to a maximum of 7.05MW. This would comprise of the following:

- Three additional wind turbines positioned to the east and south-east of the existing wind turbines. Each turbine would have a maximum height of 100m to the tip;
- The construction of associated infrastructure to include wind turbine foundations, crane pads, new and upgraded access tracks, underground cabling to connect the proposed turbines to the National Grid, new substation/control buildings, drainage infrastructure and temporary construction compound(s); and
- Landscaping works including habitat management, improvement and restorative works.

3.2 The operational life of the development will be 25 years. In addition, 12 months would be required for construction and, following the 25-year operational period, 12 months would be required for decommissioning. Decommissioning would involve the removal of the turbines and all above ground components of the development.

3.3 The connection of the wind farm to the national electricity grid is classed as permitted development in accordance with Part 15, Class B – electricity undertakings of The Town and Country Planning (General Permitted Development) (England) Order 2015.

3.4 The turbine models and layout of the Development is described in detail in Chapter 4: Description of the Proposed Development of the accompanying ES.
4.0 Evaluation: Constraints and Opportunities

4.1 The main purpose of this Design and Access Statement is to identify the design parameters and principles of future developments. It is therefore important to consider the constraints and opportunities, arising from the prospective development of the site, and how the proposed development would satisfy these criteria.

Constraints

4.2 The following constraints have been identified from the assessment of the site and consultation with the public and the appropriate bodies:

- Land-ownership boundaries;
- Access;
- Wind capacity;
- Available grid-capacity;
- Distance to residential properties and impact on amenity;
- Distance to recreational receptors;
- Ecological and environmental considerations;
- Heritage and archaeology;
- Noise Impacts;
- Landscape and Visual impacts;
- Aviation Safety; and
- Existing Infrastructure.

Opportunities

4.3 The following opportunities have been identified through the assessment of the site:

- Provision of clean renewable energy in line with national targets;
- Expansion of, and positive relationship to the existing scheme and landscape;
- Landscaping and habitat management;
Design Objectives

4.4 The overall approach will be to apply a design which can be sensitively assimilated into the area, taking into account, where necessary, adjacent land uses and developments. A detailed account of the design objectives and their evolution can be found within Chapter 5: *Consideration of Alternatives* of the accompanying ES. The iterative design process resulted in the identification of a bespoke set of design criteria for the site summarised below:

- Ensure that existing and proposed turbines read as a coherent group in all the main views – aim for a balanced composition, minimising views of blade tips only in key views (which can be distracting);
- Avoid ‘stacking’ of turbines when seen from one direction;
- Avoid siting turbines which are remote from the rest of the group of existing Hameldon Hill Wind Farm turbines;
- Ensure the proposed size is in proportion with, and does not overwhelm, the scale of the hill;
- Ensure that the proposed wind turbines respect the hierarchy of elements in the landscape and do not compete with, or create clutter when seen together with, other man-made landscape elements such as the pylons, existing turbines and transmitter tower;
- Ensure that the proportion of rotor diameter to tower height is balanced and all turbines (including the existing turbines) should rotate in the same direction and at the same rotation speed;
- Minimise the length of new tracks introduced into the landscape, using existing routes wherever possible. Any new tracks should follow contours, avoiding steep slopes or wet ground where possible, and following field boundaries or woodland edges where possible;
- Avoid watercourses where possible to minimise the number of watercourse crossings required;
- Achieve connection to the national electricity grid through the use of underground cabling with cabling to follow the alignment of the proposed access tracks;
- Locate turbines at least 50 metres from habitat features used by bats and at least 100m from woodland;
• Locate proposed infrastructure at least 50 metres from other hydrological features;
• To achieve a separation distance of at least over-sail from public footpaths and over-sail from bridleways;
• Locate turbines outside the buffer zones of telecommunication links;
• Maintain suitable wake separation distances between turbines and 5x3 spacing based on a rotor diameter of 82m;
• Locate turbines in a design which is 10 dB below the existing noise limits of the current wind turbines;
• Locate turbines at least 121m from existing Overhead Cables; and
• Locate turbines and associated infrastructure on land outside of the defined Peat Area (BGS Map).

4.5 These opportunities and constraints have been taken into account in the following section as part of the design process.
5.0 **Design Statement**

5.1 There are six design principles that are required to be addressed within the design component of the DAS. These are:

**Use:** what the development will be used for;

**Amount:** how much development is proposed on the site;

**Scale:** size of the turbines and extent of the development;

**Layout:** how the turbines and ancillary development will be arranged on the site, and the relationship between them and the surrounding landscape;

**Landscaping:** how open spaces will be treated to enhance and protect the character of the surrounding landscape;

**Appearance:** what the turbines and ancillary development will look like, including materials and details.

5.2 The proposed scheme has evolved through an iterative design process that has been dictated by the site parameters and feedback consultation. As part of the design process a number of alternatives have been considered, which are outlined in Chapter 5 of the ES: *Consideration of Alternatives*.

5.3 Having identified the design objectives and, importantly, considered the constraints and opportunities of the site, plans were produced which explored the most appropriate form of development that respected the scale and form of the surrounding landscape and built environment. The justification for these design proposals are highlighted in this section with regard to use, amount, scale, layout, landscaping, appearance and access.

5.4 In accordance with international obligations, the UK Government has committed to reduce emissions of greenhouse gasses to combat the effects of climate change. The Climate Change Act 2008 establishes a legally binding target to reduce the UK’s greenhouse gas emissions by at least 80% in 2050 from 1990 levels. Further to this, as outlined within the UK Renewable Energy Roadmap (July, 2011), the government is committed to ensuring that
15% of our energy demand is met from renewable sources by 2020 in the most cost effective way.

5.5 The National Planning Policy Framework (March, 2012) (NPPF) states in Paragraph 93 that: “Planning plays a key role in helping shape places to secure radical reductions in greenhouse gas emissions, minimising vulnerability and providing resilience to the impacts of climate change, and supporting the delivery of renewable and low carbon energy and associated infrastructure. This is central to the economic, social and environmental dimensions of sustainable development.” Planning Practice Guidance (July, 2013) further emphasises the importance within Paragraph 001 Climate Change: “Addressing climate change is one of the core land use planning principles which the National Planning Policy Framework expects to underpin both plan-making and decision-taking.”

5.6 It is estimated that the proposed scheme would generate approximately 15,558 MW hours (MWh) of electricity per annum, which is enough electricity annually, to supply the equivalent of approximately 4019 households (based on average domestic electricity consumption per meter in the north-west region, 2012, Department of Energy and Climate). This could potentially displace the equivalent of up to approximately 6,690 tonnes of CO2 emissions per year from conventional forms of electricity generation.

5.7 The application site was selected during the company’s research and is one option within a wider portfolio of development by FAB Energy Solutions, aimed at significantly increasing the proportion of energy generated from renewable sources and meeting national targets. Being perceived as an extension to the Hameldon Hill Wind Farm, it is considered that use of the site for wind turbine development is consistent with the existing landscape and infrastructure. Further to this, an assessment and evaluation of the landscape and visual impact, cumulative impact and landscape capacity for development suggests that the scheme can be accommodated.

**Amount**

5.8 The landownership covers an area of approximately 270 hectares. The footprint of the development, which includes; three wind turbines; ancillary development and new access tracks would cover approximately 83,386m². The remaining land within the land-ownership
and development site boundary will be undisturbed from any development. The land-ownership and proposed turbine locations are shown in the following image:

![Image 5.1: Land Ownership and Proposed Turbine Locations](image)

5.9 The three turbines will be installed to a maximum hub height of 65m, and a maximum tip height of 100m. Each turbine will have a generating capacity with a maximum output of 2.35MW, resulting in a total output for the scheme of approximately 7.05MW. The following table shows the measurements of all the development that will take place on the site:

<table>
<thead>
<tr>
<th>Aspect of Development Proposed</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Turbines</td>
<td>3</td>
</tr>
<tr>
<td>Maximum Output of each turbine</td>
<td>2.35MW</td>
</tr>
<tr>
<td>Maximum Height to hub of turbine</td>
<td>65m</td>
</tr>
<tr>
<td>Maximum Height to tip of turbine</td>
<td>100m</td>
</tr>
<tr>
<td>Substation Building</td>
<td>Single storey building measuring approximately 10 m x 6 m</td>
</tr>
<tr>
<td>Access tracks</td>
<td>Useable access road width for jib assembly 6.00m, once installed would be reduced to</td>
</tr>
<tr>
<td>Grid connection</td>
<td>Cables laid underground in cable trenches of 1 m to 2 m in width and approximately 1.2 m in depth</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Crane Pad</td>
<td>Coarse-grained, completely levelled surface 0° to max. +/- 0.15°; (approx. 0.25%) with a top surface made from aggregate with a grain size of 0 – 32 mm. Overall crane pad measuring approx. 40m by 37m</td>
</tr>
</tbody>
</table>

**Table 5.1: Aspects of the Proposed Development**

5.10 Further to the aforementioned development described in Table 5.1, other associated infrastructure on the site includes:

- Foundations; and
- Temporary construction compounds.

5.11 The ‘amount’ of development has been dictated by the aforementioned site constraints, opportunity to assimilate the scheme with the existing wind farm and to respond to the overall design objectives.

5.12 Through the design process, it was determined that a scheme for three wind turbines would be in congruence with the landscape and visual capacity of the hillside. The flexibility afforded by a scheme for three wind turbines ensures that all of the design objectives and site constraints can be adequately satisfied.

**Scale**

5.13 The scale of the development has been dictated by the parameters set by the Landscape and Visual Impact Assessment (*Chapter 7: Landscape and Visual Amenity* of the ES) and in particular the relationship to the existing Hameldon Hill Wind Farm. Further to this, the impact on receptors in the area, including; residential properties and public rights of ways has been an important consideration. As previously stated, as part of the design process, a number of alternatives have been considered, which are outlined in Chapter 5: *Consideration of Alternatives of the ES*. 
5.14 The scale of the development site has been determined by the required land available within the land-ownership to accommodate a scheme that can achieve the required capacity as is available to the grid. These constraints and the ‘amount’ of development have been addressed within Paragraph 5.8-5.12 of this DAS previously.

5.15 The three proposed turbines will be constructed to a maximum height of 100m to the tip, and 65m to the hub. The height has been selected through the consideration of the relationship to the existing turbines, the landscape and visual impact, and the ability to achieve the required output based on the wind capacity and available turbine models.

5.16 The existing turbines of the Hameldon Hill Wind Farm range between 90 – 110m tip height and this has been an important design consideration for the proposal. The selected tip height of 100m ensures that the proposed development is well related to the existing scheme and is legible as an extension.

5.17 Preliminary Landscape and Visual Assessment, combined with comments from consultees, highlighted that consistency of scale and design between the existing wind farm and the proposed development should be a key design objective. The scale of the development in terms of the visual relationship/and impact to/on the surrounding area and existing scheme is illustrated by the photomontages included within the ES.

**Layout**

5.18 The proposed turbines will be constructed in the following locations subject to the application of a proposed micro-siting allowance:

<table>
<thead>
<tr>
<th>Description</th>
<th>Grid Reference</th>
<th>X</th>
<th>Y</th>
<th>Latitude</th>
<th>Longitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed Turbine 1</td>
<td>SD 81207 29690</td>
<td>381207</td>
<td>429690</td>
<td>53.763219</td>
<td>-2.2865555</td>
</tr>
<tr>
<td>Proposed Turbine 2</td>
<td>SD 81271 29423</td>
<td>381271</td>
<td>429423</td>
<td>53.760821</td>
<td>-2.2855684</td>
</tr>
<tr>
<td>Proposed Turbine 3</td>
<td>SD 81402 29876</td>
<td>381402</td>
<td>429876</td>
<td>53.764897</td>
<td>-2.2836088</td>
</tr>
</tbody>
</table>

*Table 5.2: Co-Ordinates for the Proposed Wind Turbines*

5.19 The layout of the proposed scheme is shown in relation to the existing wind farm in the following image:
5.20 As with the previous scheme this application seeks candidate turbines to ensure that the availability of models in the market can be explored post consent. Due to the location of the turbines on the higher ground in comparison with the existing Senvion MM82 turbines most recently installed, it is suggested that the maximum tip height is capped at 100m rather than the 110m previously approved.

5.21 The proposed layout of the scheme and positioning of the individual turbines ensures that there are no significant adverse impacts with regards to noise, landscape, visual amenity, shadow flicker, proximity to recreational receptors (including PRoWs), residential amenity, ecology, heritage and archaeology, existing infrastructure (including power-lines), and aviation safety. Associated infrastructure has also been a key consideration as part of the design and layout of the scheme:

- **Location of Transformers and Substation**: the metering substation would be positioned on the lower slopes within the site to ensure that there is a minimal visual impact.
• **Design and Location of Access Tracks:** The proposals have sought to minimise the impact on the landscape by reusing existing access tracks where possible. The preferred route is to utilise the existing track which was used to facilitate the access for the existing wind turbines. This partly falls on land outside of the landownership of New Barn; however, access rights exist to facilitate the turbines delivery in a similar manner to the previous scheme. The proposed turbines can subsequently be delivered to site with any new access tracks kept to an absolute minimum. The extent of new tracks and works required are outlined in detail in Chapter 11 of the ES with the design of the internal access road undertaken in order to minimise the extent of hard surfacing, with the access road leading to each turbine designed at approximately 6m in width to allow the crane and installation of each turbine. Once installed these access tracks would be reduced in width to approximately 3m as the existing tracks serving the previous scheme have been undertaken.

• **Need for Monitoring Masts:** Given the existing wind resource on site and the current operational wind farm no monitoring masts were considered necessary. This would ensure that the number of vertical elements on the hillside was kept to a minimum.

• **Design of Lighting:** The planning application ref: APP/2009/0756 for the second phase of the wind farm was approved with Condition 21 of the decision notice relating to lighting as follows: “21. The turbines shall not be illuminated and there shall be no permanent illumination on the site other than lighting required during the construction period, during planned or unplanned maintenance or emergency lighting, and PIR-operated external door light for the substation doors to allow safe access.” Given the background context of this proposal adjacent to an existing wind farm, any alternative options to include lighting were dismissed to ensure a consistency in design.

5.22 Micro-siting is the final iteration in the design of the site layout and is undertaken towards the final stages of the development, once a particular turbine has been selected and as further information becomes available. It is not uncommon that the turbines selected for installation may have some particular design features that require minor changes to be made to allow for the installation of the approved development. Subsequently, flexibility
through micro-siting is commonly sought in order to determine the precise turbine locations and access track alignment.

**Landscaping**

5.23 Given the nature of the development, and the visibility due to the height of the turbines, landscaping, mitigation through new tree and hedgerow planting measures, are not considered appropriate, as is the case with other new developments. In addition, the small footprint area of the turbines and ancillary development ensures that the loss of any vegetation is minimal.

5.24 The application site consists mainly of open moorland and grassland/rough pasture that extends southwards from New Barn Farm. Landscaping works will include habitat management, improvement and restorative works.

5.25 Areas of land that are disturbed during construction and decommissioning will be reinstated to the original condition prior to the proposed development or to the condition just prior to the commencement of the decommissioning activities. It is envisaged that a planning condition would be attached to any consent requiring a decommissioning scheme which shall be submitted to and approved in writing by the Local Planning Authority (LPA). The scheme shall include: (a) details of the removal of surface and above surface elements of the development and the restoration of the site following such removal; and, (b) details of the timing, management and traffic movements in relation to such removal and restoration. The scheme would be implemented in accordance with the approved details.

**Appearance**

5.26 The aim of the proposed scheme was to match the appearance of the existing turbines at Hameldon Hill as much as possible, though, the installed turbines are no longer available on the market. In order to assimilate the proposed scheme with the existing wind farm, without compromising the feasibility, a number of candidate turbines have been selected to offer flexibility.
<table>
<thead>
<tr>
<th>Turbine Model</th>
<th>Capacity (MW)</th>
<th>Hub Height (M)</th>
<th>Tip Height (M)</th>
<th>Rotor Diameter (M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repower MM70</td>
<td>2.0</td>
<td>65</td>
<td>100</td>
<td>70</td>
</tr>
<tr>
<td>Enercon E70</td>
<td>2.35</td>
<td>57</td>
<td>92.50</td>
<td>71</td>
</tr>
<tr>
<td>Senvion MM82</td>
<td>2.05</td>
<td>59</td>
<td>100</td>
<td>82</td>
</tr>
</tbody>
</table>

Table 5.3: List of Candidate Turbines

5.27 The candidate turbines proposed would complement the appearance and scale of the existing turbines at Hameldon Hill Wind Farm. As a means of reducing the visual impact, only three turbines have been sought rather than five. The maximum height of the proposed turbines at 100m to the tip has reduced the potential visual impact and ensured coalescence with the existing scheme. It is proposed that all cabling be underground to reduce any additional impact above ground. The access route for the installation has sought to make the most of the existing road serving the farm, limiting the additional track to crossing the field only. Consideration was given to colour treatment, however, as the proposed turbine would be seen from different views against both landform and skyline, it is not practical to look at differing shades and the manufacturers’ standard details would be sought.

5.28 The rotor blades of the wind turbines are typically made of glass-fibre reinforced plastic (glass fibre + epoxy resin). The rotor blades are specially designed to operate with variable pitch control and at variable speeds. A microprocessor-controlled pitch unit would mean that each blade is independent of one another to adjust each of the three rotor blades. An angle encoder in each rotor blades would constantly monitor the set blade angle and ensure blade angle synchronisation across all three blades. This would provide for quick, accurate adjustment of blade angles according to the prevailing wind conditions.

5.29 The turbines would not be illuminated and there would be no permanent illumination on the site other than lighting required during the construction period, during planned or unplanned maintenance or emergency lighting, and a passive infra-red operated external door light for the substation doors to allow safe access.
6.0 Access Statement

6.1 Best practice guidance set out by CABE (2006), although generally applicable to other forms of development, purports the following two inter-related aspects with regards to access:

1. **Vehicular and transport links**: Why the access points and routes have been chosen, and how the site responds to road layout and public transport provision;

2. **Inclusive access**: How everyone can get to and move through the place on equal terms.

6.2 The purpose of this Access Statement is to address these two inter-related issues with regards to the delivery, construction, operation and public accessibility and use through the landscape.

**Delivery Phase**

6.3 The proposed turbine and associated infrastructure would be delivered via the same route as the existing turbines. This was transported from the M62 (junction 18), onto the M66, and via the A56 and A679. Chapter 11: *Traffic and Transportation* of the ES sets down in detail the transportation requirements and associated effects. The transport vehicles would not exceed the maximum axle load of 12t (usually 10t). Thus, a transport vehicle with an actual overall weight of 100t has at least nine axles (plus towing vehicle). Approximately 20 transport cycles are required to deliver one wind turbine (incl. tower) to the application site. Vehicles required would include low-loader trailers, flatbed trailers, semi-trailers and adapter vehicles. Approximately 35 trucks would be required to transport the crane equipment to the crane and the assembly of the jib.

6.4 The internal access road would utilise the junction from the Agra Indian Restaurant on the A679, which was used for the previous scheme. The construction of the internal access roads would be agreed with the geotechnical engineer as part of the detailed design post consent and could vary depending on the ground conditions. The number of water course crossings has been minimised to one in total over the Tower Brook. The crossing would be culverted and would be designed as part of the post consent phase in accordance with the Environment Agency requirements. The access tracks, other hard surfaced areas, substation and turbines would remain un-fenced/un-gated once they have been constructed.
6.5 The indicative internal access routed is depicted in the submitted Site Layout Plan.

Construction Phase

6.6 In order to facilitate consecutive assembly of the individual jib components, a gravelled roadway would be required for the crane. The individual main jib (lattice tower of the crane) components would be assembled across a span of approximately 100.00m on site with the aid of an auxiliary crane and then raised. During this process, the auxiliary crane would be positioned to the side of the main crane jib. The design of the internal access roads has been undertaken in order to minimise the extent of hard surfacing with the access road leading to each turbine designed at approximately 6m in width to allow the crane and installation of each turbine. Once installed these access tracks would be reduced in width to approximately 3m.

6.7 These requirements and associated effects are elaborated further in Chapter 11 of the ES and prior to commencement of construction activities, a Construction Traffic Management Plan (CTMP) would need to be submitted to and approved in writing by Burnley Borough Council to ensure the potential for significant adverse environmental effects on local receptors is avoided. This would include measures for the routing of construction traffic, scheduling and timing of movements, the management of junctions to and crossings of the public highway and other public rights of way, details of escorts for abnormal loads, temporary warning signs, temporary removal and replacement of highway infrastructure/street furniture, reinstatement of any signs, verges or other items displaced by construction traffic and banksman/escort details where relevant.

6.8 The proposed construction activity would be undertaken in line with best practice between 0700-1900 Monday to Friday and 0700-1600 on Saturdays. No construction activity would be undertaken on a Sunday or Bank Holiday. Outside these hours, works at the site shall be limited to emergency works and dust suppression, unless otherwise approved in writing by the Local Planning Authority. The delivery of any construction materials or equipment for the construction of the development shall be restricted to the hours of 07:00 - 19:00 on Monday to Friday inclusive, 07:00 - 16:00 hours on Saturdays with no such deliveries on Sundays or Public Holidays. No tree felling, vegetation clearance works, demolition work or other works that may affect nesting birds would be carried out between March and July inclusive, unless the absence of nesting birds has been confirmed by on-site survey investigation.
6.9 It is envisaged that development would commence as soon as is practically possible from the grant of any consent and would be subject to a number of dependents including the discharge of any pre-commencement condition, availability of candidate turbines, ground conditions and environmental constraints. It is anticipated that this would be within 12 months of the grant of any consent and the turbines would be installed in a single phase. Chapter 11 of the ES outlines the general sequence of events for the install, which would include the initial construction of temporary construction compounds and a site office, the construction of extension to the access tracks, the construction of the turbine foundations and crane pads, the delivery and erection of the turbines followed by the install. Works to the grid connection details and associated infrastructure can be undertaken concurrently allowing for the connection and testing following the erection of the respective turbines. It is envisaged that a Construction Method Statement would be required by the LPA as a condition of any consent and this would be prepared and submitted. The Construction Method Statement would include the following elements in line with the previous scheme on site:

- Details of the phasing of construction works;
- Notwithstanding the details given in the Environmental Statement details of the construction of the substation building including external appearance, layout, materials and landscaping of the substation and any associated compound or parking area;
- Details of the construction and surface treatment of hard surfaces and tracks;
- Details of the proposed storage of materials;
- Dust management;
- Details of lighting for construction and maintenance purposes;
- Siting and details of wheel washing facilities;
- Details of all temporary construction works, temporary facilities including the site compound for storage of materials and machinery and temporary engineering operations;
- Cleaning of site entrances, site tracks and the adjacent public highway and the sheeting of all HGVs taking spoil or construction materials to/from the site to prevent spillage or deposit of any materials on the highway;
- Pollution control, protection of water courses, bunding of fuel storage areas, surface water drainage, flood risk, sewage disposal and discharge of foul drainage;
• Details and timetable for post construction restoration/reinstatement of the temporary working areas;
• Details of emergency procedures and pollution response plans;
• Storage and off-site disposal of excavated material;
• Details of the protection of public footpaths during construction;
• Details of the underground cabling between wind turbines and the control building;
• Details for the protection of trees and hedgerows during construction.

**Operational Phase**

6.10 Once the development is completed and the turbines are operational, access would be required for maintenance purposes. In order to ensure the long-term safe and optimum operation of the wind energy converter, maintenance is required at regular intervals. This will typically include one of each of: mechanical; visual; grease; and electrical maintenance per year. The maintenance activities would be spread out over the year, so that every wind energy converter is being serviced once per quarter. The first maintenance would usually be carried out at 300 operating hours after commissioning. There would also be the potential for unscheduled maintenance arising from any problems that cannot always be predicted. These could be at any point during the lifecycle of the turbines though are more likely at the beginning or end of the turbine’s cycle.

6.11 Access to the site for maintenance purposes during the lifecycle of the development would remain unchanged from that used during the delivery and construction phase, utilising the junction from the Agra Indian Restaurant along the A679. The internal access tracks would be those used for the construction phase and would measure approximately 3m in width.

**Public Access**

6.12 A number of public rights of way (PRoW) pass through the land-ownership and adjacent to the development (see Image 5.1). These are located approximately (nearest point of footpath to nearest turbine):

• 260m to the north;

• 600m to the south;
6.13 The Burnley Way, although outwith the landownership, is in close proximity to the western and southern boundary with *Walk 5 from Towneley to Hapton* adjacent to the development site.

6.14 During the delivery, construction, operation and decommissioning of the development access would be via the existing Hameldon Hill Wind Farm and New Barn Farm access route. This route is illustrated by the following image:

![Image 6.1: Site Access Route](image)

6.15 The location of the proposed turbines enables the reuse of the existing route used for the previous scheme and of the access tracks already on the site as much as possible. This also ensures that any new tracks are kept to a minimum. Combined with, with the nearest PRoW being 260m to the north, this approach ensures that no ‘new’ disturbance is caused to any PRoWs.

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Design and Access Statement
Hameldon Hill wind Farm Extension
7.0 Summary

7.1 Overall the scheme has followed an iterative design process that has assessed the site and surrounding area, consulted the appropriate consultees, evaluated the evidence, and ultimately designed a scheme that is considered to utilise the available information in support of a sustainable and well-conceived proposal.

7.2 This Design and Access Statement has summarised the key issues raised through the assessment of the site and through consultation with the appropriate bodies. The statement, in line with best practice guidance (CABE, 2006) has considered the main elements of the development with regards to Use; Amount; Layout; Scale; Landscaping; and Appearance. The access arrangements for the delivery, construction, operation and maintenance, and public amenity and safety have been addressed.

7.3 Ultimately, the compliance of the final design and layout of the development, with the bespoke design objectives conceived as part of the design process, is the test against which the proposal needs to be compared. The compliance with these objectives is addressed in the following table:

<table>
<thead>
<tr>
<th>Design Objectives</th>
<th>Compliance or Not</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure that existing and proposed turbines read as a coherent group in all the main views – aim for a balanced composition, minimising views of blade tips only in key views (which can be distracting).</td>
<td>Compliance - although turbine 2 is positioned furthest from the group of existing turbines its scale and location in wireframes is still read as part of the overall group.</td>
</tr>
<tr>
<td>Avoid ‘stacking’ of turbines when seen from one direction.</td>
<td>Compliance - each turbine is offset with a separation distance from each other to ensure that the turbines do not appear stacked on the hillside.</td>
</tr>
<tr>
<td>Avoid siting turbines which are remote from the rest of the group of existing Hameldon Hill Wind Farm turbines.</td>
<td>Compliance – Whilst the turbine positions are slightly further south than the current group in plan terms the final composition in visual terms appears well related to the rest of the group of turbines.</td>
</tr>
<tr>
<td>Ensure the proposed size is in proportion with, and does not overwhelm, the scale of the hill.</td>
<td>Compliance – the scale sought at a maximum height of 100m, is 10m below the height of the maximum turbine installed at present so whilst the position is on higher ground a balance has been sought visually.</td>
</tr>
<tr>
<td>Ensure that the proposed wind turbines respect the hierarchy of elements in the landscape and do not compete with, or create clutter when seen together with, other man-made landscape elements such as the pylons, existing turbines and transmitter tower.</td>
<td>Compliance – the proposed turbines have been sought on the higher ground beyond the pylons and the lower ground level below the transmitter towers. Their position has been sought in combination with the existing turbines.</td>
</tr>
<tr>
<td>Ensure that the proportion of rotor diameter to tower height is balanced and all turbines (including the existing turbines) should rotate in the same direction and at the same rotation speed.</td>
<td>Compliance – the proposed turbines heights have been designed to be in balance with the existing so as not to appear incongruous on the hillside. The turbines can be controlled so as to rotate in the same direction.</td>
</tr>
<tr>
<td>Minimise the length of new tracks introduced into the landscape, using existing routes wherever possible. Any new tracks should follow contours, avoiding steep slopes or wet ground where possible, and following field boundaries or woodland edges where possible.</td>
<td>Compliance – the existing route used for the previous scheme would be reused. The access tracks in the site would be reused as much as possible and keeping new tracks to a minimum. The new tracks would follow the land contours and avoid steep slopes. Only the southernmost turbine would be positioned in wetter ground and woodland would be avoided.</td>
</tr>
<tr>
<td>Avoid watercourses where possible to minimise the number of watercourse crossings required.</td>
<td>Partial Compliance - Two of the turbines would avoid watercourses completely however it has been necessary to cross Tower Brook. The crossing would be culverted and would be designed as part of the</td>
</tr>
<tr>
<td>Requirement</td>
<td>Compliance</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Achieve connection to the national electricity grid through the use of underground cabling with cabling to the follow the alignment of the proposed access tracks.</td>
<td>Compliance – All cables will be laid underground and follow the alignment of the proposed access tracks as much as possible.</td>
</tr>
<tr>
<td>Locate turbines at least 50 metres from habitat features used by bats and at least 100m from woodland</td>
<td>Compliance – the proposed turbines have been positioned a significant distance from woodland ensuring compliance. The only habitat features could be the Tower Brook and the 50m separation distance has been achieved from here.</td>
</tr>
<tr>
<td>Locate proposed infrastructure at least 50 metres from other hydrological features</td>
<td>Partial compliance - Two of the turbines would avoid hydrological features completely however it has been necessary to cross Tower Brook. The crossing would be culverted and would be designed as part of the post consent phase in accordance with the Environment Agency requirements. The turbine itself would be positioned beyond the 50m buffer though.</td>
</tr>
<tr>
<td>To achieve a separation distance of at least oversail from public footpaths and oversail from bridleways</td>
<td>Compliance – All turbines comply with these standards.</td>
</tr>
<tr>
<td>Locate turbines outside the buffer zones of telecommunication links</td>
<td>Consultation is still ongoing to establish if any mitigation is required to ensure compliance.</td>
</tr>
<tr>
<td>Maintain suitable wake separation distances between turbines and 5x3 spacing based on a rotor diameter of 82m</td>
<td>Compliance – the position of the turbines would exceed this requirement.</td>
</tr>
<tr>
<td>Locate turbines in a design which is</td>
<td>Compliance – each turbine has been specifically designed to comply with all relevant regulations.</td>
</tr>
</tbody>
</table>
10 dB below the existing noise limits of the current wind turbines positioned in order to be 10 dB below the existing noise limits of the current wind turbines.

Locate turbines at least 121m from existing Overhead Cables

Compliance – each turbine has been positioned in order to be at least 121m from existing Overhead Cables

Locate turbines and associated infrastructure on land outside of the defined Peat Area (BGS Map).

Compliance – each turbine has been positioned outside of the defined Peat Area (BGS Map).

Table 7.1: Table Illustrating Compliance with Objectives

7.4 Overall it can be seen that a scheme that can be successfully and appropriately accommodated by the landscape in a sustainable manner.