

PROPOSED MODIFICATION TO AN EXISTING PLANNING PERMISSION FOR A RENEWABLE ENERGY GENERATION FACILITY (REGF)

PEBBLE HALL FARM, BOSWORTH ROAD, THEDDINGWORTH
NORTHAMPTONSHIRE, LE17 6NJ

CARBONARIUS Ltd

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INTRODUCTION

Introduction

This Design and Access Statement is submitted to Northamptonshire County Council by GP Planning Limited, on behalf of Carbonarius Limited. It accompanies a Planning Statement and Environmental Statement which provide a planning policy assessment and Environmental Impact Assessment respectively for a planning application for a proposed Renewable Energy Generation Facility (REGF). This Design and Access Statement provides information on the high quality design and appearance of the proposed development.

This Design and Access Statement accords with industry guidance, *Design and Access Statements How to Read, Write and Use them* (CABE, 2007), and the requirements of Northamptonshire County Council. The statement considers the following issues set out in the CABE (2007) guidance in relation to the proposed development:

- Use of the Site
- Amount of Development
- Layout
- Scale
- Landscape
- Appearance
- Access

The Design and Access Statement will first outline the energy from waste process and will then consider each of the issues set out in the CABE (2007) guidance in turn. It also considers compliance with the relevant design policies.

Energy from Waste – Wood Gasification

Primarily, wood gasification is the processing of wood waste to produce heat and electricity.

Processing of wood waste is an activity already undertaken on the site authorised by an existing planning permission for a REGF, which is within the development boundary. This application seeks to relocate the site of the power generation building to provide separation between the wood processing and the power generation components. It also seeks approval for a larger building, to accommodate a proven gasification technology.

The proposed development will process a total of 72,000 tonnes of wood per annum, which is 32,000 tonnes per annum over the consented amount. This will in turn, produce 10.4 MWe of renewable electricity per hour, which is sufficient to power 17,000 homes or 21% of Northamptonshire's homes. Renewable heat will also be produced to be used in adjacent industrial operations and nearby businesses. The plant will be CHP ready (CHP-R).

The process begins when imported wood material is fed into the gasification chamber where it will be thermally treated under low oxygen conditions to produce a fuel gas. This gas is then passed to a combustion chamber where it is mixed with air and combusted under carefully controlled conditions, this then produces heat which in turn is used to produce steam within a boiler.

This steam is then used to generate a turbine which produces upto 10.4MW renewable electricity per hour.

PLANNING POLICY

Introduction

The CABE guidance (2007) states that Design and Access Statements should set out the planning policy context, which exists to guide the design of proposed developments. In accordance with this guidance this section seeks to draw attention to the relevant policies that exist. The relevant Development Plan documents which contain design and access guidance are:

- Northamptonshire Minerals and Waste Core Strategy (2010)
- The Control and Management of Development, Development Plan Document (2011)
- Development and Implementation Principles, Supplementary Planning Document (2011)
- Daventry District Council Local Plan (1997, Saved Policies)

The planning policies contained within these Development Plan documents are provided below.

Development Plan

Northamptonshire Minerals and Waste Core Strategy (2010)

Policy CS7 seeks to promote sustainable development through ensuring that sustainable design, construction and demolition principles are applied to all built development. It provides an emphasis on maximising the reuse of materials, waste management and requirements relating to energy and water efficiency.

Policy CS8 relates to the co-location of waste management facilities with new development. It aims to create a more holistic approach and integrated approach to waste management. It states that facilities should be appropriate for their location whilst also being well designed.

Policy CS14 relates to addressing the impact of proposed waste developments. It seeks to ensure that local impact is minimised, local amenity is protected and the proposed development is environmentally acceptable.

The Control and Management of Development DPD (2011)

Policy CMD7 relates to natural assets and resources. It indicates that where possible, waste development should seek to achieve a net gain in assets and resources through the delivery of wider economic benefits and contributions towards Northamptonshire Biodiversity Action Plan targets for habitats and species.

Policy CMD8 relates to landscape character. This policy indicates that new development should mitigate against potential adverse impacts on the local character and distinctiveness of the surrounding area where necessary.

Policy CMD10 relates to layout and design quality. It emphasises that the design and form of new development is as important as its scale and location. It indicates that the layout and design of new facilities can help reduce potential impacts, increase public perception, improve safety and security as well as increasing operational efficiency.

Development and Implementation Principles SPD (2011)

This documents provides practice guidance concerning all other forms of development (such as waste minimisation and management and preventing land use conflict), as well as those specific to waste development such as catchment areas and design.

Daventry District Local Plan (1997 saved policies)

Policy GN3 - Requirement for available services and infrastructure

Compliance with Development Plan

The development is for the production of renewable energy, which is a sustainable development. Other issues of sustainability for the development are considered in the Planning Statement that accompanies the application.

The facility has been designed in order to utilise the best available technologies and to minimise the impact on local amenity. The form of the proposed building itself is largely derived by its use and by the shape and size of the industrial plant it contains. However, consideration has been given to the new building layout in respect to its visual impact. The building has been positioned between the existing grain store and the embankment to the South and West of the site in order to provide additional landscape and visual impact mitigation. The location of the stack has been determined by the air quality modelling and the orientation and dimensions will ensure satisfactory dispersion.

Daventry District Council's Policy GN3 provides that the infrastructure, services and amenities made necessary by the development are in existence or will be provided by the developer or other agency. A drawing showing the proposed route for the connection to the national grid system is included in Appendix 5. Western Power has confirmed that there is the ability to export the power from this facility to the local distribution network and a formal application for the connection has been submitted.

CABE (2007) CRITERIA

This section considers each of the issues set out in the CABE (2007) guidance in turn.

Use of Site

The CABE (2007) guidance sets out that this section of the Design and Access Statement should describe what the proposed buildings and spaces will be used for. In accordance with this guidance the main buildings and spaces are listed below along with their proposed corresponding use.

- Wood waste reception, processing and storage area – already taking place within the area of the planning permission for the REGF.
- Fuel Hall –shredded timber will be transferred from the storage area to the Fuel Hall via conveyor or front loader. From here it will be transferred into the main Plant Hall.
- Plant Hall – prepared timber transferred from the Fuel Hall will be temporarily stored on a walking floor before being fed into the gasification chamber to be thermally treated to form a synthetic gas fuel which is then burned within a separate combustion chamber before passing to the boiler.
- Turbine Hall – after the combustion process takes place, turbines within the Turbine Hall are powered using the steam which has been produced from the boiler. On the Turbine Hall roof there will be a small oil cooler.

- Air-cooled Condenser – a separate structure connected to the turbine hall by a pipe, where the steam from the process is cooled.
- 1 x Flue Stack – to be used to disperse abated emissions into the atmosphere.
- Office, Control Room, Control Panels and Workshop – this area of the facility will be used for general administration, operations, monitoring and maintenance.
- 11 x Parking spaces
- Working yard, with weighbridge (shared with other uses at the Pebble Hall complex), gas storage compound and transformer compound.

Amount

The CABA (2007) guidance sets out that this section should describe how much would be built on site if the development were permitted. The proposed site layout is illustrated on drawing GPP/C/PH/REGF/13/04. The development will involve the construction of the elements of infrastructure as set out in the Use of the Site section. The measurements of these elements can be found in the Scale section of this statement.

Layout

The CABA (2007) guidance sets out that this section should explain why this layout has been chosen, and how it will work and fit with its surroundings. For the detailed site layout see drawing GPP/C/PH/REGF/13/04. The layout has been designed to be as compact as possible, to minimise the amount of land used and to make the site operations as efficient and safe as possible. It has been designed to maximise the safety of operations, with particular reference to fire risk, by keeping the power generation plant away from the wood processing operations. Site security is already in place, as required by the Environmental Permit for the composting operations that take place within the Pebble Hall complex on an adjoining site.

Scale

The CABA (2007) guidance sets out that this section should set out how big the buildings and spaces would be, along with their measurements. The following are the dimensions of the main buildings and spaces:

- Entire Application Site: 3.4 hectares, of which 1.5ha is arable field for the re-contouring of the bank to the south and west of the site and 0.3ha is the access road.
- Fuel Hall – 25m x 25m x 10.5m(H)
- Plant Hall – 85m x 25m x 18.5m(H)
- Turbine Hall – 15m x 18m x 9.5m(H)
- 1 x Emissions Stack – 1.41m diameter x 30m(H)
- Office, Control Room, Control Panels and Workshop – 25m X 11m x 10.5m(H)
- Air-cooled condenser –15m x 26m x 18m (H)
- 11 x Parking spaces
- Working yard.

Total footprint of new buildings is 3295 square metres.

To facilitate the development there will be the loss of 1474 square metres of B8 floorspace, as the existing units will be demolished. Together with the floor area of the REGF building that will not now be constructed (1890m²), this totals 3364m² which is less than the proposed new building footprint.

Landscape

The CABE guidance (2007) provides that this section should set out how open spaces will be treated to enhance and protect the character of the places. A detailed Landscape and Visual Impact Assessment is included in the Environmental Statement that accompanies the planning application. It sets out the details of the landscape character of the locality.

The landscape is rolling and scattered with various landscape features such as hedgerows and trees. The surrounding land is in arable cultivation in connection with the Pebble Hall Farm.

Proposed Landscape Mitigation

Pebble Hall has been extensively landscaped in recent years in order to provide visual screening for the site activities. It consists of hedgerows, with trees and native shrub planting. In addition, a significant amount of native woodland has been planted to the North-West and East of the site. A wildlife pond is to be installed to the North of the site.

The proposed additional landscape work for this development is shown on Drawing GPP/C/PH/REGF/13/05. The site will be re-contoured in order to provide additional screening for the proposed buildings. Material will be moved from where the workshops are currently positioned and placed on top of the embankment located to the South and West. This will increase the height of the embankment to 134.00, which is 11 metres above the ground level of the building (123.00). This work is shown on Drawing SRL.110.13.

In order for the embankment to the south and west to be raised and the land to be re-contoured, the existing hedge will be carefully removed and reused within the new planting scheme. The raised area will be planted with native woodland, which will be extended half way down the yard slope to stabilise the surface. This will provide additional screening from the South and West. The yard slope is grass seeded and this will be retained.

The planting mix of hedgerow, hedgerow trees, native woodland planting and native shrubs is shown on Drawing GPP/C/PH/REGF/13/05. The planting has been chosen to compliment the native plants in the local landscape.

Appearance

The CABE guidance (2007) sets out that this section should describe what the proposed building and spaces will look like.

The elevations detailing the main halls and office building are shown on drawing GPP/C/PH/REGF/13/06 Building Elevations. The new buildings and plant contain elements of visual interest, in the form of a stack, the air-cooled condenser and the turbine oil-cooler on the roof of the turbine hall.

Plant Hall, Fuel Hall & Turbine Hall

The facility will be of a scale typical of modern agricultural buildings such as a grain store. The facility will be constructed with a steel frame and clad with juniper green steel cladding. This complex will have 3 fast acting roller shutter doors (6m x 6m) and 6 pedestrian access doors (1m x 2m).

Office, Control Room, Control Panels & Workshop

This two-storey building will house on its ground floor a workshop for maintenance purposes and on its first floor, an administration office with operations and monitoring facilities. This building will be built with a profiled wall cladding in Juniper Green. This building will have 1 fast acting roller shutter door (6m x 6m) and 4 pedestrian access doors (1m x 2m). There will be 8 PVC double glazed window units installed.

Flue Stack

The process flue stack will project through the Turbine Hall roof and will be 1.41m diameter and 30m in height from ground level.

Air-cooled Condenser

This will be 15m x 26m x 18m, with an enclosed section above a supporting steel frame.

Working Yard

The majority of the outside working yard will be concreted, for ease of movement around the site. Eleven parking spaces will be provided. There may be a conveyor between the wood waste shredding area and the Fuel Hall. In addition, there will be a slab for the storage of gas cylinders and a small substation for the connection to the electricity cables to be laid for the connection to the grid. A second weighbridge will be constructed on the access road.

Access

The CABE guidance (2007) provides that this section should cover two potential aspects of access, vehicular and transport links, and inclusive access. Access to the site is from the A4304, which gives direct access to the M1 at Junction 20. The access is already being used for the import and export of wood waste, in connection with the implemented planning permission for a REGF.

No access for members of the public to the site is to be provided for health and safety reasons.

There will be staff parking for 8, visitor parking for 2 and one disabled parking space.

Provision has been made for 1 disabled access parking bay within the staff parking area. However, as a consequence of the nature of activities on the site, namely the movements of heavy goods vehicles and the operation of processing machinery, it is not anticipated that the site would generally be suitable for access other than for those of full mobility. The offices will be compliant with the requirements of the Disability Discrimination Act.

CONCLUSION

This Design and Access Statement has been prepared to support a planning application seeking to modify an existing planning permission (08/0005/was) for a Renewable Energy Generation Facility (REGF) at Pebble Hall, Theddingworth. The wood processing operation is already undertaken on the site. The new design of the site has been formulated using guidance set out in the relevant Development Plan documents. Therefore, it is considered that the design and access of the site is appropriate and sustainable.