



Peter Wade Consultancy
CONSULTING ENGINEERS

DESIGN STATEMENT

REF:- PWC/7020

**PROPOSED INSTALLATION OF SOLAR PHOTOVOLTAIC PANELS
ON ROOF TO BARN AT:**

**Highfield House
Old Mill Lane
Thurgoland
Sheffield S35 7EG**

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1. Description of the scheme

- 1.1 The planning application associated with this statement is to fix solar photovoltaic panels to the roof of a barn currently used to house livestock at Highfield House, Old Mill Lane, Thurgoland. An aerial photograph of the location is below;



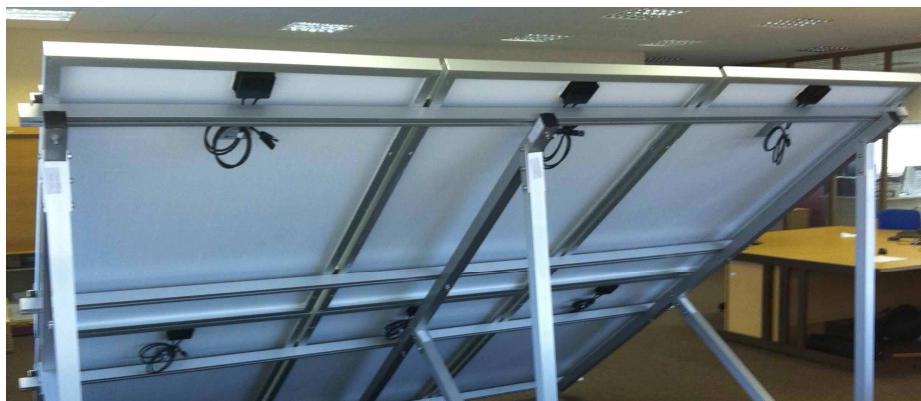
- 1.2 The solar panels are to be located on the roof at the front of the barn as shown in the photograph above. They are to be in a location not less than 120 metres from the nearest dwelling and 60 metres from the public highway.
- 1.3 The solar panels are required to be fixed at an elevated location to ensure safety in a working farm environment where livestock are handled. They are to be installed in a single array on a steel frame fixed to the south facing wall in line with the south facing slope of the pitched roof. The array is to be of an area of approximately 30sq.m.

2. **Green energy background**

- 2.1 Recent changes to Government legislation have highlighted the need to reduce carbon emissions from burning carbon fuels. Solar photovoltaic panels are an ideal form of decentralised renewable energy for both heating and cooling.
- 2.2 The panels absorb in the order of 97% of the radiation/ sunlight so the risk of reflection nuisance from either glint or glare is very low. A photograph of a typical panel arrangement is shown below.



- 2.3 The panels are attached to a 50mm aluminium frame which is to be fixed directly to the steel roof of the building. The panels are 1500mm x 1000mm x 40mm (depth). The projection of the face of the above frame is 100mm or thereabouts.



Rear view showing fixing to sub frame. The horizontal frames are fixed to the steelwork. The vertical and sloping frames are for display purposes only.

- 2.4 **By replacing mains power by solar power the 50 kWp installation will reduce carbon emissions by approximately 18 tonnes per annum.**

3. Site conditions

- 3.1 Landscaping of the site is not affected by the proposed works which are located at high levels. A landscaping statement is therefore not necessary.
- 3.2 The proposed works do not affect the rainwater runoff from the site nor do they pose any risks due to flooding. A flood risk assessment is therefore not necessary.
- 3.3 It is not proposed to alter the external elevations of any building therefore an elevation drawing is not submitted.
- 3.4 There is to be no increase in floor space.
- 3.5 A structural design of the steel frame has been undertaken by a Structural Engineer prior to a Building Regulations submission.

4. Documents

- 4.1 A location plan is submitted which shows the location of the site.
- 4.2 The aerial photograph and photographs within this statement show all the details of the proposed installation.
- 4.3 All the works are external, there are not to be any works inside any buildings and floor plans have not been submitted.
- 4.4 Accordingly the planning fee has been calculated in accordance with DCLG Circular 04/2008: Planning related fees. The works would be Category 2 – Non-residential building works for a development creating no new floor space.

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