LIGHTSOURCE
RENEWABLE ENERGY LIMITED

Design and Access Statement

Rooftop Solar Photovoltaic Installation



Milnsbridge Business Centre,

Colne Vale Road,

Milnsbridge,

Huddersfield,

HD3 4NY

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1 INTRODUCTION

1.1 BACKGROUND

This design and access statement has been prepared in support of a planning application for full (retrospective) permission for the development of a roof mounted photovoltaic (PV) solar energy generation system at Milnsbridge Business Centre, Colne Vale Road, Milnsbridge, Huddersfield, HD3 4NY.

The purpose of the development is to convert daylight into electricity to generate renewable energy for use by the occupiers of these premises. This small-scale solar development has a total generation capacity of 50kW (kilowatts). This is similar to the energy requirements of approximately 13 large houses, and will result in a saving of approximately 22 tonnes in CO^2 emissions per annum.

The solar PV system was installed on the roof of this light industrial unit in December 2015. They are affixed flat to the roof, using the angles of the roof, which is pitched in a south westerly direction, to maximise solar gain.

The modules cover approximately 628 square metres of the roof as shown in the accompanying layout of the PV modules. The layout drawing and elevation show that the modules are all mounted at least one metre from the edge of the roof, and do not protrude above the maximum height of the building.

1.2 PHOTOVOLTAIC PANELS

Photovoltaic panels are designed to absorb daylight and convert it into electricity. In comparison to other energy generation methods, there are very limited environmental effects associated with the construction and operation of small scale PV energy generation systems. The minimal maintenance and the long service lifetimes (25-30 years) of the panels means that there will be only a negligible impact on the local community.

2 SITE DESCRIPTION

The Specialist Glass Product's building is located within the Milnsbridge Business Centre, Colne Vale Road, Milnsbridge, Huddersfield, HD3 4NY. The building is surrounded by similar style business and light-industrial units along Colne Vale Road. The local area has the following characteristics:

- To the east and west of the building along Colne Vale Road are similar light industrial and commercial units.
- To the north and south of the building, established vegetation screens the business units from the River Colne which runs either side of the Milnsbridge business centre.
- The site does not lie within an area of outstanding natural beauty, a conservation area, or any other national or local level designations;
- There are no listed buildings within the curtilage of the building or business centre;
- Tall, dense vegetation screens the roof of building from most potential viewpoints along the A62/Manchester Road and Morely Lane to the south, and Britannia Road to the north.



Figure 1. Aerial showing the site location

3 THE DEVELOPMENT

3.1 EXISTING USE

Retrospective planning permission is sought to retain solar PV panels installed on the rooftop of the identified building, with a total capacity of 50kWp. The electricity is consumed on site helping to reduce the carbon footprint of the building, with any excess capacity exported to the National Grid. The primary use of the buildings will continue without change.

3.2 SCALE AND AMOUNT

The small-scale roof based solar energy generation system is comprised of the following:

- 200 250 watt PV modules mounted on the roof, with a total generation capacity of 50kWp.
- The panels are mounted flat against the roofs, as shown in the Elevations drawing. The PV panels are wholly contained within the existing roof area, and are set back a minimum of 1m from the edge of the roof, as shown in the Top View drawing.

The proposed installation has not fundamentally changed the appearance of the building or the site setting. There has been no change to the height of the building (the panels do not exceed the maximum height of the building) or orientation of the rooftop. The height and orientation of the building, the screening by trees and other buildings surrounding the site, and the low effects of glint and glare (as described in appendix A), mean the effects of the development are minimal.

Overall, it is considered that the proposed panels are well screened from off-site view points given the extensive vegetation screening along the banks of the River Colne and therefore the panels will have minimal visual impact on the surrounding area.

3.3 Operation

Solar PV systems require little maintenance, with ongoing operational activity limited to occasional visits to clean, check and maintain the panels, by personnel using small vehicles (4x4 or transit van type).

The PV panels do not generate any perceptible noise and have no moving parts that would impact on the amenity values of the area. The development will not result in any emissions or waste; to the contrary it will help to reduce the level of CO^2 emissions in the UK associated with electricity generation.

3.4 Appearance

The plans that accompany this application show the appearance of the installed solar PV panels on the roof of the building. However, because of the well screened nature of the site, these are unlikely to be visible beyond the Milnsbridge Business Centre.

3.5 Access

Maintenance vehicles will utilise the existing access and parking area for the building. With maintenance visits typically being less than once a month, no alterations are required to existing arrangements.

4 Flood Risk Assessment

The Milnsbridge Business Centre area is bordered to the north and south by the River Colne. The site is located within an area of Flood Zone 2 as shown in Figure 2 below.

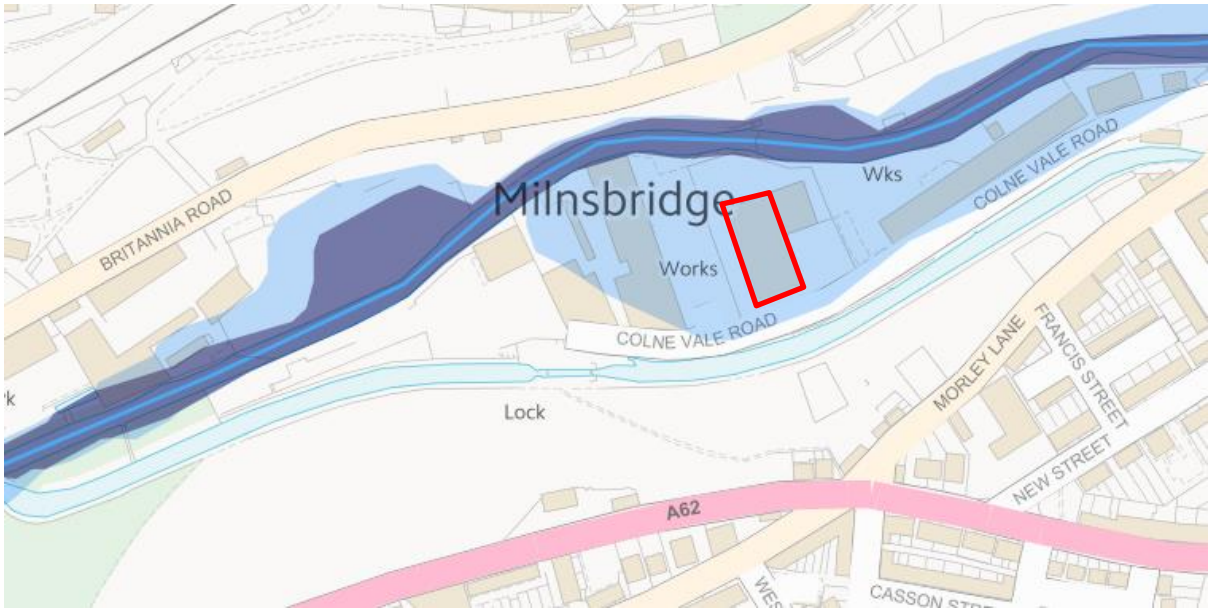


Figure 2. Flood Risk Maps (site outlined in red)

The solar PV panels have been installed on the roof of an existing building and have not resulted in the introduction of any additional ground floor area or impermeable hard surfacing at ground level.

Therefore, it is considered that the panels will have no impact on flood risk within the site and surrounding area.

At its lowest edge, the building roof is 5.5m above the ground, and at its highest it is 9.2m above ground level. It is therefore considered that the solar PV panels are not at risk from flooding.

5 PERMITTED DEVELOPMENT RIGHTS

It is worth noting that the design of the PV system is consistent with conditions for permitted development under Part 14, Class J(b) of the General Permitted Development Order. However, the original developers did not seek prior approval under Class J.4(2), and hence full retrospective planning permission is now required to regularise the development.

6 CONCLUSION

The installation of solar PV panels on the rooftop of this existing building will provide the existing activities on site with a source of locally produced energy and reduce their carbon footprint. It is considered that the effects associated with developing a small-scale PV system on the roof of the building are minimal and that they do not adversely impact on the surrounding area.

The effects of the PV system are negligible in nature and contained within the business centre area, and it will deliver benefits to the users of the building through reduced energy bills, and wider society through reductions in carbon emissions from energy generation.

Appendix A – Summary of potential for Glint and Glare

There is sometimes a misconception that PV panels might result in significant adverse glint and glare effects, with reflected sunlight creating a nuisance or even a safety risk for planes or traffic. This is not the case. The glass used to make the panels is not like window glass; it is specifically designed to absorb as much daylight as possible to convert to electricity, and therefore has a low level of reflectivity when compared to surfaces such as window glass, water or snow. Less than 9% of total incident visible light is reflected by PV panels, whereas normal glass reflects about 17%.

The potential for glint and glare from a rooftop PV installation is much lower than the potential for glint and glare from other man-made structures such as poly tunnels and glass houses, as well as natural features such as water or snow.

Glint refers to a specular reflection, produced as a direct reflection of the sun off of a surface. Glare refers to a continuous source of brightness, being the general reflection of a bright sky rather than a direct reflection of the sun.

In summer, once the sun reaches sufficient height in the south eastern sky, sunlight will fall directly on the panels and there may be a slight chance of glint occurring, however, the reflected beam will be directed back into the sky toward the south west. During the winter, the location of the sun in the sky means light would be reflected back into the sky toward the west-southwest. Because most of the reflections from the panels will be skyward, the solar farm will not create a traffic hazard, or nuisance to residential properties.

This skyward reflection does not create a safety hazard for aeroplanes. In Germany and the USA it is common for PV systems to be installed on airport terminal buildings, or within airport grounds, and in 2012 solar panels were installed on the terminal buildings at Birmingham and Gatwick Airports in the UK.