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# Lighting Impact Assessment for Proposed Industrial Units on Land at, Bolton Fold Farm, Alston Lane, Longridge, PR3 3BN.

Prepared for

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PR2 2YS

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# Contents

# 1. Introduction

1.1. Martin Environmental Solutions has been commissioned to design and undertake an impact assessment of the proposed lighting in support of the development of small industrial units on land at Bolton Fold Farm, Alston Lane, Longridge, PR3 3BN.

## Site Location and Context

1.2. The development site is located to the south of Bolton Farm complex. Farm buildings are located to the north with agricultural fields to the south, east and west. Residential properties lie beyond the farm buildings to the west and further away on the far side of Alston Lane.

1.3. An aerial Photograph is enclosed in Figure 1.

## 2. Policy and Guidance

2.1. The impact of intrusive lighting can be a material consideration in the determination of planning applications. The planning system has the task of guiding development to the most appropriate locations. It is recognised that on occasions it will be difficult to reconcile some land uses, such as housing, or hospitals, with other activities that may generate high levels of light pollution e.g., sports arenas, transport facilities. However, the planning system is tasked to ensure that, wherever practicable, sensitive developments are separated from major sources of light pollution.

2.2. The Government's publication of the National Planning Policy Framework (NPPF), updated in July 2021, states that planning policies and decisions should ensure that new development is appropriate for its location taking into account the effects of pollution on health, living conditions and the natural environment… In doing so decisions should limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes, and nature conservation.

2.3. In addition, there exists a number of guidance documents on the design of lighting installations including sports lighting to avoid any adverse impact from installations including the minimisation of overspill from sites.

2.4. The Institute of Lighting Professionals has published guidance on *'The Reduction of Obtrusive Light'* updated in 2021 and in partnership with the Bat Conservation Trust the *'Bats and artificial lighting in the UK'* guidance.

2.5. These documents deal key considerations when considering the installation of lighting, particularly external lighting, with the key aim to avoid light spillage from the site.

## 3. The Proposal

3.1 The proposed development consists three blocks of small commercial units to the south of Bolton Fold Farm. A separate access road is to be constructed from the Alston Lane in the west. The units are to be positioned facing the farm wit access and car park between them and the existing farm buildings.

3.2 The following lighting proposal and calculations have been produced to ensure a suitable level of lighting is provided over the site while minimising the overspill light and the effect on nearby properties. Philips' 'Calculux' design software has been used to prepare the lighting design and is included in Appendix 1.

3.3 To achieve this design a total of 23 luminaires have been used for the development. 12 of these are to be located along the access road and carparking area to ensure a suitable level of illumination is provided for safe access, while the remaining 11 are located on the industrial units to provide lighting to the front for security and safety to enable deliveries. All lights are designed to be positioned at a height of 5m.

3.4 In order to ensure that the vision of passers-by and neighbouring properties is not affected by glare from the lights the angle of elevation of the individual luminaires – i.e. the angle between the vertical and the line of peak output of the luminaires, also referred to as Tilt90, has been kept at $70^0$ for all lights with an upward overspill light of 0.0% The *'Guidance Notes for the Reduction of Obtrusive Light GN01:2021'* specifies less than 2.5%. This parameter has the added benefit of reducing the visibility of the luminaires from outside the site.

3.5 The design has been built around the Philips lighting Coreline Malaga LED street light BRP101 T25 DM LED, and the Smartbright Floodlight BVP152LED WW 20W SWB G2 luminaires. These are part of the Philips lighting current design of luminaires.

3.6 The Philips specified luminaires are among a number of high quality, low glare, low spill luminaires available. Other manufacturers, including Abacus, Thorn, and Siemans, offer luminaires which will give similar performance.

3.8 An overspill plot has been prepared for the design. This is included within Appendix 1, Section 3 of this report. The drawing and table show predicted light levels over an area surrounding the site, are generally below 0.1 lux off site.

3.9 It is sometimes the case that lighting solutions cause nuisance not because of the lighting overspill but as a result of glare or of the brightness of the lights when seen directly, this is known as the source intensity. Predictions of source intensity have been made for observer's positions at the nearest residential properties. For each of these calculations, the reported figure is the maximum source intensity to be seen by looking at any of the site luminaires. The results are to be compared with the limits recommended by the ILE. The maximum intensity for the design is 3 cd against a design criteria of 120cd

3.10 The site is considered to correspond to Environmental Zone type E2, defined as *'Low district brightness areas; Rural, small village, or relatively dark urban locations'* due to the primarily rural nature of the area. For such an area ILE recommends a Maximum Upward Light Output Ratio of ≤ 2.5%.

3.11 For the luminaires on which the design has been based, at the aiming angles employed, the Upward Light Output Ration is 0.00%.

## Environmental Impact

3.12 In addition, a consideration of the impact from the site on the surrounding environment has been undertaken, specifically in relation to the impact on bats. It has been confirmed that no bat roosts have been identified in the vicinity of the site although the potential for roosts exists within the existing farm buildings. The site lighting design and overspill plan confirms that this area will not be affected by lighting from the site, with lighting levels being below 1 lux from the development.

# 4 Conclusion

4.1 The purpose of the assessment was to explore the impact of the proposed lighting design on neighbouring land uses.

4.2 The calculations have not taken into account the existing ambient light, or existing vegetation, however in order to be obtrusive, the overspill light from the site would have to be greater than the existing sources of light in the area. There is currently existing lighting to the farm buildings and along the main road, which would result in a higher lux levels at these locations.

4.3 The lighting design therefore ensures the obtrusive light from the site will not have an adversely impact on adjacent land use as required by the National Planning Policy Framework.

## Figure 1 – Aerial Photograph

# Appendix A – Lighting design and overspill