
LED Lighting Report

Grove Piece, Crabtree Lane,
Duntisbourne Leer, GL7 7AS



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LED Industrial Lighting Co. Ltd

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LED Lighting Proposals

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Background

LED Industrial Lighting Co. Ltd (LILC) have been engaged by Bryony Barraclough to advise on a lighting scheme for a new barn in an area of countryside outside the village of Duntisbourne Leer.

The property sits outside of the designated Conservation Area for Duntisbourne Leer and sits to the east of the village, being screened from the village by a dense copse of native trees, as well as the topography.



Scope

The purpose of the report is to:

- *Propose an appropriate lighting scheme for the new barn, taking into account the location in the Cotswold countryside and design guidelines from Cotswold District Council.*

A survey was undertaken and an initial off-grid lighting concept developed for the new development.

Following discussions around the design, further amendments were made and a final design was concluded.

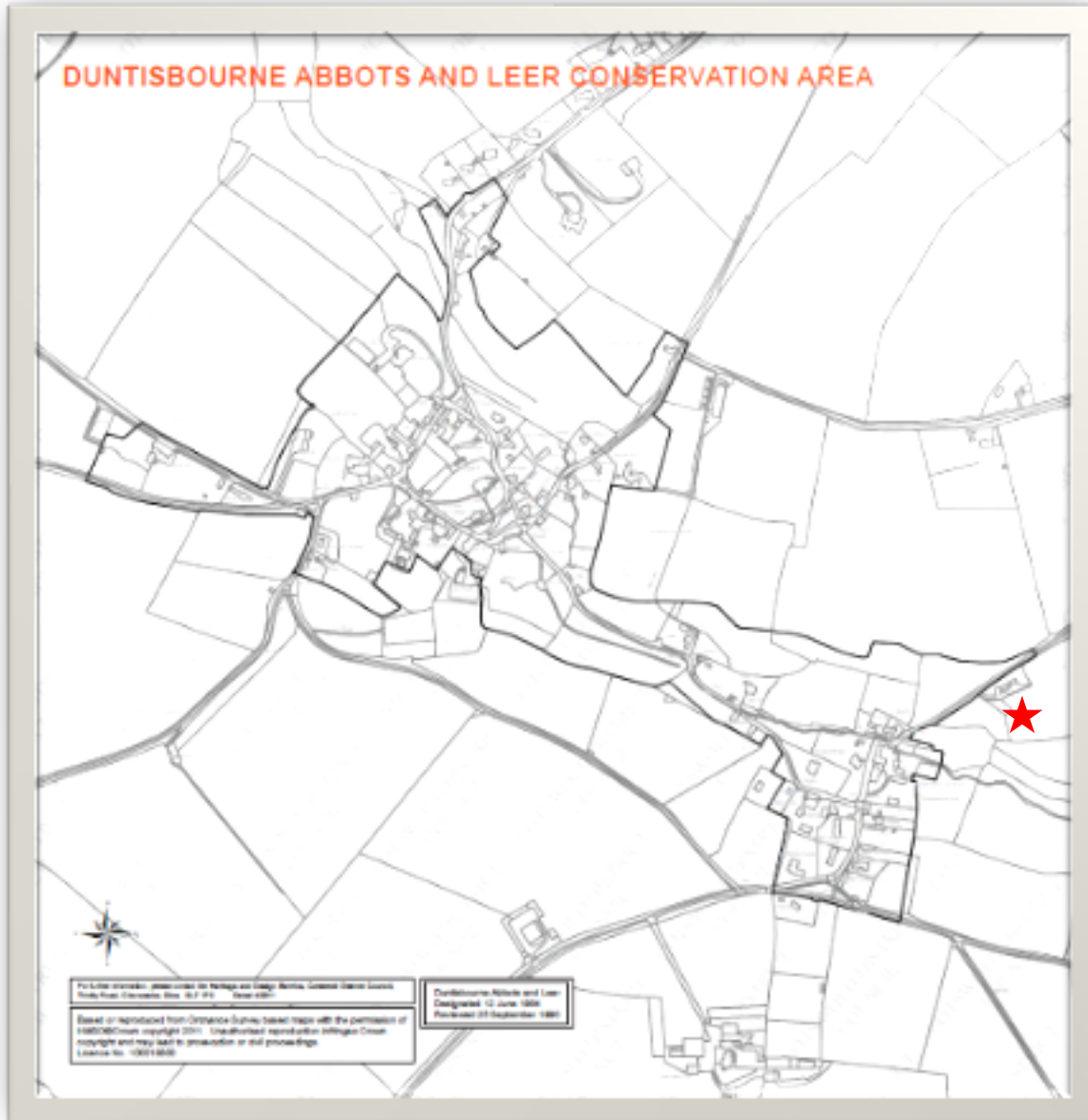
Design Concept

The lighting proposal seeks to give a level of illumination within the barn to allow for its usage and management of the building, whilst minimizing the impact on the local environment. Key to this is the use of LED lighting technology, which will reduce light pollution and in order to comply with Cotswold District Local Plan Policy EN4 for dark skies.

The proposed barn along with the existing menage sit in a slight valley below the level of Crabtree Lane. Both are screened from general view, by dense planting. The barn design itself will be cut into the slope and will not be visible from public accessed areas. The lighting elements will all be inside the building and not visible from the road, with the exception of the security floodlights on the southern elevation. Again, these security lights will be shrouded and hidden from general view. Being LED, these security lights will have a very localized effect and provide a deterrent against crime. It is a recognized fact that rural properties, especially equine holdings, are often vulnerable to theft.

The proposal will provide low powered LED batten lights inside the barn, as well as shrouded floodlighting externally in the immediate vicinity of the yard. The system will be a DC powered off-grid UPS.

Location plan for Grove Piece



Next Steps

Following agreement on the lighting design, LILC will secure quotations for a stand-alone UPS system to support the DC powered LED scheme.



View of existing menage, looking south



View of existing menage, looking north



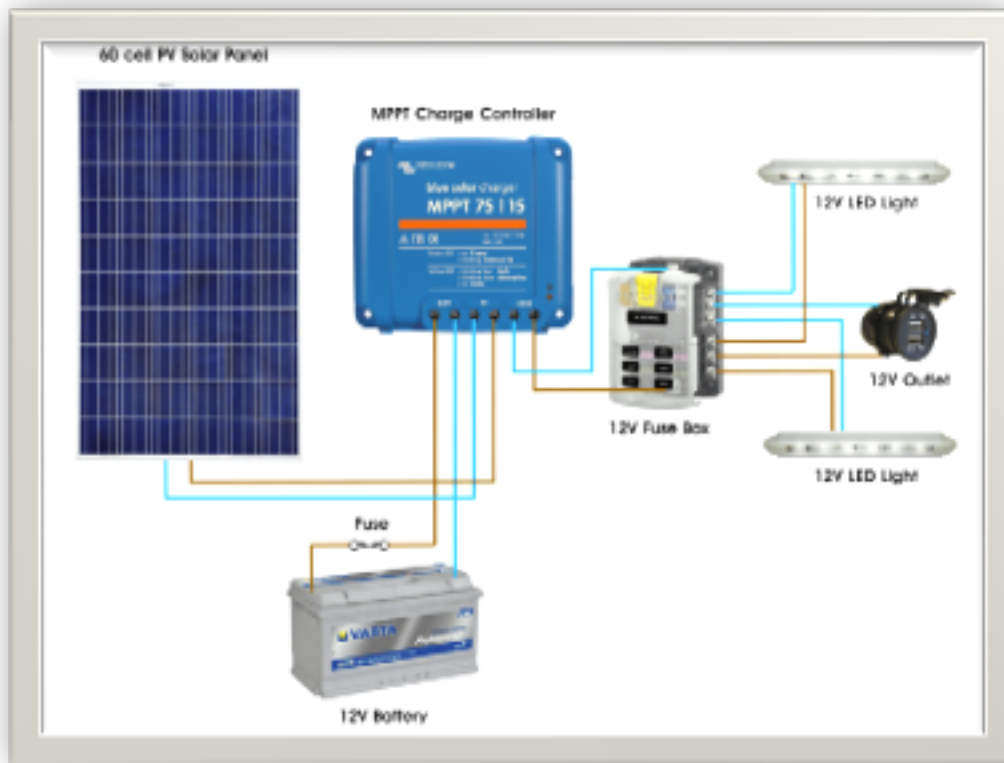
View of proposed location for new barn



View of existing barn with tree screening to west and new barn location in the foreground



Western boundary with dense tree screening



Using an off the shelf off-grid solar lighting kit, such as the one above, in the UK the system will power 10 (12V lights) LED lights for up to 14 h/day in summer or 4 h/day in winter

The system can be scaled up or down depending on the level of lighting required.

Includes:

- 325W solar PV panel (1721×1016 mm)
- Mounting bracket suitable for any flat surface, wall or roof with adjustable tilt
- MPPT Charge controller to control charge into the battery. Small DC loads can be powered directly from the EcoBoost controller by way of two USB charging ports