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Mr Des Dunlop
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Our reference: J00690

12 March 2021

Dear Des,

THE YARD, WESTWOOD ROAD, BRADFORD ON AVON: LIGHTING ASSESSMENT FOR BATS

I am writing to provide an assessment of the potential effects of the lighting at the site upon foraging and commuting bats at The Yard, Westwood Road, Bradford on Avon.

Retrospective planning permission for the barn lighting (Planning Application Reference Number 20/03842/CLE) and retrospective planning application for the manège (Planning Application Reference Number 20/03928/FUL) have been reviewed. A site visit to The Yard site was conducted. A Lighting Survey report produced by Hydrock in August 2020 has also been reviewed.

The site visit to The Yard was conducted on 25 February 2021 from 18:00 to 18:30. Sunset was at 17:42 and the weather conditions were cold, dry and cloud 4/8. A calibrated ATP Light Meter DT-86 was used to measure the light levels of the yard and of the hedgerow that borders the southern boundary of the site along Westwood Road. The stable user was at the site and was interviewed to inform the assessment.

This work has been conducted by Tessa Pepler who has worked as an ecological consultant since 2005 and has a BSc (Hons) in Environmental Studies and an MSc in Ecology and Management of the Natural Environment. Tessa is a full member of the Chartered Institute of Ecological Management (MCIEEM) and holds a Natural England Class 1 survey licence for great crested newts (2015-18828-CLS-CLS), dormice (2015-11191-CLS-CLS) and bats (2016-25380-CLS).

Other than the southern boundary hedgerow there is no significant bat foraging and commuting vegetation adjacent to the manège or linking directly to the manège area. There are native intact unmanaged hedgerows with trees bordering the wider site and Westwood lane borders the southern boundary. Iford Manor Site of Special Scientific Interest (SSSI) is located approximately 1.7km to the west of The Yard site. The SSSI is notified for supporting a highly important and nationally significant greater horseshoe bat maternity roost.

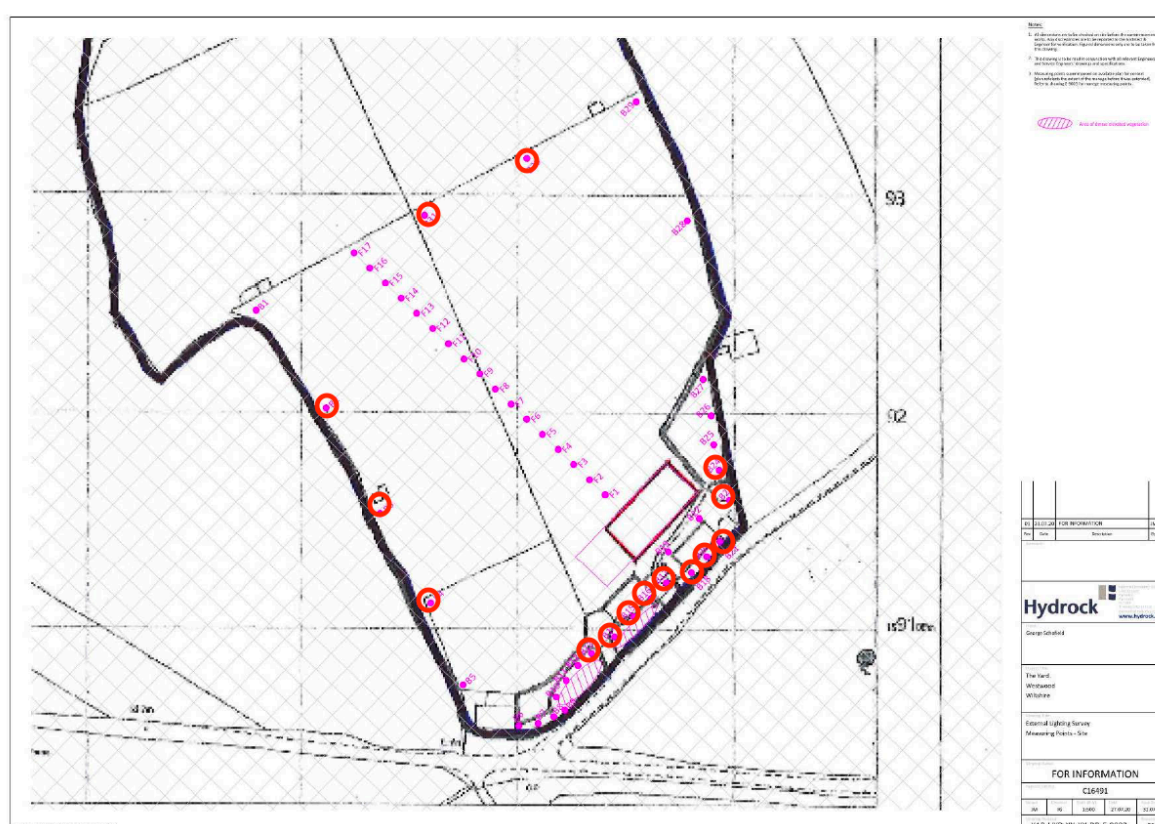
The site is located within the core sustenance zone of this roost. Horseshoe bats are very light sensitive and as a result even very low levels of lighting can affect the foraging and commuting routes of horseshoe bats. The maternity roost is vital to support the bats which are also supported by the Bath and Bradford on Avon Bats Special Area of Conservation (SAC).

Two manège lights were not working at the time of the survey but all other lights were on. The manège lighting was fitted in September 2017 and the stable lighting was present at the site when it was bought approximately 10 years ago.

The yard is not used later than 20:00 unless in an emergency. During the summer months the lights are never used unless there is an emergency. From September the yard is only used once or twice per week due to the horses being turned out. From May to October the sunset times range from 20:30 on 1 May to 18:46 on 1 October. The time of sunset becomes earlier than 20:00 on 30 August. Therefore, during the month of September when horseshoe bats could still be using the site, lighting will be used at the site up to twice a week and will be on at the same time that bats are emerging for just over an hour each evening.

The Lighting Survey report produced by Hydrock in August 2020 measured the current Lux levels along potential bat commuting routes along the boundaries of the site (B1 – B31). The vertical Lux levels of 13 of the 31 points of the locations sampled were above 0.5 Lux which is known to affect the behaviour of greater horseshoe bats. Figure 1 below shows the points where the vertical Lux levels are higher than 0.5Lux. These levels of lighting will need to be reduced to prevent horseshoe bats from being affected in September.

Figure 1: Locations of Vertical Light Levels Higher than 0.5Lux.



The stable lights have already been granted planning permission; however, these create the light spill upon the hedgerows. The lighting of the manège does not significantly contribute to the lighting levels of the site for bats. Having consulted with the lighting specialist at Hydrock (Ian Griffiths Pers. Comms. 1 March 2021) the lighting levels can be greatly reduced by repositioning the stable floodlights to point in a more downward direction and not in an outward direction and replacing the bulbs to a significantly dimmer lightbulb with warm light. An appropriate bulb is low in cost (<£10) and could include a bulb found on this website <https://www.lyco.co.uk/integral-5-2w-warm-white-led-double-ended-linear-78mm.html>.

Appropriate lighting specifications are provided below:

- All lights should lack UV elements when manufactured.
- Metal Halide, mercury light and fluorescent sources should not be used.
- LED lights should be used.
- Warm white spectrum lights should be used <2,700Kelvin to reduce blue light component. Avoid blue-white short wavelength lights.
- Lights with peak wavelengths higher than 550nm should be used.

The client agrees to implement these proposed mitigation measures and it is considered that with these in place that there will be no significant effect to foraging and commuting bats which use the site while the lights are in use during the month of September.

I would suggest that the lighting mitigation requirements are included as a planning condition for the planning permission of the manège area. A follow up inspection of the site by a bat ecologist with a light meter can be conducted once these measures have been implemented to confirm their efficacy and whether further modifications are required.

Kind regards,



Tessa Pepler

BSc (Hons) MSc MCIEEM

Principal Ecologist