

Ecology Technical Note: Review of Lighting Strategy in Relation to Bats

River Academy, Richfield Avenue, Reading

Presented to Bowmer and Kirkland

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Delta-Simons Project Number: 89826.582813

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1	Final	23 rd June 2023		J. Britt		
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1.0 Context and Purpose

Delta-Simons Ltd has been requested by Bowmer and Kirkland (the 'Client') to carry out an assessment of the External Lighting Design Statement in relation to bats, for the development of land at Richfield Driving Range, Richfield Avenue Reading Berkshire RG1 8EQ (hereafter referred to as the 'Site'). The Technical Submission for External Lighting produced by Derry Building Services Limited and dated 25th May 2023 has been reviewed. This Technical Note addresses Condition 38 of the decision notice (20th July 2022) related to planning application reference 212061 to Reading Borough Council for: *"The demolition of existing driving range structures and the development of a new three-storey 8 form entry school for years 11 -16, including a SEND unit and 300 place 6th form (total school capacity of 1500 pupils) including the creation of a new access from Richfield Avenue, new parking area, cycle parking landscaped areas, external play areas, Multi Use Games Area (MUGA) and sporting pitches"*.

Condition 38 requires the following:

'No development above foundation level shall commence until a report detailing the external lighting scheme and how this will not adversely impact upon wildlife has been submitted to and approved in writing by the Local Planning Authority. The report shall include the following figures and appendices:

- *A layout plan with beam orientation demonstrating that the ditch shall not be illuminated to more than 1 lux*
- *A schedule of equipment*
- *Measures to avoid glare*
- *An isolux contour map showing light spillage to 1 lux.*

The approved lighting plan shall thereafter be implemented as agreed.

Reason: To limit the impact of light pollution from artificial light on nature conservation (paragraph 185 of the NPPF) and in accordance with Policy EN12 of the Reading Borough Local Plan 2019'



2.0 External Lighting Review

The external lighting design has been prepared with input from Delta-Simons ecologists.

To minimise any adverse impact upon wildlife (notably commuting and foraging bats) along the on-Site ditch corridor, the lighting plan for the Site has been designed to be functional and directional, whilst achieving the minimum standards to service the operation of the Site (as required for safety and security).

It is understood that four different types of luminaries will be used across the Site, these are:

- Thorn Piazza LED 2
- Thorn Isaro Pro
- Thorn Lara Varioflex 300
- Thorn LEDFIT

With reference to the BCT & ILP (2018) Bats and Artificial Lighting in the UK Guidance Note 08/18, the specification / justification is set out below:

- The luminaires utilise LED without UV elements, therefore, reducing the attraction of invertebrates to the lights, such that bat species more tolerant to lighting will not be drawn to them. This is in line with Guidance Note 08/18: Bats and artificial lighting in the UK (ILP/Bat Conservation Trust);
- The luminaires emit a warm white spectrum of up to 4000 Kelvin (°K), and it is understood that warmer colour temperatures with peak wavelength greater ~3000°K cause less impacts on bats (Stone, 2012, 2015a, 2015b). The warmer white spectrum also reduces the blue light component, therefore, reducing the attraction of invertebrates.
- Luminaires have been chosen to have minimal upwards light spill to minimise disturbance to bats. This is in line with Guidance Note 08/18: Bats and artificial lighting in the UK (ILP/Bat Conservation Trust).

Great consideration has been given to reduce the lux levels along the ditch corridor without compromising the external lux levels that are required on this project. The following measures are therefore proposed along the ditch:

- 4No. post luminaires in car park and 3No. on driveway will be installed with back louvre to reduce lux levels around and in the ditch.
- Additional time switch of lighting groups around the ditch is to be introduced to switch off 7No. post luminaires to achieve low lux levels at the ditch between the hours of 22:00 and 0700. Switching off these luminaires allows lux levels below 1lux at the ditch to be achieved. As such, seasonal lighting requirements will generally be between the months of October – March when bats are less active and for a limited period prior to and following dusk when bats may be active.

3.0 Conclusions

Provided that the lighting is implemented as designed, it is considered bats and other wildlife will continue to be able to use the ditch corridor, and therefore that the lighting strategy will not result in any significant adverse ecological effects.