Technical Note 01

Project: Mockbeggars Farm, London Road, Uckfield,TN22 2EA

Planning Ref: WD/2022/0648/MAO

Date: 4th October 2023

Ecological design principles for the detailed Lighting Strategy

1 Introduction

1.1.1 Aspect Ecology is advising Obsidian Strategic Asset Management Ltd in respect of ecological matters relating to the proposed development of land at Mockbeggars Farm, London Road, Uckfield, centred at grid reference TQ 475 230, hereafter referred to as 'the site'.

1.1.2 The proposals are for development of the site to provide 60 no. dwellings, access and internal roads, parking, ancillary structures, landscaping and open space, drainage and other associated works, with all matters reserved apart from access (LPA Reference: WD/2022/0648/MAO).

1.1.3 This Technical Note provides details of the measures to be implemented at the site to minimise disturbance by artificial lighting on habitats of elevated value to bats and other light-sensitive nocturnal fauna, namely the retained hedgerows and retained adjacent ancient woodland to the south-east of the site.

2 Considerations for the detailed Lighting Design

2.1.1 The detailed lighting scheme for the proposed development will be designed in line with the principles of good practice guidance[1] to reduce potential impacts on light-sensitive bats (and other nocturnal fauna). The following measures will be incorporated within the detailed lighting scheme:

2.1.2 **Light Exclusion Zone.** No lighting shall be installed within the buffer zone around the retained ancient woodland or adjacent boundary hedgerows to provide interconnected areas free of artificial illumination to allow bats to continue to move and forage around the site;

2.1.3 **Appropriate Luminaire Specifications.** It is recognised that the ultraviolet component of artificial light sources can attract night-flying insects, which in turn can cause adverse effects on the foraging success of light sensitive bat species. Increased illumination of the site resulting from proposed development has the potential to contribute to this phenomenon. Therefore, in order to mitigate against this potential effect, luminaries should lack UV elements and metal halide and fluorescent sources should be avoided in preference for LED luminaries. A warm white spectrum should be adopted to reduce the blue light component;

2.1.4 **Spacing and Height of Lighting Units –** Increasing spacing between lighting units will minimise the area illuminated and allow bats to fly in the dark refuges between lights. Reducing the

[1] Bat Conservation Trust and Institute of Lighting Professionals (2018). '*Guidance Note 08/18: Bats and artificial lighting in the UK.*'; Stone, E.L. (2013). '*Bats and lighting: Overview of current evidence and mitigation guidance.*'; Institute of Lighting Professionals (2011). '*Guidance notes for the reduction of obtrusive light.*'

height of lighting will also help decrease the volume of illuminated space and give bats a chance to fly over lighting units (providing the light does not spill above the vertical plane). Where necessary, any lighting columns required adjacent to existing or newly created habitat such as retained hedgerows and the newly created woodland in the south of the site, will be fitted with directional hoods or cowls to help minimise light spill onto these features and avoid the upward spread of light, minimising trespass and sky-glow. Low level lighting options are also advised for parking areas and pedestrian routes, e.g., bollard lighting, handrail lighting or LED footpath lighting;

2.1.5 **Light barriers / screening –** In addition to the above and to assist with reducing light spill, new planting (e.g. hedgerows and trees) can be strategically positioned to reduce light spill onto retained and newly created habitats;

2.1.6 **Directionality.** It is acknowledged that artificial illumination of bat roosts has the potential to cause disturbance to bats in occupation of a roost and artificial light directly falling onto roost access points has been shown to delay emergence times which in turn can adversely affect foraging success. New roost features provided as part of the scheme will be located away from any sources of artificial light, such that following installation these features will be suitable for colonisation by roosting bats.

2.1.7 **Dimming and Part-night Lighting.** Consideration will be given to the implementation of lighting control management systems is also advised during operation of the site, involving the switching off / dimming lights for periods during the night when human activity is generally low (e.g., between 12.30am and 5.20am). The use of such control systems are particularly beneficial during the active bat season (April to October).

2.1.8 **Ongoing Management**. New lighting at the site will be managed and maintained, as required, to help uphold the principles of the lighting design detailed above.