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Dear Victoria,

4 Bladon Close - Bat Roost Assessment

I write to you in regard to the bat roost assessment conducted at 4 Bladon Close, Oxford OX2 8AD in September 2020. A preliminary roost assessment (PRA) was conducted to inform demolition of the building and construction of a replacement dwelling.

Methodology

Preliminary Roost Assessment

The survey was conducted by Ecology by Design Principal Ecologist Laura Grant BSc MCIEEM (Natural England Class 2 Bat Licence 2015-10871-CLS-CLS) and Ecologist Oliver Bulpitt on 28 September 2020. Weather during the survey was mild (16°C) and bright (6/8 cloud[1]) with a light breeze (2/12 oktas[2]). The assessment was based on the guidance included in the Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn) (Collins. J, 2016)[3] and Government Standing Advice (Gov.uk, 2015)[4].

The building was inspected for potential bat use by examining the loft for active roosts or roosting sites, suitable entry and exit points on the outside of the building, and by searching for other evidence of bat activity such as droppings, smells, sounds, carcasses or food remains. A high-powered torch was used to illuminate the dark recesses inside the building to carefully inspect any features of potential value to roosting bats. Equipment used included:

- Clulite Lamp
- Close focusing binoculars
- Telescopic ladder

[1] The Beaufort scale is an empirical measure from 0-12 which relates wind speed to observed conditions. . 0- Calm, 1- Light air, 2- Light breeze, 3- Gentle breeze, 4- Moderate breeze, 5- Fresh breeze, 6- Strong breeze, 7- Moderate gale, 8- Fresh gale, 9- Strong gale, 10- Whole gale, 11- Storm, 12- Hurricane force.
[2] Cloud cover is measured using the system called oktas. The visible sky is divided into eight and cloud presence is determined within each section. A value of one to eight is then assigned (1 okta being cloudless to 8 oktas being total cloud cover).
[3] Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.
[4] Gov.uk (2015). Guidance. Bats: surveys and mitigation for development projects. Natural England and Department for Environment, Food & Rural Affairs, Worcester.

Main House

The site comprises a large, two-storey, detached house with a detached single storey garage. The house is of brick construction with a pitched, tiled roof with a single storey flat-roofed extension to the west.

Internally there is one loft space which is c. 2.3m height to ridge and open with no loft insulation. The internal surface of the roof was felt lined with exposed structural timbers. The loft void was very clean, with no dust or detritus one would normally expect in an old building such as this. Ten fresh (< 1 month old) pipistrelle (*Pipistrellus* sp.) droppings were scattered within the loft space and three accumulations each with around 100 pipistrelle droppings were found in a dusty and tricky to access location at the south-western eaves. There are stains on the floor which could be indicative of urine staining caused by a significant colony of bats. Around ten fresh individual urine stains were noted on the small water tank. Light ingress into the loft space was observed at some areas at the eaves on the western and eastern aspect and through some areas of torn felt on the western aspect.

The pitched tiled roof appeared to be in good condition with no gaps of a suitable size for roosting bats noted. There were gaps beneath the eaves on the western and eastern aspect (between the wooden soffit and wall) which correlated with the light ingress observed internally. The north-western corner of the soffit also had an area of rot providing potential access.

There was structural damage to the wall in the north-western corner with the bricks having shifted on the first floor such that five 7cm x 5cm gaps were present, providing direct access to the cavity wall.

Garage

The brick garage had a felt roof in good condition. Several hibernating butterflies were present as well as high numbers of cobwebs. There was a door in the north-west which is permanently open. There was no evidence of bats internally. The building is considered to be of negligible suitability for roosting bats.

Off-Site

Immediately west of the site outside the site boundary were five free-standing posts each with two woodcrete / woodstone bat boxes affixed to them (presumably mitigation associated with the Wolvercote Tunnel project).

Conclusions and Recommendations

The bat roost assessment of 4 Bladon Close has concluded the loft space is a likely roost of pipistrelle bats. It is recommended that a sample of the droppings is sent off for DNA analysis to confirm the species present. Characterisation of the roost will need to be confirmed following a combination of three emergence or re-entry surveys to be conducted using three surveyors during the bat activity season: May-September.

It is likely a licence will be required from Natural England to enable demolition of the main house to lawfully proceed. The following mitigation measures are likely to be required within the replacement building as a minimum:

- Bat tubes suitable for crevice-dwelling bats (e.g. a Habibat bat box / 1FR Schwelger Bat Tube) should be installed on the southern and western aspects at 3-5m height;
- Bat boxes suitable for crevice-dwelling bats (e.g. a 2F Schwegler Bat Box) should be installed on a tree in the north of the garden or a free-standing pole like the site-adjacent bat mitigation measures. Should the house support a maternity colony the box would need to be suitable for a maternity colony (e.g. a Miramare Woodstone Bat Box);
- Access points will need to be created beneath tiles of the roof to either provide access to a bat loft or increase the opportunities for roosting bats between the tiles and felt. Modern breathable roofing membranes will need to be avoided as a roof underlay as this is unsuitable for roosting bats, instead, bitumen 1F felt will be used;
- The lighting strategy will need to be sensitively designed, adopting the following principles:
    - Maintaining dark corridors along the western and northern site boundaries;
    - Not illuminating the bat tubes installed on the southern or western aspects;
    - Where lighting is required, ensuring:
        - Light levels are less than 3 Lux;
        - LED luminaires with a warm white spectrum ideally <2700Kelvin (to avoid blue / UV elements);
        - Bollard or low-level downward directional luminaires are used and mounted on the horizontal (with no upward tilt); and
        - Security lighting, if required, is motion-activated with short (1 minute) timers.

The precise scope of the mitigation measures required will be determined following the further surveys.

Yours sincerely,

Laura Grant BSc MCIEEM
Principal Ecologist

Appendix 1 – Photographs

Photograph 1: Internal of main house

Photograph 2: Droppings in south-west corner

Photograph 3: South-west of main house

Photograph 4: North of main house

Photograph 5: External of garage

Photograph 6: Internal of garage