Bat Roost Suitability Assessment

Mount Vernon Hospital
Barnsley

Report reference: R-3064-01

November 2017

Report Title:	Bat Roost Suitability Assessment Mount Vernon Hospital, Barnsley
Report Reference:	R-3064-01
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Date:	01.11.17

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Summary Statement

The buildings and trees on Site are assessed as having no more than low roost suitability for bats.

No evidence was found to suggest that the features identified on the Site were being used by bats.

A single emergence survey by a team of surveyors is recommended to assess the status of roosting at the Site. This should take place in the survey season (May-August).

Introduction

1. Brooks Ecological Ltd. was commissioned by Dacres Commercial to carry out a Bat Roost Suitability Assessment of Mount Vernon Hospital, Mount Vernon Road, Barnsley S70 4DP (grid reference SE350047).

2. The application site 'the Site' comprises a hospital operated by the South West Yorkshire Partnership NHS Foundation Trust.

3. Proposals are for the demolition of the building and sale of the land for potential housing development.

Figure 1 Site boundary

Box 1 *Legal background*

Bats are afforded full protection under The Wildlife and Countryside Act (1981) plus amendments, and the Conservation of Habitats and Species Regulations 2010. Under these Acts it is an offence among others, to recklessly kill, injure or disturb bats. It is also an offence to destroy or obstruct a roost even if bats are not in occupancy at the time of the action.

There are no defences against contravention of the Conservation of Habitats and Species Regulations 2010 which means that it is important for detailed and well-designed bat surveys to be carried out, prior to carrying out activities that may impact upon bat roosts such as demolition of buildings or removal of trees.

Where bats are found within a potential development site, a license from Natural England may need to be secured if works that could otherwise contravene legislation are to be carried out. These licences are only issued where Natural England is satisfied that works are unavoidable and would not have a negative impact on the favourable conservation status of bats. A Natural England license requires that the potential development site has full planning permission and that bats were a material consideration of the planning permission.

Box 2 *Bat roosts*

Bats roost in buildings and trees in different locations depending upon time of year and environmental factors such as position of the sun, proximity to heat sources and feeding grounds. The following types are commonly referred to:

Transitional roosts:

Bats frequently gather early in the season (March to April) before dispersing to summer roosts. Bats can be found in high numbers in these roosts for a very short period. Transitional roosts can also be found shortly before hibernation in August to October when bats (depending upon species) can gather in roosts not used earlier in the season.

Maternity roosts:

These are among the most important roosts and are normally occupied from May to August. Depending on the species involved, some maternity roosts can contain a very significant proportion of the local population.

Summer (non-breeding) roosts

Small groups of non-breeding female and male bats can gather in these roosts or bats from a local population may choose to roost individually. There are normally a large number of suitable locations for summer non-breeding roosts and these may be routinely used or used only on an occasional basis. Irregularly used summer roosts can be very hard to find without unreasonable survey effort.

Mating roosts

Around September bats will gather in roost to mate; these are often in different locations than summer or breeding roosts.

Hibernation roosts

As bats in hibernation roosts are highly vulnerable to disturbance and bats can be present in large numbers these are considered to be among the most important bat roosts. Many species of bats roost in large and nationally important hibernation roosts associated with underground sites, many of which are well known and protected. However, the most common bat in the UK (the common pipistrelle) is largely unaccounted for in winter but thought to disperse and roost individually or in small groups in thermally stable cracks and crevices in thick walls or trees.

Local Status

4. The application site is within the natural range of species of bats listed in Table 1.

Table 1 Bat species recorded within 100km of the application site

Species	National status
Pipistrelles (*Pipistrellus pipistrellus* and *P. pygmaeus*)	widespread/common
Nathusius' Pipistrelle (*Pipistrellus nathusii*)	widespread/rare
Noctule (*Nyctalus noctula*)	widespread/frequent
Leisler's (*Nyctalus leisleri*)	widespread/rare
Brown long-eared (*Plecotus auritus*)	widespread/common
Natterer's (*Myotis nattereri*)	widespread/frequent
Daubenton's (*Myotis daubentonii*)	widespread/common
Whiskered/Brandt's (*Myotis mystacinus* and *M. brandtii*)	widespread/scarce
Alcathoe's (*Myotis alcathoe*)	local/unknown
Serotine (*Eptesicus serotinus*)	south restricted/uncommon

Method

5. A thorough daytime inspection of the Site was made in October 2017 in order to look for evidence of bats and assess suitability for roosting. Evidence of bats may take the form of droppings, feeding remains, live bats, dead bats, stains on masonry or timber from the oils in bats' fur and claw marks made by bats regularly roosting in the same location.

6. Bat roosting potential of the buildings/trees was classified according to the following criteria set out in Table 2, taken from the Bat Conservation Trust Good Practice Guidelines (2016).

Table 2 Bat Roosting Suitability of Buildings and Trees

Suitability	Criteria
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions, and/or suitable surrounding habitat to be used on a regular basis or by a larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A structure or tree with one or more potential roost sites that could be used due to their size, shelter, protection, conditions, and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only - the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protections, conditions and surrounding habitats.

7. Surveys were directed by Rob Weston BSc (Hons) MSc MIEEM. Rob is a Registered Consultant (RC065) under the Bats Low Impact Class License and is registered to use the Class Survey Licence WML CL18 (Level 2).

Limitations

8. Sufficient time was allowed to carry out the survey, and this was not constrained by poor weather.

9. The survey was carried out around the exterior of the building from ground level. The majority of the buildings were flat roofed, negating the need to survey loft spaces. Asbestos present in some of the buildings also meant an internal inspection of features was not possible.

10. The area of woodland to the south-west of the Site was steeply sloping and rough underfoot, with dense undergrowth and accumulations of garden waste. Due to access difficulties the woodland was surveyed from the periphery. Many of the trees were heavily clad in ivy making it difficult to see any potential bat roost features.

Records

11. The local records provider (South Yorkshire Bat Group) were asked to provide all records from within a 2km radius of the site. A total of 446 records were returned.

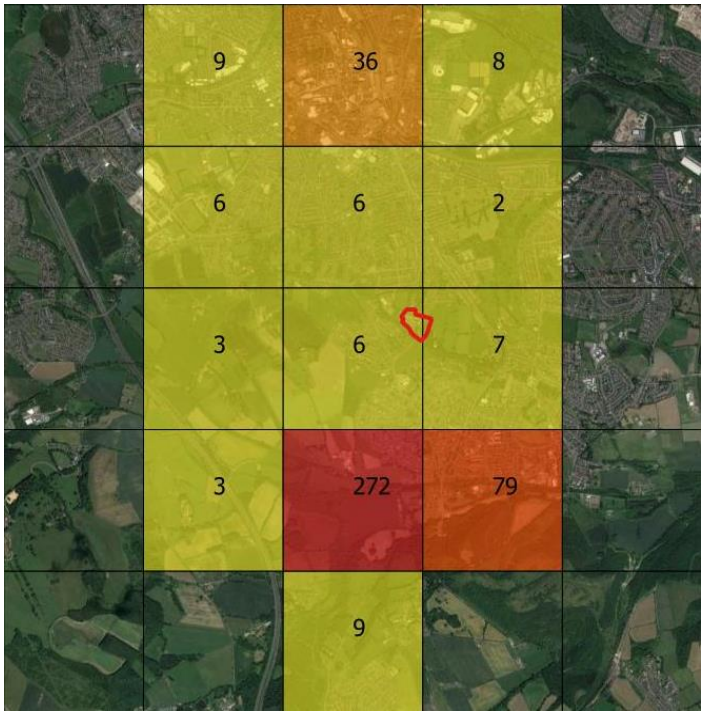


Figure 2

Heat map showing number and distribution of bat records around the Site (red line boundary).

12. The majority of bat records relate to the green space associated with Worsborough Country Park which is > 1km south of the Site. Whilst most of the records are for common pipistrelle bats, other species recorded in the area include soprano pipistrelle, noctule, Leisler, whiskered, brown long eared and *Myotis* species.

13. The closest record to the Site relates to Ridgewalk Way immediately west of the Site. This is for a small number of pipistrelle bats and a noctule: it is unclear whether this was a roost or bats in flight, and dates from 1998.

14. No records have been returned from the Site itself.

15. Recent survey data collected by Brooks Ecological Ltd for another site in the vicinity confirmed the presence of common and soprano pipistrelles, noctules, brown long eared and *Myotis* species in the area, although the majority of activity was by a small number of common pipistrelle bats.

Survey Results

16. The Site is located in Worsborough, a suburb of Barnsley in South Yorkshire. Despite its urban setting, there is green space in the area. A strip of the woodland running along the Site's south west boundary extends in both directions, reaching over 500m south east along Pinfold Hill and Kingwell Road. Farmland (pasture) occupies the plot on the opposite side of Mount Vernon Road, and open countryside lies just a few hundred metres to the south and west. Worsborough Country Park and Reservoir lie approximately 1.5km south west.

17. Due to the size of the Site, buildings have been grouped together into similar construction types and are labelled A to E as follows.

    A – Wards 4-6
    B – Wards 1-3 and the Main Building
    C - Pre-fabricated building
    D - The Flats
    E - Entrance/Utilities Building

A – Wards 4-6

18. To the north west of the Site are three wards (Wards 4-6) constructed of concrete/asbestos pebbledash sheets. Between the vertical sheets is a narrow gap but this is blind and sealed with rubber.

19. The roof is flat and lined with felt which has been wrapped over the wall top and attached to wooden batons. This appeared to be flush with the wall top around most of the building, with few potential points of entry noted. The only notable exception to this was a gap in the south-west corner, where wiring enters the wall cavity.

Figure 3

Overview of Ward 6 showing sheet construction.

Figure 4

Gap in wall joins on south west corner of Ward 6.

20. Windows are made of uPVC with a uPVC fascia underneath some of them - all well sealed to the walls Security lights were flush against the building and offered no potential bat roost features.

21. A single bat dropping was found on a vertical uPVC fascia at the rear entrance to Ward 5. This was not associated with any potential roost feature and may be from a bat foraging around the buildings.

B - Main Building & Wards 1-3

22. The rest of the main building (Wards 1-3, reception area and adjoining corridors) is constructed of modern brick with a combination of wood and UPVC windows, doors and panels. Brickwork is well sealed with mortar.

23. Where the soffit is boxed in at the eaves, woodwork is mostly intact. An exception is on the south east corner of Ward 2 where damaged ply provides potential access to this feature. However, given the damp in this area it is unlikely to be used by bats. Small gaps in the wood panelling to the front of the building were also noted, but are unlikely to be used by bats for similar reasons.

Figure 5 Missing ply under the wooden soffit box of Ward 2

Figure 6 Narrow crack providing entry behind felt on Ward 2 annex

24. On the east of Ward 2 there is a small uPVC annex. A potential bat roost feature behind the felt above the window was noted in this area.

25. The roof is flat and felt-lined. A wooden barge board holds the gutter off the wall tops. This is generally well sealed with mortar, the exception being underneath the security light above the door between Wards 3 and 4. Similarly, there is missing mortar at the corner of the utility area to the north east of the Site.

Figure 7 Mortar generally well-sealed behind barge board of brick buildings

Figure 8 Cracks in brickwork under security light above door

26. In the internal corners, where Wards 1, 2 and 3 meet the main building, there is a large gap at the eaves providing access to the wall cavity. These varied in size, and whilst the narrower gaps might be suitable for bats, these features are generally considered to be too large and draughty to support roosts.

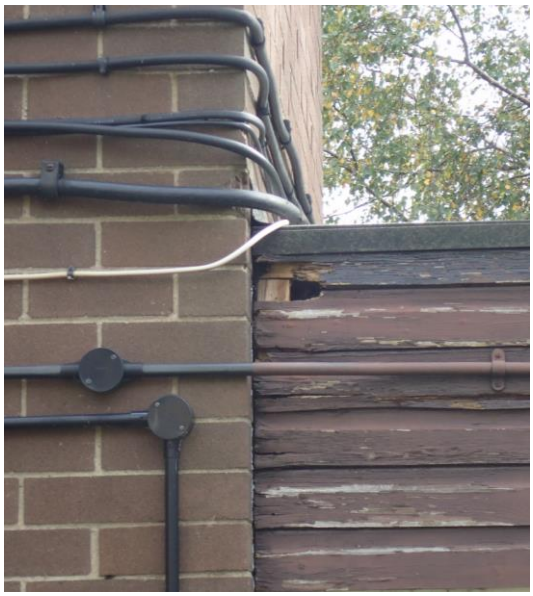
Figure 9

Gap between main building and Wards providing access to wall cavity.

27. On the rear of the two-storey main building, immediately east of Ward 1, there is a gap in the brickwork close to the security light: this feature might provide access to the wall cavity. A small gap in the wood cladding of the adjacent wall would provide access to the roof void. These features both offer potential bat roosts.

Figure 10 Gap in brickwork on rear of main building, north east of Ward 1

Figure 11 Hole in wood cladding providing access to roof void



C - Pre-Fabricated Extension

28. A small pre-fabricated building, raised on a breeze block base, is located on the south east of the building complex. With a flat roof and thin walls, no potential bat roost features were identified on this building.

D - The Flats

29. "The Flats" is a two-storey detached building located near the entrance to the east of the Site.

Figure 12

Overview of the front of The Flats, taken from the hospital entrance.

30. The building comprises a mix of stone and brickwork which is in good condition with mortar generally intact. There are however a few cracks in the masonry, notably on the southern aspect/at the side entrance. These features include a hole above the lintel to the upper left of the first-floor window, and cracks around the outflow pipe above left of the doorway, both of which could provide bats with access to the wall cavity.

Figure 13 Hole at first floor lintel

Figure 14 Crack near side entrance

31. The timber soffit and fascia at the eaves are close fitting to the wall tops. The tiles on the pitched roof and the ridge appear to be well sealed with no obvious entry points for bats.

32. To the rear of the property are a pair of wooden porches. Where the roof meets the brick work there is a narrow gap although there were no signs of bats using this sheltered feature.

Figure 15

Porchway to rear of "The Flats".

33. A clear view of the dormer could not be gained; these structures can present suitable features for roosting bats.

E - Entrance/Utilities Building

34. The small sandstone building located at the entrance to the Site is flat-roofed with intact mortar offering no features for bats. A smaller brick extension, also flat-roofed, does have a narrow barge board to the wall top – this appeared to be well-sealed but as the compound was locked a close inspection could not be made.

Figure 16

Utilities area as viewed from hospital driveway (looking north) showing brick extension and sandstone building.

Trees

35. To the rear (south west) of the Site, is a belt of deciduous woodland comprising a number of mature and semi-mature trees dominated by sycamore (*Acer pseudoplatanus*).

36. A dense ground flora of nettle (*Urtica dioica*) and bramble (*Rubus fruticosus* agg.), as well as the steep slope, made access difficult. Many of the trees, including some standing deadwood, were covered in a thick layer of ivy (Hedera helix). This made it difficult to discern any features that might be used by roosting bats, though ivy itself can provide cover for day roosting bats.

Figure 17

Overview of deciduous woodland to rear (south west) of the hospital complex.

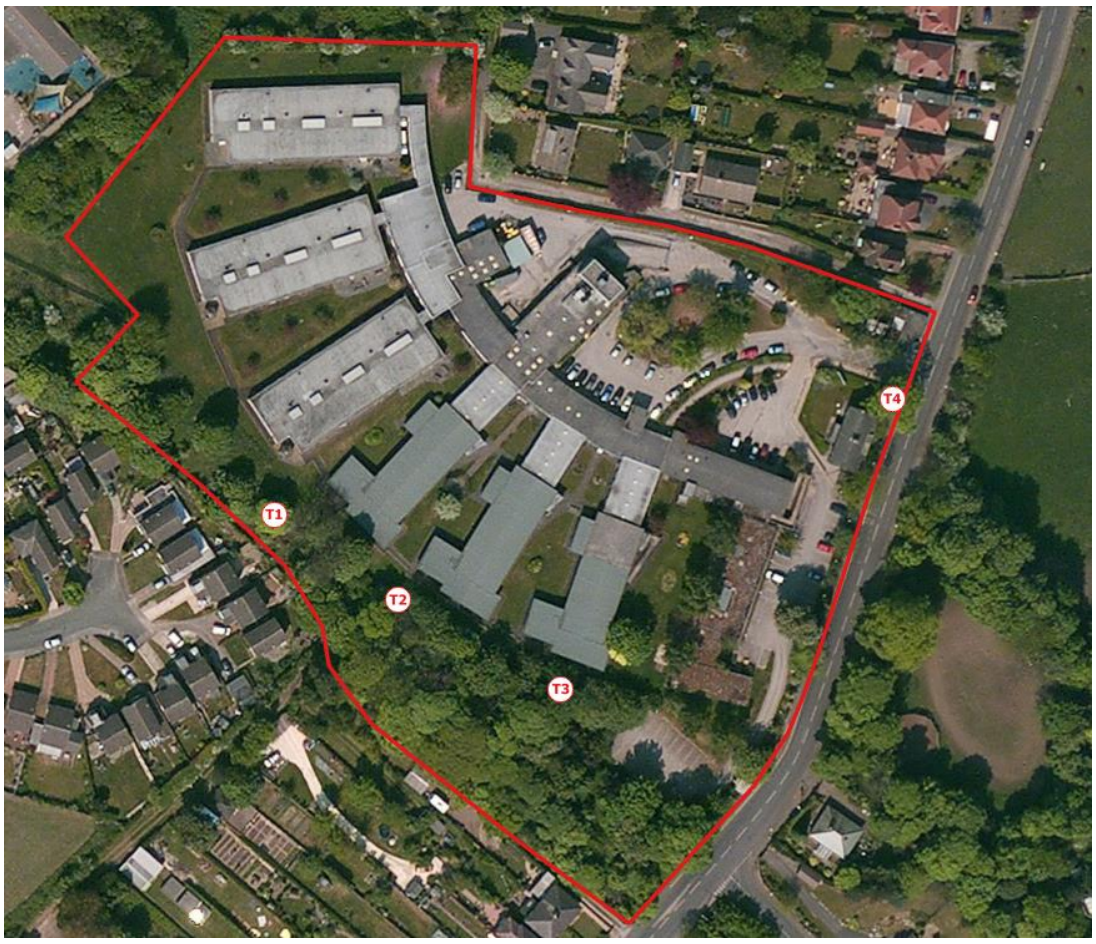
37. Potential roost features were noted on the following trees:

T1 Mature sycamore with a small crevice evident half way up main trunk.
T2 Mature sycamore with a small gash in a subsidiary limb.
T3 Mature oak; dense covering of ivy obscuring any potential features.
T4 Large, mature sycamore densely covered in ivy.

Figure 18 Crack in main trunk of T1

Figure 19 Crevice in subsidiary limb of T2

Figure 20 Trees with limited roost potential.



Summary of Features

38. A summary of features offering roosting potential is outlined below.

Table 3 Bat Roosting Potential checklist

Feature	Key Features	Roosting Potential
Main Building (A, B & C)	Wall cavities between buildings of different construction types. Cracks in mortar at eaves.	Low
The Flats (D)	Cracks in stonework around doors/windows.	Low
Entrance/ Utilities Building		Negligible
Trees	Crevices on two mature trees; ivy-covered trees and standing deadwood.	Low

39. The location of potential bat roost features is illustrated in Plan D-3064-01.1 (Appendix 1).

Evaluation

40. Based on the features present, the buildings and trees on Site are assessed as having no more than low suitability for roosting and the presence of any large or important roosts here is very unlikely. Demolition presents minimal risk of impacting on bats and their roosts.

41. It is not possible at this stage to confidently rule out the use of the Site by roosting bats therefore a single emergence survey of the Site is recommended. This should make use of a team of surveyors sufficient to observe key locations around the Site and should take place during the active bat survey season which reconvenes in May 2018.

Ecological Enhancement

42. The UK government's guidance on nature conservation in relation to development (NPPF) makes it clear that opportunities should be sought through their planning system to use development as an opportunity to enhance sites for wildlife where possible.

43. To enhance biodiversity, the owner could consider incorporating a roost feature into the proposed new build. Integrated bat boxes can achieve this discretely and inexpensively.

44. Wooden bat boxes and tubes are also available that can be affixed to mature trees being retained on Site.

Other Ecological Features

45. Whilst a full ecological survey was not carried out, evidence was noted of the following species on Site.

Birds

46. Several birds' nests were noted within the walls of the main building, these being associated with the change in wall construction between the wards and the main building. These are marked indicatively on plan D-3064-01.2 (Appendix 2).

47. Destruction of active bird nests is prohibited by law. Survey of the trees and outbuildings will be needed prior to Site clearance only if carried out during the period March - August (inclusive). This would allow and active nests to be identified and protected.

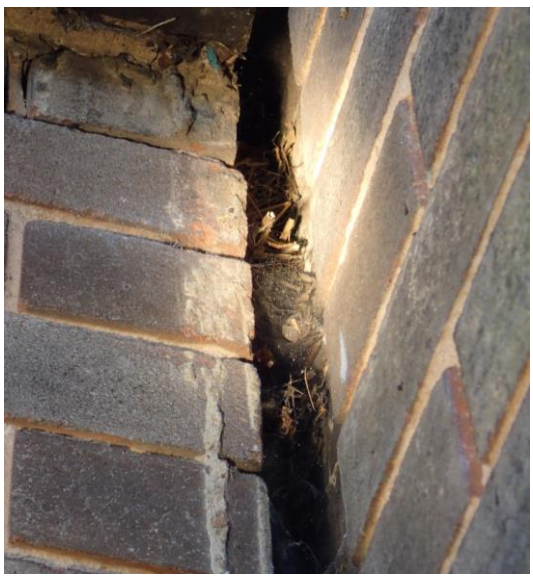
Fox

48. Fox scat was found on Site. There was a disused den in the wood, and indications that a fox may be using the area under the pre-fab building (E).

49. Prior to demolition works, steps should be taken to ensure that foxes are not present underneath this building. A pest control company would be best placed to provide advice in this respect.

Figure 21 Location of birds' nest in gap between walls (Ward 3 - western aspect)

Figure 22 Evidence of birds' nest in cavity between walls



Appendices

1. Plan D-3064-01.1 showing potential bat roost features
2. Plan D-3064-01.2 showing location of birds' nests and fox den

References

Bat Conservation Trust (2016) Bat Surveys for Professional Ecologists – Good Practice Guidelines

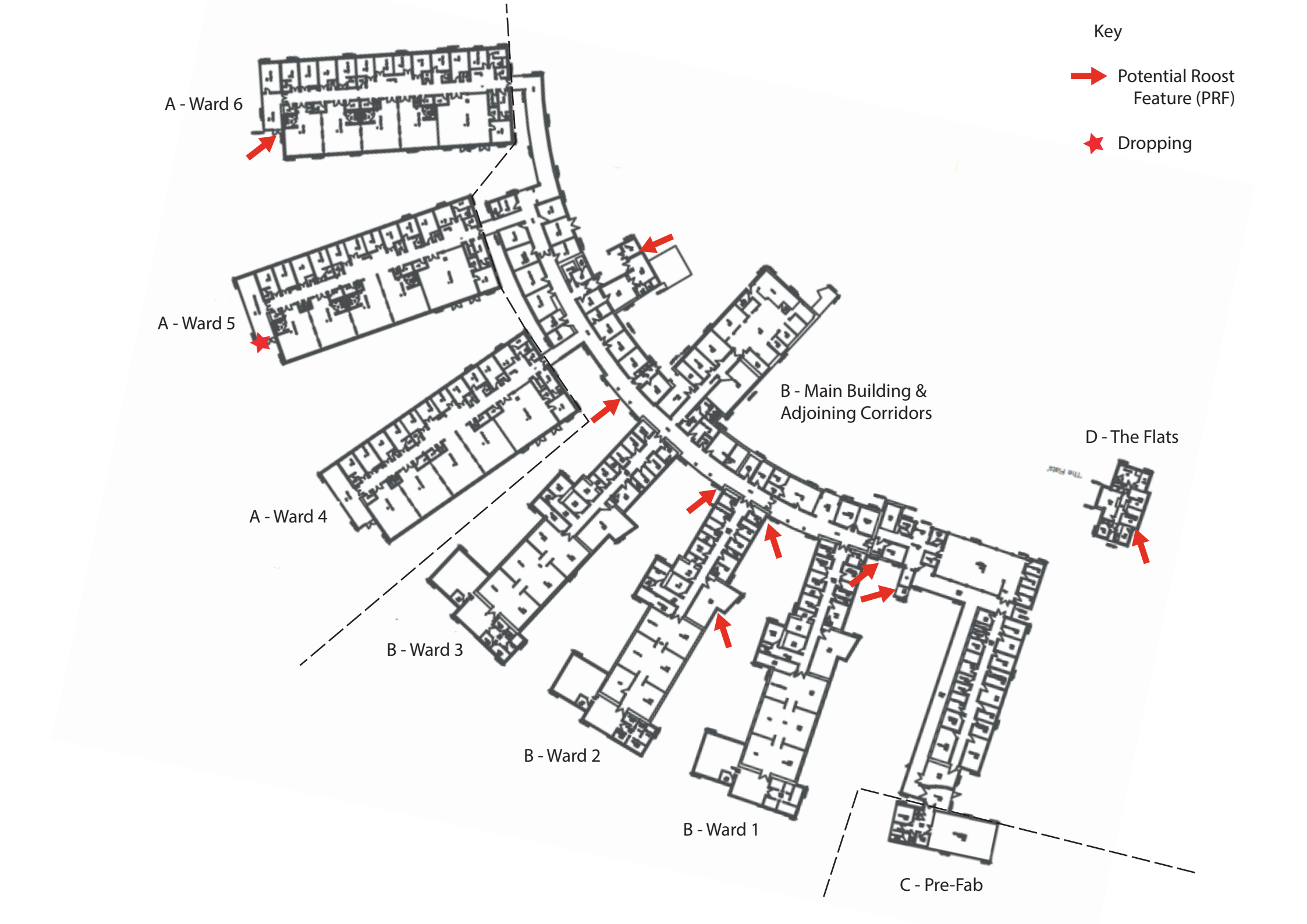
English Nature (2004) Bat Mitigation Guidelines. English Nature, Peterborough.

JNCC (2004) The Bat Workers Manual. 3rd Edition.

ODPM circular 06/05 (2005) Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System http://www.communities.gov.uk/publications/planningandbuilding/circularbiodiversity

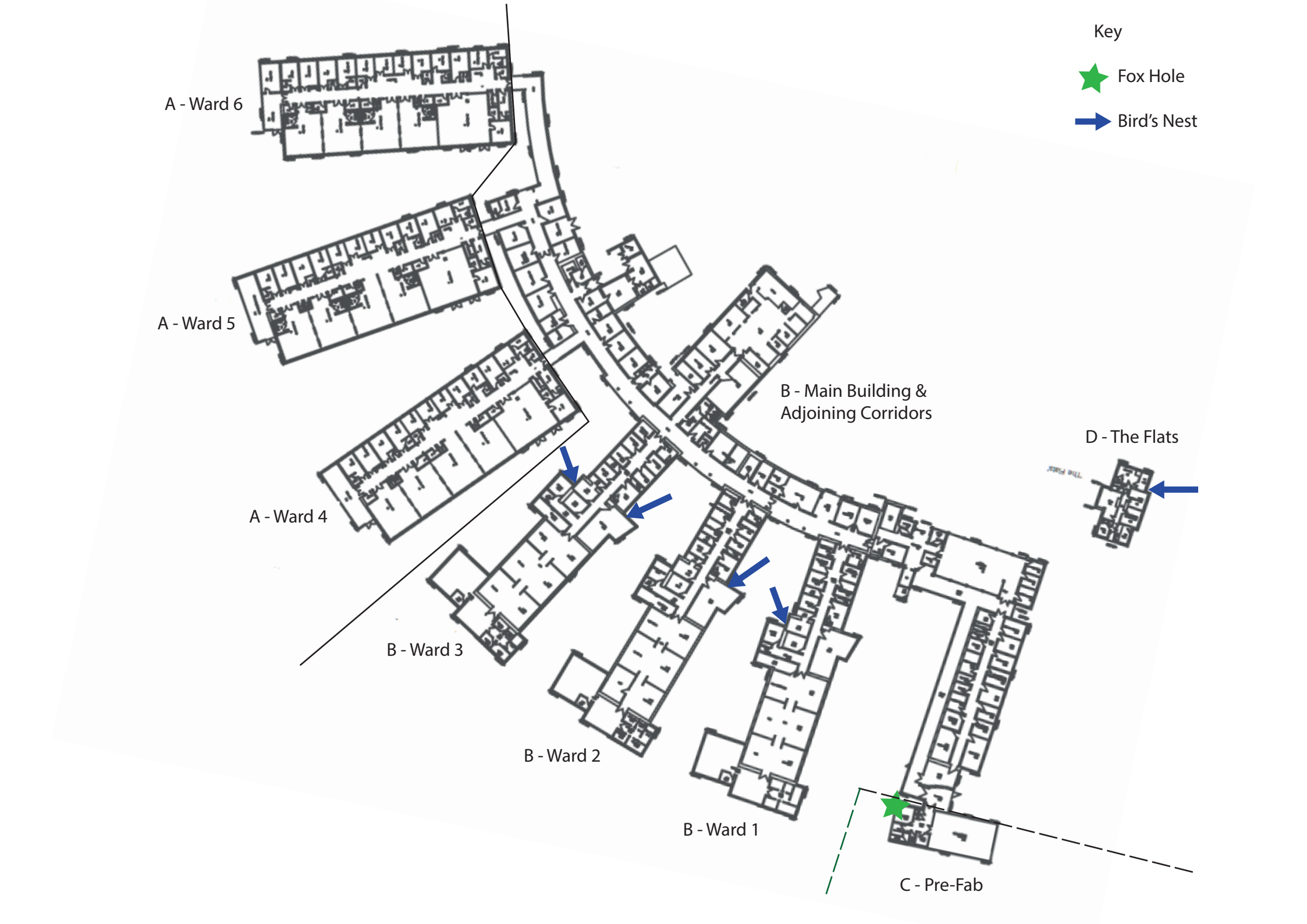
Conservation of Habitats and Species Regulations 2010 http://www.legislation.gov.uk/uksi/2010/490/contents/made

Appendix 1
Plan D-3064-01.1 showing potential roost features


Key
Potential Roost Feature (PRF)
Dropping
A - Ward 6
A - Ward 5
A - Ward 4
B - Ward 3
B - Ward 2
B - Ward 1
B - Main Building & Adjoining Corridors
D - The Flats
C - Pre-Fab

Appendix 2

Plan D-3064-01.2 showing location of birds' nests and fox den


Key
Fox Hole
Bird's Nest
A - Ward 6
A - Ward 5
A - Ward 4
B - Ward 3
B - Ward 2
B - Ward 1
B - Main Building &
Adjoining Corridors
D - The Flats
C - Pre-Fab