Ecological Appraisal and Bat Survey

Kirklees College Site,
New Road, Huddersfield

Report reference: R-2967-01.1

May 2018

Report Title:	Ecological Appraisal and Bat Survey Kirklees College Site, New Road, Huddersfield
Report Reference:	R-2967-01.1
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Date	03.05.18

The information which we have prepared and provided is true and has been prepared and provided in accordance with the CIEEM's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions. This report does not constitute legal advice.

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Contents

Summary

Purpose of report

This report is produced to present an initial assessment of a Site known as the former Kirklees College, Huddersfield; to inform the Site's potential for development.

The report has been prepared to advise the client of potential ecological constraints and opportunities, in preparing an application for planning permission.

Status of report

The report provides a sufficient baseline for the Site, and is suitable in its current form for submission to planning.

Methodology

The report is based on a Desk Study of designated wildlife sites and records of protected or notable species, and an extended Phase 1 Habitat Survey and a Detailed Bat Survey carried out in August 2017.

Findings Key-Points

No habitats or species have been found on site which pose a constraint to development.

Introduction

1. Brooks Ecological Ltd was commissioned by ID Planning to carry out a Preliminary Ecological Appraisal of the Site of the former Kirklees College, off New Road, Huddersfield (SE 14048 16879).

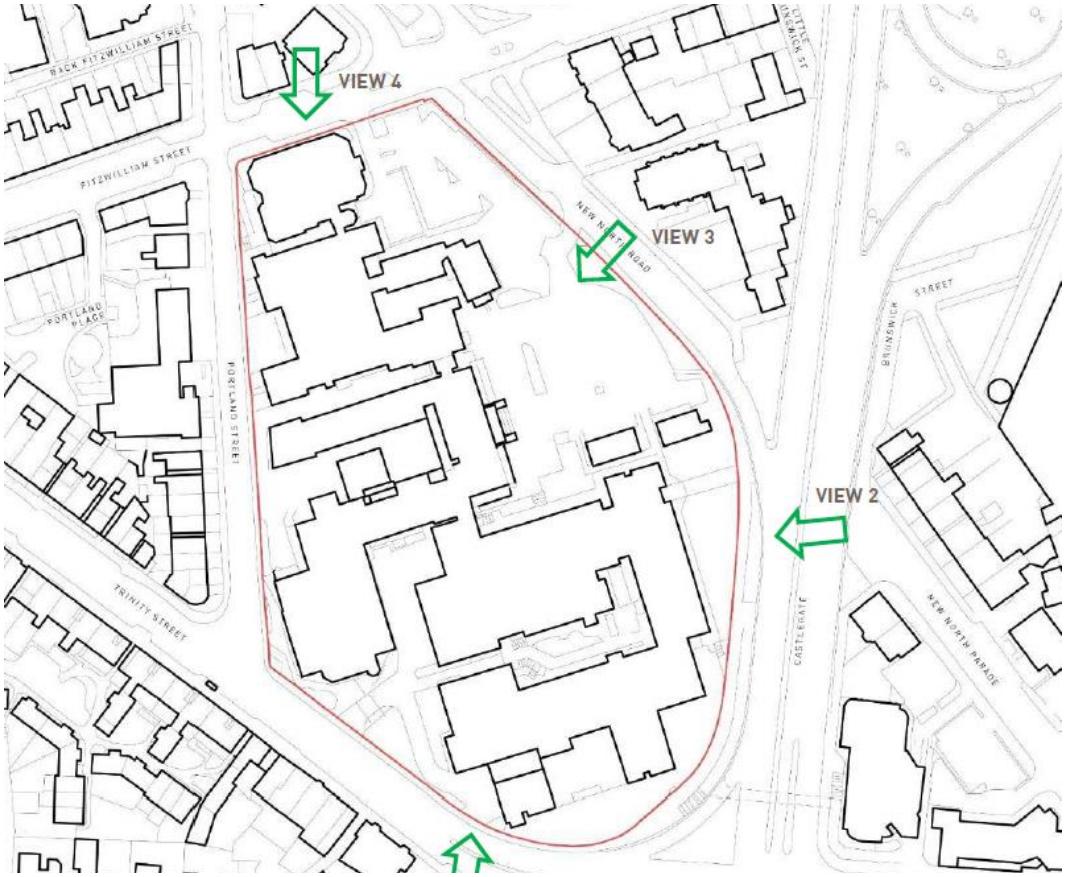
2. This report is produced with reference to British Standard BS42020 'Biodiversity Code of Practice for Planning and Development' and the CIEEM (2013) Guidelines for Preliminary Ecological Appraisal.

Scope

3. The application site 'the Site' is the now disused former college buildings and associated land. It is defined in figure 1 below.

4. The assessment uses a 2km area of search around the Site for records of protected and notable species and locally or nationally designated wildlife sites.

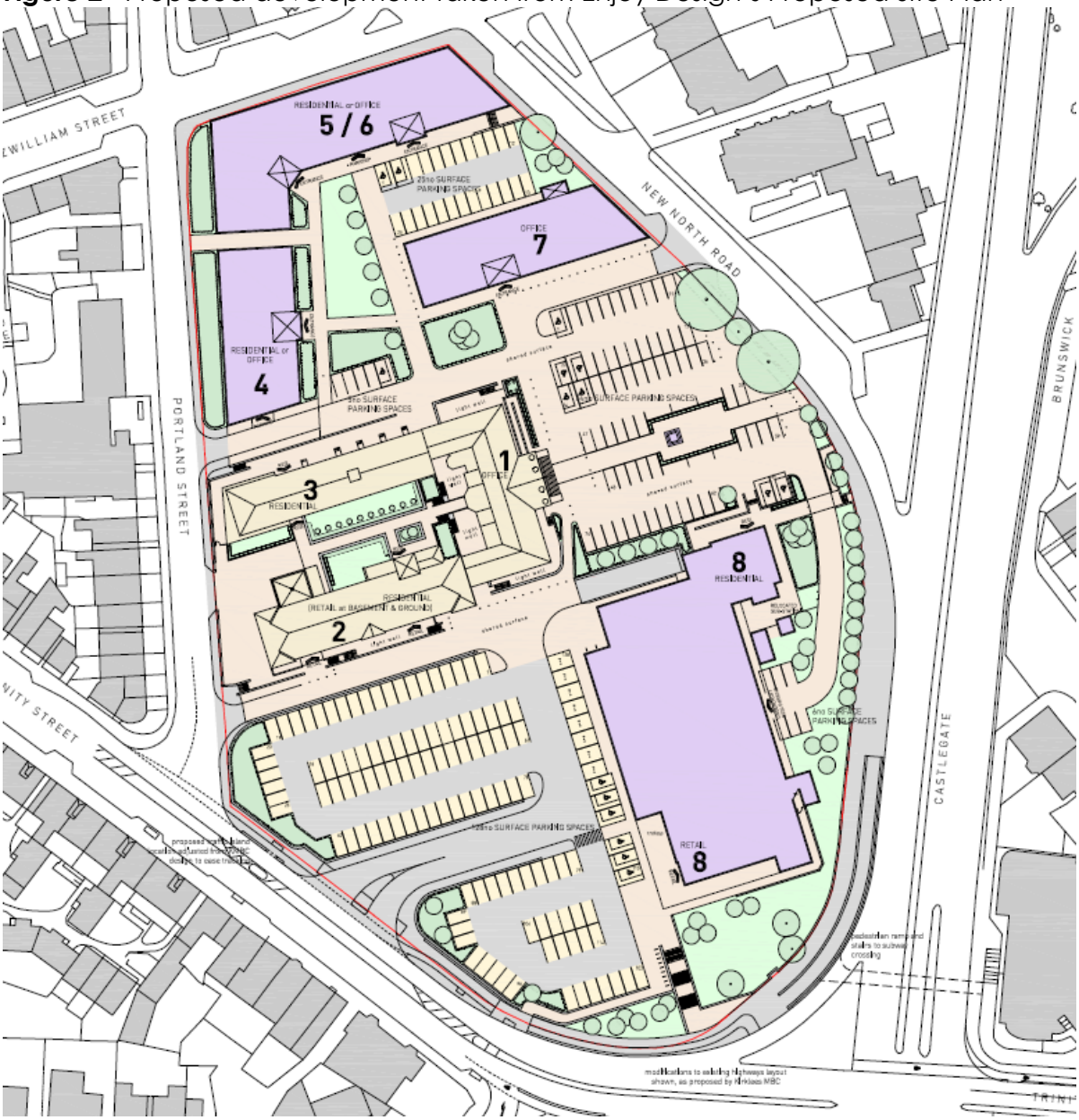
Figure 1 The Site



Proposals

5. Proposals for the Site detail a mixed-use development including retail units, a hotel and residential development. The majority of the buildings occupying the Site will be demolished, while the central Victorian infirmary building will be retained. Associated infrastructure and curtilage will be appropriately updated.

Figure 2 Proposed development taken from Enjoy Design's Proposed Site Plan



Site context

6. The Site is located in the centre of Huddersfield bound by main roads to the east and south, with minor urban roads to the west and north. Huddersfield is found overlaying the Pennine Lower Coal Measures, though historical urban setting will negate any influence the bedrock may hold over habitats on Site.

7. The Site occupies an entire urban "block", surrounded on all sides by roads. Beyond which, continuous urban development stretches in all directions. The closest area of open space is Greenhead Park, c.200m west. This is very tenuously linked with other areas of open space in the city, and habitat beyond the urban limits via the canal and River Colne.

Wildlife corridors

8. The Site is not well linked to any notable wildlife corridors reflecting its central urban location.

9. The River Colne and Huddersfield Narrow Canal form the major corridor through the town. This corridor is well treed to the east and west but becomes increasingly influenced by development towards the town centre. Though it ultimately links open space to the south west and north east of the city.

Figure 3 Analysis of wildlife corridors and higher value habitat in relation to the Site.

Water bodies

10. Mapping indicates the presence of four water bodies within 500m of the application Site. The closest of these is a large standing water body which appears to be associated with an area of allotments, 225m north.

11. Two ponds are found in Greenhead Park, 250 and 280m west of the application Site. Finally, a small pond is found with a school grounds, 340m north.

Designated Sites

Statutory Designations

12. A search has been made to identify any nationally designated sites within a 2km radius of the Site, and for internationally designated sites within a 10km radius. The results are shown in the below table.

Table 1 Statutory Designated Sites

Site name	Distance from Site	Designation	Summary Interest
Gledholt Woods	670m west	Local nature Reserve	Mature woodland and rough meadow. Pond supports white clawed crayfish
South Pennine Moors	8.5km south west	SAC and SPA	Qualifying interests for the SAC being European dry heath, blanket bog and old sessile oak woods. Qualifying bird species for the SPA include short eared out, merlin and golden plover, as well as the general breeding bird assemblage.

13. The Site is sufficiently separated, and found without functional links to either the South Pennine Moors or the LNR to ensure that the proposed development would not lead to impacts on the designations of their qualifying features.

SSSI Impact Risk Zones (IRZs)

14. The Site lies within the 10km IRZ for the South Pennine Moors SSSI, but does not fall into one of the highlighted categories which requires consultation between the Local Planning Authority (LPA) and Natural England (NE). The development is of a scale and nature which is unlikely to impact on this SSSI.

Non-Statutory Designations

15. There are four locally designated Site's, covered by three designations within 2km of the Site.

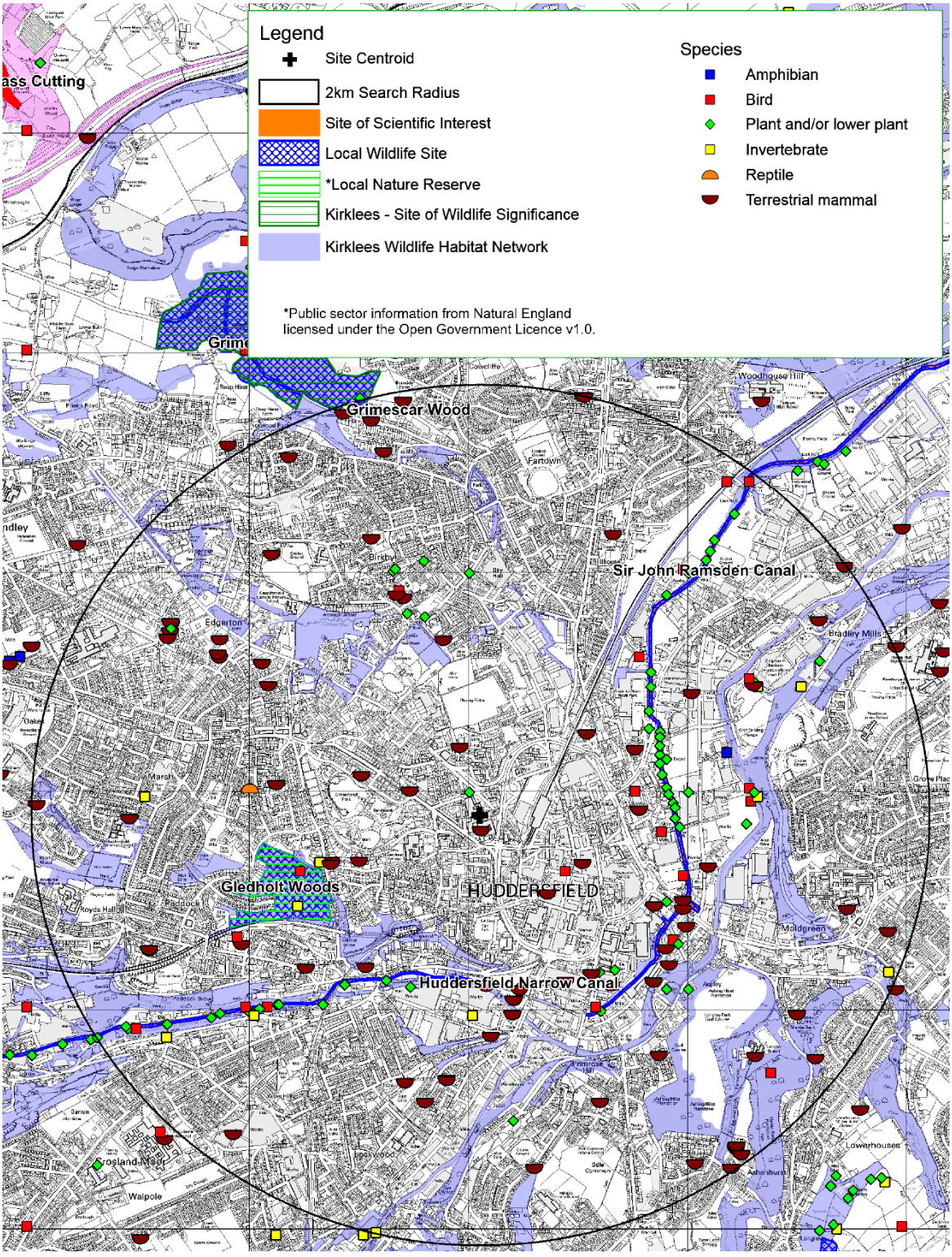
- Huddersfield Narrow Canal Site of Scientific Interest (SSI), and Local Wildlife Site (LWS), 600m south.
- Sir John Ramsden Canal SSI and LWS, 800m east.
- Gledholt Wood LWS, 670m west.
- Grimescar Wood LWS and Kirklees Site of Wildlife Significance (KSWS), c.2km north.

16. Again, the Site is unlikely to lead to any impacts on these local designations given the separation by distance and urban development, and absence of functional links.

Kirklees Wildlife Habitat Network

17. The Site is not closely associated with any land within the Kirklees Wildlife Habitat Network.

Figure 4 Locally designated sites provided by West Yorkshire Ecology



Habitats

Method

18. The survey was carried out during August 2017[1] and followed Phase 1 habitat survey methodology (JNCC, 2010).

Limitations

19. Sufficient time was afforded the surveyor to carry out the survey. The survey was not constrained by poor weather.

Results

20. The Site is entirely occupied by urban development with occasional small areas of landscaping, reflecting its former uses, as the Kirklees College campus, and originally, the infirmary.

21. The following habitats were identified within the Site and on its immediate boundaries:

- Buildings
- Hard standing
- Ornamental planting
- Amenity grass
- Trees

Buildings

22. Buildings occupy much of the Site, these include the original infirmary buildings, founded in 1831, to the centre of the Site, surrounded by a range of buildings many of which are likely to date around the 1960's and 70's. buildings are described in detail in the later bat roost suitability assessment section of this report.

[1] This Report has been prepared during September 2017 following a visit to the site in August 2017 and our findings are based on the conditions of the site that were reasonably visible and accessible at that date. We accept no liability for any areas that were not reasonably visible or accessible, nor for any subsequent alteration, variation or deviation from the site conditions which affect the conclusions set out in this report.

Hard standing

23. Hardstanding is principally represented by areas of bitmac, with occasional areas of crushed hardcore, where buildings have been demolished, flag stones and cobbles. The large slabs of bitmac are largely found in good condition and devoid of vegetation. Small amounts of competitive vegetation are noted around the bitmac edges and areas of crushed hardcore, this includes nettle (Urtica dioica), ragwort (Senecio jacobaea), willowherb (Epilobium sp.), herb robert (Geranium robertianum), spear thistle (Cirsium vulgare) and buddleja (Buddleja davidii).

Ornamental planting

24. A range of shrub beds are found around and within the Site, these are generally populated by ornamental, non-native species including cotoneasters, berberis, mahonia, roses, montbretia and rhododendron.

Amenity grass

25. Small areas of former amenity grassland are present to the south and east of the Site, a cessation of management of these areas has resulted in grassland becoming rank.

26. Grass species dominating the sward include Yorkshire fog (Holcus lanatus), red fescue (Festuca rubra agg.) and perennial rye grass (Lolium perenne), common bent (Agrostis capillaris) and cocksfoot (Dactylis glomerata), are both also found frequently. Sweet vernal grass (Anthoxanthum odoratum), timothy (Phleum pratense) and wall barley (Hordeum murinum) were noted but only very occasionally.

27. A wide range of forbs were noted within the grassland though only a small number of ubiquitous species occurred in greater cover than very occasionally to rarely, these being white clover (Trifolium repens), ragwort (Senecio jacobaea), dandelion (Taraxacum vulgare agg.), and creeping buttercup (Ranunculus repens). Wood avens (Geum urbanum), creeping thistle (Cirsium arvense), cats ear (Hypochaeris radicata), broad and narrow leaved dock (Rumex spp.) occurring occasionally with selfheal (Prunella vulgaris), nettle, red clover (Trifolium pratense), meadow vetchling (Lathyrus pratensis), ladies mantle (Alchemilla sp.) and autumn hawkbit (Leontodon autumnalils) noted as a rare component of the sward. Occasional saplings of oak and sycamore were also noted.

Trees

28. A number of early mature trees are present around the site boundaries, with a small number found scattered through the areas of hard standing within the site. Horse chestnut (Aesculus hippocastanum) and number of maple species (Acer spp.)

being the most abundant. Cherry (Prunus sp.), rowan (Sorbus aucuparia), white beam (Sorbus aria), holly (Ilex aquifolium) and alder (Alnus glutinosa) were also noted.

Habitats Summary

29. The Site is considered to provide a range of common habitats assessed as being of low ecological value. The Site's existing urban development and urban location greatly limits its ecological value.

Fauna

Bats

30. Records provided by West Yorkshire Ecology include a record from within the Site, detailing a roost of an indeterminate species recorded in 2005. The ten-figure grid reference suggests that this roost was present on the eastern elevation of the central tower. No additional detail is available with this record. No other records relate to locations within or in close proximity to the Site.

31. A relatively large number of records have been returned (91) though the majority cover pipistrelle or indeterminate species of bats, two records of each of whiskered bats, daubentons, noctule and leislers were also returned.

32. Several of the records relate to roosts though the majority are of single or very low numbers of bats. A record of 45 pipistrelle bats is held for a property 1.5km west of the site.

33. The buildings on Site offer a small number of relatively low value potential roost features. These are discussed in detail in the later bat survey section of this report.

34. The Site is not well linked to any areas of high value habitat and provides only minimal foraging value in its own right.

Amphibians

35. Only two records of common toad are held within the search radius. Mapping indicates the presence of four standing water bodies, which may provide potential amphibian breeding habitat, within 500m of the application site.

36. However, despite the closest of these (225m north) being just within the range over which great crested newt frequently disperse from breeding ponds, each pond is

separated from the Site by dense urban development and busy roads in very frequent use. These are assessed as providing a sufficient barrier to dispersal to suggest that should amphibians be breeding in any of these ponds they would not occur within the Site.

37. The site provides no potential breeding habitat and only very small areas of marginal terrestrial habitat. A likely absence of amphibians, and particularly the protected great crested newt, from within the site is concluded.

Birds

38. The Site is only likely to provide habitat used by ubiquitous urban species. Buildings will provide nesting opportunities for species such as house sparrow, starling and pigeon. While trees and denser areas of shrub beds may provide opportunities for species including blackbird, dunnock, goldfinch and robin.

40. The remaining records list a relatively small number of species, which would either not be expected to occur on Site, or would not be impacted by development.

Bat Survey

41. The application site is within the natural range of species of bats listed in Table 2.

Table 2: 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

42. A thorough daytime inspection of the site was made in August 2017 in order to look for evidence of bats and assess bat roosting potential. 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.

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

Table 3 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.

44. Survey and assessment was directed by Sam Kitching BSc (Hons) Grad CIEEM. Sam has over 5 years experience of carrying out bat surveys in a professional capacity and is registered to use the Class Survey Licence WML CL18 (Bat Survey Level 2).

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.

Survey Results

45. The Site includes numerous buildings, some of which have been grouped together to aid the following descriptions. Buildings are described as labelled in the below figure.

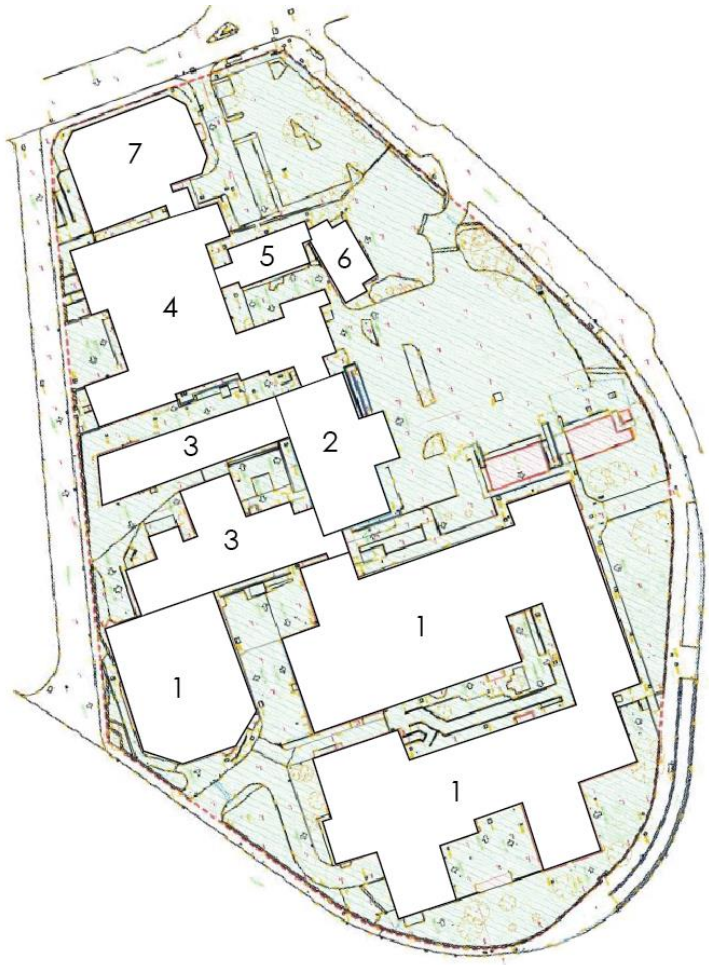


Figure 5

Building numbers as described below

Complex 1

46. This incorporates a range of buildings, built using concrete panels with large areas of glass assumed around a steel frame. Much of the ground floor walls of these buildings are marked by brick facades.

47. Buildings are of varying heights, between two and five stories high, with flat roofs.

48. These buildings are found in relatively good condition and being of a very simple construction style offer very few potential roost access points.

49. A single feature, repeated around these buildings was noted as providing a potential roost structure. On the taller blocks, where the concrete panels meet the lower brick walls a small gap was noted between the two at the overlap. This provides a vertical space between the two skins, which extends someway before being blocked. This feature was noted in a number of locations, though no evidence suggesting current or historic presence of bats could be found.

50. No additional, suitable features could be found beyond this, owing largely to the buildings simple construction style.

Figure 6

Showing the construction of buildings in this group

Figure 7

Shows crevices between concrete panel and brick wall

Building 2

51. This being the original 1830's infirmary building. it is constructed using large, coursed stone blocks, a four-columned portico marks the main entrance on the eastern

elevation. The building has a double pitched roof, principally facing east-west, with north-south elevations on the wings and above the portico.

52. Despite the buildings age it is found in an excellent state of repair. The masonry is found in good condition without cracks or crevices which may provide a suitable roost feature.

53. The eaves of the building are marked by a large stone overhang which appears well sealed to the stone of the walls and does not create crevices in this area, this does however obstruct any views of the roof.

Figure 8

Front (east) elevation of building 2

Building 3

54. This includes two extended wings on the western elevations of building 2. Again, constructed from coursed stone – generally found in good condition. The eaves of these buildings are marked by overhanging stone supported by dentils. This precludes any access at the eaves.

55. Double pitched slate roofs cover both wings, these are found in relatively poor condition, with a number of slipped and missing slates being noted.

Figure 9

Looking at the southern of the two wings, slipped slates can be seen on the roof.

Building 4

56. This is a large, flat roofed building of coursed stone construction. The stone walls are generally found in a sound state of repair and do not offer features suitable for use by roosting bats. Though very occasional areas of missing mortar were identified, most obviously on the north-west corner at masonry associated with the parapet. These gaps appear to provide a very narrow crevices, potentially suitable for use by very low numbers of bats.

Figure 10

Slight gaps in masonry in north west corner.

57. Beyond this, the parapet appears in good condition and effectively seals any access for bats at the eaves.

58. An area of the flat roof is raised to include dormers in the southern and part of the northern elevations. Between windows, these areas are clad with hanging slates. These are found in a poor state of repair with numerous slates slipped or entirely missing. This will provide access to crevices between the remaining slates and the interior construction.

59. The south-eastern corner of this building includes a small tower, topped with a pyramidal slate roof. This is found in a similar condition to the slate hanging tiles and offers similar features of bat roost suitability.

Figure 11

Looking along southern elevation of building 4 where damage to tower slate roof and hanging tiles can be seen

Building 5

60. A stone building towards the north of the Site, topped by a double pitched slate roof.

61. Again, despite this buildings age it appears in relatively sound repair, with masonry and roof slates intact. The gable verges and ridge line appear similarly well sealed.

62. Slight gaps were noted between the wall and the gutter. This potentially leads to the wall tops of the building providing access to a suitable roost space.

Figure 12

General view of building 5

Building 6

63. This is a building constructed of coursed stone with a slate mansard roof, including several dormer windows and gable parapets.

64. The masonry is generally found in sound repair with very occasional areas of washed out mortar, these however appear very shallow, and would not provide suitable roost spaces.

65. The hanging slates of the mansard roof are in good condition in comparison to similar features around the Site, only a very small number of slipped or raised tiles were noted.

66. The parapet sections entirely seal the gables and offer no features suitable for use by bats.

Figure 13

Eastern elevation of building 6

Building 7

67. This is another more recent addition to the Site, being of concrete panel construction, with a flat roof. The building is found in sound repair, and of very simple construction style. No features of roost suitability could be found.

Figure 14

Looking south west at building 7

Bat Roost Potential Summary

68. The buildings on Site offer occasional features with potential to support small numbers of roosting bats, but would be unlikely to support large or important roosts. No evidence of roosting bats could be found during the day time inspection. The Site is not well linked to extensive areas of higher value habitat further reducing its suitability as a roost Site.

69. Based on the features present and the Site's location buildings 1, 3, 4 and 5 are assessed as providing features of *Low Bat Roost Suitability* while buildings 2, 6 and 7 offer *Negligible Suitability*.

70. The conclusion of this assessment was communicated to the client and the necessary further evening emergence surveys duly commissioned.

Emergence Survey

71. Brooks Ecological specialise in bat surveys ranging from individual buildings through to complex sites requiring numerous visits with large teams. In terms of the survey effort, number of personnel required and number of visits required to be able to properly evaluate the building(s) use by bats we refer to the Bat Conservation Trust, Survey Good Practice Guidelines (2016). However, these guidelines are not prescriptive and we approach each site individually as required using our professional judgement and significant experience base.

72. In this case, 2 visits with a team of up to 5 surveyors, was deemed necessary to evaluate the potential use of the site for roosting. The surveys were carried out during August 2017 with surveyors positioned around the building to cover all aspects to be impacted by the proposals, and to establish activity levels around the site.

73. The surveyors, using heterodyne detectors, were in place at least half an hour before dusk and left once all species of bat would be expected to have left a roost and patterns of activity within the site had been appraised. Conditions and dates are summarised in table 4 below:

Table 4 Survey summary

Date of Survey	Temperature Start/End	Weather	Invertebrate activity
10.08.17	17˚C / 16˚C	Clear, dry, low wind	Low
23.08.17	17 ˚C / 16˚C	25% cloud cover, dry, light wind	Low

Results

Survey 1 – 10th August 2017 – sunset 20:47

74. The first bat seen was a common pipistrelle at 20:54, 7 minutes after sunset. This bat was clearly seen arriving on Site from the east, it continued in a westerly direction, passing between buildings 3 and 4.

75. At 21:09 a second common pipistrelle arrived on Site, this time coming from a northerly direction, this bat remained on Site foraging briefly in a number of areas to the east, around trees and along building frontages. Brief foraging patterns were observed by all surveyors, at differing times suggesting each was observing the same bat.

76. At no point were any bats seen or suspected to have emerged from any of the surveyed buildings.

Survey 2 – 23rd August 2017, Sunset: 20:19

77. Bat activity was low throughout the survey. The first bat observed was a common pipistrelle commuting from the south over the south west corner of the Site at 20:35.

78. After a break in activity a second common pipistrelle was seen at 20:52 commuting up the street to the west of the Site before turning into the Site between buildings 3 and 4. At 20:56, a single common pipistrelle was seen leaving the Site from between these buildings, assumed to be the same bat entering four minutes prior.

79. Occasional, additional snippets of echolocation calls were heard over the remainder of the survey, though no additional bats were seen. No bats were seen, or suspected to have emerged from roosts within the Site over the course of this survey.

80. Emergence survey indicates a likely absence of roosting across the Site and demonstrates very low activity levels.

Invasive Species

81. Several species of cotoneaster, as well as montbretia (Crocosmia x crocosmiiflora) are listed on Schedule 9 of the Wildlife and Countryside Act (1981), making it an offence to cause or allow it to grow in the wild.

82. These species are found within ornamental planting areas around the Site. Whilst listed on Schedule 9 of the Wildlife and Countryside Act (1981) (as amended), these species are not considered to present a significant risk in this location. Whilst we are not aware of specific guidelines relating to the disposal of these plants it would be a sensible precaution to dispose of them through burning on Site or disposal at approved landfill. The plants, their berries, seeds or corms should not be buried, mulched or added to rot piles as this is likely to lead to its spread.

Conclusions and Recommendations

83. The Site is largely occupied by built development and hard standing with small associated areas of shrub planting, amenity grass and landscaped trees. The habitats on Site are assessed as providing low ecological value and should not pose any constraint to development.

84. Detailed bat survey carried out during the peak active bat season has demonstrated very low levels of general activity, as would be expected given the habitats on Site and its urban location. Survey has also demonstrated a likely absence of roosting. It is concluded that the roost recorded at the Site in 2005 is no longer active and should not pose a material constraint to development.

85. The presence of peregrines in the area should not pose any constraint to development as they are not currently nesting on Site, the buildings do however provide suitable perches which may be used by these birds. Demolition activities will

lead to sufficient levels of disturbance to ensure peregrines leave the Site and do not come to any harm. It may however be prudent to carry out a pre-commencement check to ensure they have not taken up a nest at the Site.

Ecological Enhancement

86. The requirement for development to make a positive contribution to biodiversity is clearly set out in guidance such as the NPPF and BS:42020 - beyond mitigating or compensating any potential impacts.

87. The following themes provide opportunities for the proposals to deliver such a contribution:

- Bolster existing, and provide new linear features around the Site to provide habitat and facilitate the movement of wildlife. The existing tree line to the east could be enhanced through the planting of additional native trees such as wild cherry, rowan, crab apple, field maple and hornbeam being suitable. Understorey planting of species such as holly, hawthorn and blackthorn would further enhance this feature. A similar planting scheme could be used around any other suitable corridors on Site to provide additional enhancement.

- The proposals include a number of public open space areas; it may be feasible to seed one of these areas with a wildflower seed mix, and manage it appropriately. This would provide far greater species diversity and ecological value than that of general amenity lawns. A number of trials have demonstrated the value of even small areas of urban wildflowers, additionally, once established the management regime would be less intensive than that of amenity lawns. In conjunction with large green infrastructure planting, discussed above, it may be possible to create a small "wildlife area", the band of existing trees towards the south-east boundary being a potentially suitable area for this.

- The Site could benefit from the inclusion of a number of artificial refuge boxes. New planting at the Site may attract greater numbers of foraging bats; as such it would be appropriate to include a number of bat boxes. These should be focused towards the areas of the densest planting or linear corridors on Site, or as close as possible to existing suitable habitat, such as the western boundary, closest to Greenhead Park. Swift numbers have seen a drastic decline over recent years, the inclusion of swift nest features in the taller buildings on Site would provide attractive nesting opportunities for this emotive bird species. Both swift bricks and bat roost features can be easily and cheaply incorporated into the fabric of buildings without creating any conflicts with the buildings' occupants.

Appendices

1. Extended Phase 1 Habitat Plan
2. Explanatory Notes and Resources
3. Bat Activity Survey Rationale
4. Information on legislation / protection

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Appendix 1 – Extended Phase 1 Habitat Plan

- Buildings
- Hard standing
- Amenity grassland
- Ornamental planting
- Trees

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Grounded advice

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Project: Former Kirklees College Huddersfield

Title: Extended Phase 1 Habitat Plan

Drawing Number: D-2967-01.1

Scale: Do not scale Date: September 2017

Revision:

Appendix 2 – Explanatory Notes and Resources Used

Site context

Aerial photographs published on commonly used websites were studied to place the site in its wider context and to look for ecological features that would not be evident on the ground during the walkover survey. This approach can be very useful in determining if a site is potentially a key part of a wider wildlife corridor or an important node of habitat in an otherwise ecologically poor landscape. It can also identify potentially important faunal habitat (in particular ponds) which could have a bearing on the ecology of the application site. Ponds may sometimes not be apparent on aerial photographs so we also refer to close detailed maps that identify all ponds issues and drains. We use Promap Street + scale maps for this purpose.

Designated Sites

A search of the MAGIC (Multi-Agency Geographic Information for the Countryside) website was undertaken. The MAGIC site is a Geographical Information System that contains all statutory (e.g. Sites of Special Scientific Interest [SSSI's]) as well as many non-statutory listed habitats (e.g. ancient woodlands and grassland inventory sites). It is a valuable tool when considering the relationship of a potential development site with nearby important habitats. In addition, information from the local record holders was referred to on locally designated sites.

Functional linkage with off-Site habitats

When assessing these we consider whether the Site could be functionally linked to them, considering links such as;

- Hydrological links - is the Site upstream downstream, or could ground water issues affect it?
- Physical links - is the site in close proximity and could it be directly or indirectly affected by construction and operational effects? Conversely it may be that despite proximity major barriers separate the two.
- Recreational links - Do footpaths and roads make it likely that increased recreational pressure could be felt?
- Habitat links - Is the site part of a network of similar habitat types in the wider area? These could be joined by linear corridors or could simply be 'stepping stones of habitat of similar form or function.

Kirklees Wildlife Habitat Network

The Kirklees Habitat Network is referred to in Policy DLP 31:Section 12.1 – so is afforded a level of protection - but this should be in relation to being able to maintain physical linkages for wildlife.

Policy DLP 31 View Comments (30) Add Comments

Biodiversity & Geodiversity

The council will seek to protect and enhance the biodiversity and geodiversity value of the range of international, national and locally designated wildlife and geological sites, the Wildlife Habitat Network, Habitats and Species of Principal Importance in Kirklees.

Proposals which may directly or indirectly compromise achieving the conservation objectives of a designated or candidate European protected site will not be permitted unless the proposal meets the conditions specified in Article 6 (3) - (4) of the Habitats Directive.

Development proposed within or outside a designated Site of Special Scientific Interest, likely to have an adverse effect on the site's special conservation features, will not normally be permitted. Exceptionally, development will be allowed where the benefits of the development clearly outweigh the impacts on the site's special conservation features and measures are provided to mitigate harmful impacts.

Proposals having an adverse effect on a Local Wildlife Site or Local Geological Site, Ancient Semi-natural Woodland, Veteran Tree or other important tree, will not be permitted unless the development can be shown to be of an overriding public interest and there is no alternative means to deliver the proposal. In all cases, full compensatory measures would be required and secured in the long term.

Proposals will be required to protect the Wildlife Habitat Network, Habitats of Principal Importance, Species of Principal Importance unless:

a. the benefits of the development clearly outweigh the importance of the biodiversity interest; and
b. the loss of the site and its functional role within the Wildlife Habitat Network can be fully maintained or compensated for in the long term; and
c. compensatory measures will be secured through the establishment of a legally binding agreement.

All new development shall be designed to incorporate and enhance biodiversity and geodiversity interest where relevant to these interests. Proposals shall safeguard, enhance and develop a robust and functional Wildlife Habitat Network at a local and wider landscape scale. Biodiversity enhancement measures shall be designed to reflect the priority habitats and species listed for the relevant Biodiversity Opportunity Zone.

Method

Phase 1 habitat survey methodology (JNCC, 2010). This involves walking the site, mapping and describing different habitats (for example: woodland, grassland, scrub). The survey method was "Extended" in that evidence of fauna and faunal habitat was also recorded (for example droppings, tracks or specialist habitat such as ponds for breeding amphibians). This modified approach to the Phase 1 survey is in accordance with the approach recommended by the Guidelines for Baseline Ecological Assessment (IEA, 1995) and Guidelines for Preliminary Ecological Appraisal (CIEEM 2012).

Faunal appraisal

This section first looks at the types of habitat found on Site or within the sphere of influence of potential development, then considers whether these could support protected, scarce or NERC Act 2006 Section 41 species (referred to collectively as 'notable species').

Records of notable species supplied from a 1-2km area of search are used to inform this appraisal.

We discuss further only notable species or groups which could be a potential constraint due to the presence of suitable habitat and their presence (or potential presence) in the wider area. We screen out and do not present accounts of notable species or groups which do not meet these criteria – in some cases it may be necessary to explain this reasoning.

Evaluation

In evaluating the site the ecologist will take into account a number of factors in combination, such as;

- the baseline presented above,
- the site's position in the local landscape,
- its current management and
- its size, rarity or threats to its integrity.

There are a number of tools available to aid this consideration, including established frameworks such as Ratcliffe Criteria or concepts such as Favourable Conservation Status. Also of help is reference to Biodiversity Action Plans in the form of the Local BAP and Section 41 of the NERC Act (2006) to determine if the site supports any Priority habitats or presents any opportunities in this respect.

The assessment of impacts considers the generic development proposals from which potential effects include:

- Vegetation and habitat removal
- Direct effects on significant faunal groups or protected species
- Effects on adjacent habitats or species such as disturbance, pollution and severance
- Operation effects on wildlife such as noise and light disturbance

Consideration is given to the Local Biodiversity Action Plan (LBAP), which for this site is the '**Kirklees Biodiversity Action Plan'**.

Species/group	**Habitat**
Floating water plantain	Semi-natural pasture
Great-crested newt	Lowland and upland meadows
Marsh helleborine	Lowland dry acid grassland
Northern wood ant	Blanket bog
Twite	Upland heathland
Watervole	Upland flushes
White-clawed crayfish	Lowland heathland
	Upland oak woodland
	Lowland deciduous and other woodland
	Upland mixed ashwoods
	Wet woodland
	Arable field margins
	Hedgerows
	Rivers, riverine corridors and associated habitats
	Reedbeds
	Scrub and habitat mosaics on previously developed land

Appendix 3 – Bat Activity Survey Rationale

The Bat Conservation Trust Guidelines (BCTG) (Collins 2016) is now widely accepted as providing a basis and rationale for scoping and conducting bat surveys. It is acknowledged that the guidelines provide a wealth of background and are a very useful tool in standardising approaches to survey, it is also felt that an over reliance on some of the guidelines within this document can result in the provision of complicated surveys where they have significant consequences for the cost, or timescale of a large project, but could never deliver positives for bat conservation.

Taking the BCTG document as a whole, Chapter 2 helps the reader understand whether or not surveys are required, and that in the context of planning and development survey is required in relation to ensure;

- the avoidance of legal offences, and;

- the provision of a sufficient level of information - such that will allow the Local Planning Authority to make an informed decision on the proposals and their potential impacts on the Favourable Conservation Status (FCS) of bats.

Attendance at seminars presented by, and discussions with, those involved in production of the BCTG document has emphasised the point that it is within the remit of the consultant ecologist to make a decision on the necessity and scope of surveys - they will use the guidelines in doing so but are not in any way bound by them: this is reflected in Section 1.1 of the guidelines -

> *'The Guidelines do not aim to either override of replace knowledge and experience. It is accepted that departures from the guidelines (e.g. either decreasing or increasing the number of surveys carried out or using alternative methods) are often appropriate. However, in this scenario an ecologist should provide documentary evidence of (a) their expertise in making this judgement and (b) the ecological rationale behind the judgement. '*

Such decisions require a consideration of the potential of the project to impact on bat habitat, alongside analysis of the value of habitat on and around the site and of local records and the likelihood that bats might occur in significant numbers. Our reports aim to present information on how we have arrived at our decision on the site, what assumptions we have based this on, and where further survey is recommended we indicate what the objective of this survey should be and how best this would be achieved.

The Site is occupied by habitat of very limited value to bats, nor is it well linked to areas of higher value habitat. Emergence surveys undertaken at the Site have demonstrated very low levels of activity, limited to a single, common species. Based on these points, dedicated activity survey is not deemed necessary.

Appendix 4 Wildlife Legislation, Policy and Guidance

This is not an exhaustive list but sets out briefly the relevance of Legislation, Policy and Guidance in terms of planning applications and this assessment.

Legislation

Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (EC Habitats Directive).

Provides framework at an international (EU) level for the consideration / protection of European Protected Species (EPS), and habitats through the designation of sites.

Council Directive 79/409/EEC on the Conservation of wild birds (EC Birds Directive) and The Ramsar Convention on Wetlands of International Importance (1971)

Provides framework at an international (EU) level for the consideration / protection of important bird populations and the sites on which they are dependant.

The Conservation of Habitats and Species Regulations (2010)

This transposes 1 into UK law and provides the basis on which all EPS are protected and impacts on them can be licensed in the UK.

The Wildlife and Countryside Act (1981) as amended

This provides the basis on which UK species are legally protected or restricted and confers protection on Sites of Special Scientific Interest SSSIs. It contains annexes of plants and animals which are legally protected as well as those which are considered to be invasive or harmful. It provides the basis on which impacts on such species can be licensed in the UK and provides controls on work on or near SSSIs.

The Countryside and Rights of Way Act 2000 (CRoW)

Provides a statutory basis for nature conservation, strengthens the protection of SSSIs and UK protected species and requires the consideration of habitats and species listed on the UK and Local Biodiversity Action Plans (UKBAP / LBAP).

Natural Environment and Rural Communities Act 2006 (NERC)

Sets out the responsibilities of Local Authorities in conserving biodiversity. Section 41 of the Act requires the publishing of lists of habitats and species which are "of principal importance for the purpose of conserving biodiversity". At present these largely reflect those making up the UKBAP lists.

Hedgerows Regulations (1997)

Define and provide protection for Important Hedgerows.

Protection of Badgers Act (1992)

Protects badgers from persecution, this includes excavation / development in the proximity of setts.

Protected Sites

Statutory EU / International Protected Sites

Special Areas of Conservation (SACs); and Special Protection Areas (SPAs) and Ramsar Sites contain examples of some of the most important natural ecosystems in Europe. Work on or near these sites is strictly protected and Local Authorities will be expected to carry out 'Appropriate Assessment' of development in proximity of them. In this case there is often an increased burden on the developer in relation to provision of information and assessment.

Statutory UK Protected Sites

Local Nature Reserves (LNRs); National Nature Reserves (NNRs); Sites of Special Scientific Interest (SSSIs) all receive strict protection under UK legislation. Work in or in proximity to these sites would be restricted with any needing to be agreed with Natural England. Natural England now provide guidance on the nature of development which could impact on SSSIs through Impact Risk Zones.

Locally Protected Sites

Local Authorities have a variety of protected wildlife sites designated at a local or regional level. These are gradually being brought under the banner of Local Wildlife Sites (LWS) but at present a plethora of different designations exist - all subject to local policy.

Protected Species

European Protected Species

A number of species (most relevantly bats, great crested newts [GCN], and otters) receive strict protection from killing, injury and disturbance under The Conservation of Habitats and Species Regulations (2010). Protection is also conferred on the habitats on which they rely such as roost space in the case of bats and ponds and fields etc. in the case of GCN.

UK Protected Species

A number of species (including bats, GCN, watervole and white clawed crayfish) are strictly protected under The Wildlife and Countryside Act (1981) as amended, from killing, injury, disturbance and damage or destruction of their resting places etc. Certain species (such as reptiles) and some birds (such as barn owl) receive partial protection e.g. at certain times of the year or form certain activities only. All nesting bird species are protected from damage or destruction of their nests - whilst active.

Invasive species

Schedule 9 of the Wildlife and Countryside Act (1981) as amended, lists these species and makes it an offence to cause or allow their spread in the wild. This often has impacts on development and planning in relation to the presence of invasive plant species such as: himalayan balsam (*Impatiens glandulifera),* japanese knotweed (*Fallopia japonica*) and giant hogweed *(Heracleum mantegazzianum*).

Planning Policy / Guidance

The National Planning Policy Framework (NPPF)

The National Planning Policy Framework was published in 27 March 2012 replacing the majority of previous Planning Policy Guidance notes (PPGs) and Planning Policy Statements (PPSs). The most relevant paragraphs from the NPPF are set out below.

The general approach to assessing the natural environment is now embedded within the definition of what 'sustainable development' is. Paragraph 7 (P7) of the NPPF states that sustainable development should "contribute to protecting and enhancing our natural environment" and "help to improve biodiversity". There is also a need for positive inclusion of the natural environment in development design and "moving from a net loss of bio-diversity to achieving net gains for nature" (P9). P14 sets out the Frameworks presumption in favour of sustainable development.

The natural environment is stated within the NPPF core principles: development should "*recognise the intrinsic character and beauty of the countryside*" and contribute to conserving and enhancing the natural environment and reducing pollution. Allocations of land for development should, "*prefer land of lesser environmental value, where consistent with other policies in this Framework*" (P17).

Section 11 of the NPPF details the approach to the natural environment. The Framework states that development should "*minimise impacts on biodiversity and provide net gains in biodiversity, where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures*" (P109).

The Framework sets out ways to minimise the impacts on biodiversity through "*promoting the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets*" (P117).

The NPPF requires the consideration of the impacts of development on the natural environment. The Framework also encourages "*opportunities to incorporate biodiversity in and around developments*" (P118). Importantly this paragraph (P118) sets out the hierarchy of avoiding, mitigating and compensating harm from development - plans should ensure that they can demonstrate engagement with this hierarchy when required.

Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services.

This strategy builds on the Natural Environment White Paper (June 2011) - The Natural Choice: securing the value of nature. Setting out the current UK Government's approach to nature conservation. It promotes a more coherent and inclusive approach to conservation and the valuing in economic and social terms of economic resources.

The strategy promotes initiatives such as Biodiversity Offsetting, Nature Improvement Areas and a focus on well-connected natural networks and introduces the concept of securing a 'no net loss' situation with regard to UKBAP / Section 41 habitats and species.

ODPM circular 06/05 (2005) Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System

Provides guidance to Local Authorities on their obligations to biodiversity – particularly in relation to assessing planning applications and ensuring the adequacy of information.

BSI (2013) British Standards Institute BS 42020:2013 Biodiversity — Code of Practice for Planning and Development.

Provides a standard for the biodiversity assessment and development industries and decision makers such as Local Planning Authorities to work to.