

LEGGATTS CAMPUS
NORTH WATFORD

EXTENDED PHASE 1
HABITAT
SURVEY REPORT

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for

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EXTENDED PHASE 1 HABITAT SURVEY REPORT

1.0 BACKGROUND

- 1.1 ACD Landscape Architects was commissioned by Taylor Wimpey to carry out an extended Phase 1 habitat survey for a proposed development site on Leggatts Campus, North Watford.
- 1.2 The objectives of the extended Phase 1 habitat survey were to:
- produce a map of the main ecological features within the site and compile a plant species list for each habitat type;
 - make an initial assessment of the presence or likely absence of species of conservation concern;
 - identify any legal and planning policy constraints relevant to nature conservation which may affect the development;
 - determine any potential further ecological issues; and,
 - determine the need for further surveys and mitigation.

2.0 METHODOLOGY

Desk study

- 2.1 No formal desk study was commissioned but MAGIC web-site's interactive map and Watford Borough Council's web-site was reviewed to identify statutory sites within a 2 km radius of the site.
- 2.2 The NBN Gateway was also selectively interrogated and the Watford borough Council web-site reviewed in an attempt to gain any records for notable species/species groups (e.g. bats) in order to identify any potential ecological constraints associated with the site.

Extended Phase 1 Habitat Survey

- 2.3 An extended Phase 1 survey (JNCC, 1993; IEA, 1995) of the proposed development site was undertaken. This is a standard technique for obtaining baseline ecological information for areas of land, including proposed development sites.
- 2.4 The standard habitat definitions were used and the dominant and readily identifiable higher plant species identified in each of the various habitat parcels were recorded and their abundance was assessed on the DAFOR scale:
- D Dominant
 - A Abundant
 - F Frequent
 - O Occasional
 - R Rare
 - L Locally, appended to any of the above five categories to reflect local distribution within the site
- 2.5 These scores represent the abundance within the defined area only and do not reflect national or regional abundances.

- 2.6 Additionally, incidental records of fauna were also made during the survey and the habitats identified were evaluated for their potential to support legally protected species and other species of conservation concern, including Biodiversity Action Plan Priority species.

Survey Date and Limitations

- 2.7 The field survey was carried out on 11th July 2007 by a suitably qualified and experienced surveyor and access was available to the entire site.
- 2.8 The field survey was conducted at an optimal time of year for botanical recording.

3.0 RESULTS

Desk study

3.1 *Designated Sites*

3.2 One statutorily protected site has been identified within c. 2 km of the site, namely the 5.25 hectare Harebreaks Wood. This wood, which is understood to immediately abut part of the southern boundary of the application site, is designated as a Local Nature Reserve and a County Wildlife Site as well as qualifying as Ancient Woodland.

3.3 A description of this woodland is provided on the web pages of Watford Borough Council, which is re-produced as follows:

3.4 'An ancient semi-natural woodland with a canopy of oak, ash and cherry, with some magnificent large oak and beech standards. Some hazel and hornbeam coppice is present and the ground flora includes ancient woodland indicators such as abundant bluebells and patches of dogs mercury, wood sorrel, wood-sedge, wood melick, pignut and three-veined sandwort. The wood is a remnant of a much larger area of woodland, formerly known as Longspring and Harebreaks Wood. The area of amenity grassland around the Adventure Playground is being reclaimed as part of the wood and the Friends of Harebreaks Wood have carried out extensive planting of native trees in this area.'

3.5 The web-site also provides a list of faunal species which the woodland supports, bulleted as follows:

- great-spotted woodpecker
- treecreeper
- nuthatch
- song thrush
- mistle thrush
- long-tailed tit
- great tit
- blue tit
- crow
- rook
- chiffchaff
- blackcap
- fox
- muntjac deer
- pipistrelle bat

3.6 *Species of Conservation Concern*

- 3.7 Based upon the limited desk study (i.e. interrogation of the NBN Gateway for bat records and the description of Harebreaks Wood on the Watford Borough Council web-site) which has been undertaken, the following species of conservation concern which may be relevant to the site re-development have been identified in close proximity to the site:
- Pipistrelle bat (a protected and UKBAP species), recorded in Harebreaks Wood and The Lodge, North Watford Cemetery (70 m north of the site and beyond Northwestern Avenue, recorded in 1989)
 - bird species of conservation concern – specifically song thrush (a Red List and UKBAP species) and mistle thrush and green woodpecker (an Amber List species) have been recorded in Harebreaks Wood

Extended Phase 1 Habitat Survey

- 3.8 A map showing the habitats present within the proposed development is given on Figure 1. The full list of plant species recorded during the survey is given in Appendix 1. Photographs depicting the main ecological features may be found in Appendix 2.
- 3.9 The proposed development site comprises the area covered by the Leggatts Campus buildings and car parks. The site lies adjacent to the North Western Avenue in the north of Watford and is neighboured by:
- Residential properties to the west;
 - North Western Avenue to the north;
 - A primary school to the east; and,
 - Bill Everett Centre and Harebreaks Wood to the south
- 3.10 Nine habitat types were identified within, or on the boundary of, the proposed development site, as follows:
- Dense scrub
 - Scattered trees
 - Tall ruderal vegetation
 - Amenity grassland
 - Ephemeral / short perennial vegetation
 - Introduced shrub
 - Species-poor hedgerow with trees
 - Buildings
 - Hard standing

- 3.11 These habitats are described below and their distribution is shown in Figure 1.

3.12 *Dense scrub*

A small, inaccessible pocket of bramble-dominated scrub occurs behind the garages (B5) and along the western boundary fence; this area is too small to be shown upon Figure 1.

3.13 *Scattered trees*

3.14 Numerous scattered broad-leaved trees occur throughout the site including:

- Three mature pedunculate oaks (T1, T2, and T3) which occur adjacent to the northern car park;
- Thirty-eight young cherry, purple prunus and London Plane trees (SBT1) which form an avenue along the north-eastern access road with a further line along the edge of the eastern car park;
- A large mature cherry (T4) with a younger cherry adjacent to it which occur on the northern edge of the north car park;
- Whitebeam, cherry and purple maple trees, which have been planted within the shrub borders on the southern boundary of the site adjacent to building (B1), to the north of building B2 and adjacent to the eastern end of the northern car park;
- Two larch trees which have been planted either side of the main entrance on the northern side of building B2 and another occurs adjacent to this building's north west corner;
- A mature pedunculate oak and cherry (T5) which are growing together on the southern boundary adjacent to Harebreaks Wood;
- Occasional oak, ash and young hazel which occur along the chain link and iron railing fence line running north/south between the western boundary of the site and the access road to the neighbouring houses back gardens and garages; and,
- Scattered trees in the garden of building B10 (not shown on Figure 1) at the south-eastern corner of the site which include holly, false cypress, cherry and yew.

3.15 The majority of these trees were noted to possess trunk diameters in excess of 100mm, as were most of the trees in hedgerows PH1 and PH2.

3.16 Indicative locations of these trees are given in Figure 1.

3.17 In addition many other trees which occur off-site but within 3 metres of the site boundary were also considered to have trunks of greater than 100mm in diameter, including the majority of trees in Harebreaks Wood and within the gardens adjacent to the western boundary.

3.18 *Tall ruderal vegetation*

3.19 Small areas of tall ruderal vegetation were noted on-site in the north-east corner (TR1) and in the overgrown garden of building 10 (TR2). The plant species composition of TR1 and TR2 are described in turn as follows:

- TR1: abundant common nettle with frequent coarse grasses, ground elder, creeping thistle, mugwort, knapweed and plantain, with occasional toadflax.
- TR2: frequent common ragwort, red clover, Canadian fleabane and false-oat grass with occasional common nettle and ribwort plantain.

3.20 *Ephemeral / short perennial vegetation*

- 3.21 Ephemeral / short perennial vegetation occurs along the western edge of the site around the edges of concrete hard standing and close to the some of the buildings. Species which occurred at least occasionally include annual meadow-grass, ribwort plantain, petty spurge, prickly and smooth sow thistles, hedge mustard and prickly lettuce. Other species were noted in lower abundances and these are listed in Appendix 1.

3.22 *Amenity grassland*

- 3.23 Amenity grassland is the dominant semi-natural habitat on site, the majority being the playing field to the east of the campus buildings. Several smaller areas occur closer to the buildings both to north and south. The most abundant species was perennial rye-grass with frequent daisy, dandelion, greater and ribwort plantains and knotgrass. Other species which were noted are listed in Appendix 1.

3.24 *Introduced shrub*

Areas of introduced shrub occur adjacent to the buildings and car parks. The planting includes frequent cotoneaster and hedge veronicas with occasional firethorn, barberry, sapphire berry, shrubby ragwort, roses and laurel. Other species that occur at lower densities are included in the plant species list in Appendix 1.

3.25 *Species-poor hedgerow with trees*

- 3.26 Two species-poor hedgerows with trees (PH1 and PH2) occur within the site, as follows:
- PH1 - c. 3 metre high hawthorn-dominated hedge with occasional dogwood and field maple along the majority of the northern boundary of the site, adjacent to the North Western Avenue. This hedge also includes oak, cherry, ash and field maple trees within and adjacent to it; and,
 - PH2 – c. 2.5-3 m high hawthorn hedge with cherry and field maple trees, along the northern boundary between the two access roads to North Western Avenue.

3.27 *Buildings*

There are ten buildings on site ranging from the main campus buildings to peripheral garages and electricity substations. These are listed as follows:

- Building 1 (B1) – two storey brick built structure with tiled pitched roof. This building has two entirely enclosed courtyards;
- Building 2 (B2) – predominantly two storey metal building joined to a one storey wing to the north east by a glass covered atrium, also containing an enclosed courtyard (C3);
- Building 3 (B3) – one storey metal building joined to the main building (B2) by a glass covered corridor;
- Building 4 (B4) – brick built two storey building with tiled pitched roof;
- Building 5 (B5) - four concrete garages with two metal shipping containers to the north and electricity substation to the south;
- Building 6 (B6) – brick built, flat roofed electricity substation;
- Building 7 (B7) – one storey brick building with pitched roof contemporary with

- buildings 1 and 4;
- Building 8 (B8) – small brick and plywood structure;
- Building 9 (B9) – small brick building with flat roof; and,
- Building 10 (B10) – brick built two-storey house with pitched roof and adjacent garage, surrounded by an overgrown garden.

3.28 *Hard standing*

3.29 There are paved areas around the perimeters of each of the main campus buildings and paved and planted courtyards within buildings B1 and B2. There are small areas of concrete to the north of building B7 and tarmac is used on access routes and car parking areas.

3.30 *Standing water*

3.31 There is a small butyl lined pond in courtyard C2 which holds minimal water and is choked with vegetation including yellow iris and ornamental grass species.

3.32 *Fauna*

3.33 The following species were incidentally recorded during the course of the survey:

- Robin
- Blackbird
- Green woodpecker
- House sparrow
- Starling
- Carrion crow
- Magpie

4.0 LEGAL AND PLANNING POLICY CONSTRAINTS

4.1 Planning Policy

- 4.2 Several policies relating to development and nature conservation which are considered to be relevant to this proposed development have been identified within the Watford District Plan 2000 (adopted December 2003), specifically within chapter 3 (Sustainable Environment). These relevant policies are re-produced as follows:
- 4.3 *The protection, enhancement and appreciation of the natural elements of our environment are central to the Plan's objectives and aim of achieving sustainable development. Diversity of wildlife both within and adjacent to the built environment adds to our quality of life, provides a valuable environmental education resource and helps to ensure the well being of our locally native wildlife.*
- 4.4 SE31 (Species Protection): *Planning permission will not be granted for development which could have an adverse impact on badgers or species protected by Schedules 1, 5 and 8 of the Wildlife and Countryside Act 1981, as amended, and the Habitats Regulations 1994, unless it can be clearly demonstrated that there are reasons for the proposal which outweigh the need to maintain the unaltered and undisturbed habitat of the affected species.*
- 4.5 SE 31 goes on to state that:
- 4.6 *Where proposed development could have an adverse effect on such species, the submission of an Environmental Impact Assessment will be required with the application. Where such development is permitted, the Council will seek to ensure that any necessary measures are taken to:*
- *a) facilitate the survival of the species;*
 - *b) minimise disturbance;*
 - *c) provide adequate alternative habitats to sustain at least the current levels of population; and*
 - *d) resist breaking a habitat corridor which would lead to fragmentation of the wildlife population base.*
- 4.7 *Such measures must be within the control of the developer and subsequent site owners and operators, unless a formal agreement for management of the conservation features of the site has been made with an appropriate body.*
- 4.8 SE32 (Sites of Nature Conservation Importance): *b) Proposals for development likely to have an adverse effect on a Local Nature Reserve (LNR), County Wildlife Site..... Wildlife Corridors.....as shown on the Proposals Map (or through subsequent designation and recognition), will not be approved unless the need for the proposal clearly outweighs the need to safeguard the substantive nature conservation value of the site.*
- 4.9 *Where such development or land use change is permitted which would damage the nature conservation value of the site or feature, such damage should be kept to a minimum. Where appropriate, the authority will impose conditions and/ or planning obligations to mitigate or compensate for any harm caused.*

4.10 SE33 (Nature Conservation and Biodiversity Enhancement) states that:

4.11 *Where the effects of a proposed development are unclear or uncertain, or where there may be significant adverse impact on nature conservation interests, the Council will require applicants to provide comprehensive information before determining the application. This may require the submission of an Environmental Impact Assessment. The Council will encourage the positive management and enhancement of all sites of nature conservation interest (See Policy SE32: Sites of Nature Conservation Importance), and may, where appropriate, seek to enter into a management agreement with landowners, operator or suitable body. Such management of conservation features may be secured as part of the development control process through planning conditions and/or obligations. The Council may also apply to the Secretary of State for an 'Article 4 direction' where the presence of ecological features exists.*

4.12 SE36 (Replacement Trees and Hedgerows): *The Council will discourage the loss of trees If the retention of existing trees is not appropriate, the Council will require replacement through planting of an equivalent and appropriate type, within the landscape scheme for the site.*

Any hedgerows removed to enable development to take place must also be replaced by planting of an equivalent and appropriate type.

4.13 SE37 (Protection of Trees, Woodlands and Hedgerows): *The Council will seek the retention of trees, woodland and hedgerows through the use of planning obligations or planning conditions. In the case of trees which contribute to the amenity of the area the Council will make Tree Preservation Orders, ensuring that they are not felled, or pruned to the detriment of the environment and ensure their replacement should felling become necessary. Wherever appropriate, new planting with locally native species within development sites, along site boundaries and highway frontages as part of development proposals will be required.*

4.14 SE39 (Tree and Hedgerow Provision in New Development): *Development proposals must now consider the retention and protection of trees and hedgerows throughout the development process. Consideration must be shown to the Hertfordshire Structure Plan guidance on design to ensure the healthy, long-term growth of retained tree cover and new planting. On sites containing hedgerows the Council will expect a planning application to be accompanied by a tree and hedgerow survey providing the following information:*

- a) *The location of all trees, hedgerows and shrub planting, including those on adjoining land, where the root or branch systems may be affected by the proposals;*
- b) *Species, heights, trunk girth, crown spread or each existing individual tree or group of trees and hedges;*
- c) *Age, condition, vigour and amenity value of the existing trees;*
- d) *A clear indication of which trees/hedges are to be removed, those to be retained and those proposed; and*
- e) *Where appropriate a plan for the protection of trees, hedgerows and shrubs throughout the construction of the development in accordance with advice contained in the British Standard Institute code of practice "Trees in relation to*

Construction " (BS5837:1991) or any amendment thereafter.

Designated Sites and Ancient Woodland

- 4.15 One statutory site occurs within a 2 km radius of the site, Harebreaks Wood, which lies adjacent to the site's southern boundary. Harebreaks Wood is also designated as a local non-statutory site, specifically termed a County Wildlife Site. Further, the Countryside & Rights of Way (CROW) Act 2000 affirms that Ancient Woodland is a material consideration within the planning system.
- 4.16 The playing field which occupies the eastern half of the application site is itself covered by a non-statutory nature conservation designation, namely that of a Wildlife Corridor within the Watford District Plan, to which policies SE 31, 32 and 33 apply. In addition, the larger of two allotments which adjoins the eastern corner of the application site as well as Harebreaks Wood are also designated as part of the Wildlife Corridor.
- 4.17 Other non-statutory wildlife sites would be expected to occur within a 2 km radius of the site, though a formal desk study would need to be commissioned to gain this information.
- 4.18 As detailed in the planning policy section above, policy SE32 of the Local plan states that there will be presumption against development proposals which would adversely affect a Local Nature Reserve (LNR), County Wildlife Site and/or Wildlife Corridor. It would therefore be necessary to demonstrate that the proposed site re-development will not negatively impact upon the Wildlife Corridor (i.e. playing field within the eastern half of the application site and neighbouring allotments and Harebreaks Wood) or the neighbouring LNR and CWS Harebreaks Wood or the Wildlife Corridor. Based upon the provided sketch feasibility layout plan, it is evident that the new development will effectively be limited to the western half of the application site and specifically largely to the existing building and hard-landscaping footprint of the college. Therefore the proposed re-development will not encroach upon the playing field Wildlife Corridor. Further, it appears that the existing access road system off Leggatts Way and car parking areas are to remain unchanged and therefore there should not be any building works immediately adjacent to Harebreaks Wood. The closest construction works are likely to pertain to the demolition of building B10 and subsequent construction of a new building, which lies c. 20 north of the LNR/CWS boundary. That said, however, should the existing car parking areas and access road from Leggatts Way be used as a construction site compound or for materials storage etc, then this could potentially have an adverse impact upon Harebreaks Wood.
- 4.19 Therefore, in the absence of mitigation although no direct habitat loss of the playing field Wildlife Corridor and/or Harebreak Woods would result of from the re-development proposals, depending upon whether any works are planned for the eastern peripheries of the re-development area and in particular the south-western corner of the application site, then there may be the potential for in-direct adverse impacts to arise such as accidental habitat damage during the construction phase, increased disturbance from increased noise and light levels etc.
- 4.20 Given that any adverse impacts upon the Wildlife Corridor, LNR and CWS would be contrary to the aforementioned policy (i.e. policy SE32), should such be predicted then an appropriate mitigation measures would need to be put in place.

Open Space

- 4.21 Although not strictly an ecological constraint, it is noteworthy that the playing field within the eastern section of the application site is designated as open space within the Watford District Plan (as is the adjacent allotments and Harebreaks Wood) and therefore policies L4 to L8 apply. These policies are re-produced as follows for information:
- 4.22 L4 (Open Space Protection): *Other than in exceptional circumstances, permission will not be given for a change of use from private or public open space to any other use.*
- 4.23 L5 (Playing Fields): *The Council will prevent the loss of facilities or access to resources which are important in terms of sports development in accordance with the Town and Country Planning (General Development Procedure) Order 1995, PPG17: Sport and Recreation, and other relevant guidance and policies of this plan. Should redevelopment be unavoidable, an equivalent (or better) replacement facility should be provided in a suitable location in terms of quality, quantity and accessibility, unless it can be proved that the facility is genuinely redundant and there is no demand for a replacement based on a thorough local assessment.*
- 4.24 L6 (Provision of Additional Open Space): *The Council will seek to provide additional open space to meet local standards. In particular opportunity will be taken:*
- *a) to create new open spaces where development is likely to give rise to additional demand;*
 - *b) to use windfall sites in areas of open space deficiency, as defined on the Proposals Map;*
 - *c) to encourage dual use of existing and new facilities;*
 - *d) to create synthetic pitches in appropriate locations;*
 - *e) to achieve improvement in provision through the use of conditions and planning obligations; and*
 - *f) to create nature conservation habitats.*
- 4.25 L7 (Pocket Parks): *All sites for development and redevelopment, greater than 0.2 ha in size within the Central Ward and areas deficient in open space (as shown on the Proposals Map), will be required to develop a pocket park within or adjacent to the site. Pocket parks will also be a requirement for housing developments as part of open space and play space provisions. (See Policies L8 - L11).*
- 4.26 L8 (Open Space Provision in Housing Development): *All new-build housing developments, regardless of size, will be required to provide for sufficient open space as part of the development at a ratio of a least 2.8 hectares (7 acres) of open space for every 1,000 persons unless there is sufficient provision within the locality to meet the additional demand likely to be created by the new development.*

UK BAP Habitats

- 4.27 No UKBAP habitats occur on-site.

Local BAP Habitats

4.28 The local BAP for Hertfordshire titled 'A 50 Year Vision for the Wildlife and Natural Habitats of Hertfordshire' includes a local BAP for 'Urban' habitats, under which definition the college campus is considered to fall.

4.29 The three principal objectives of the urban HAP are to:

- to protect urban habitats and protected species within the urban areas of Hertfordshire
- to increase the biodiversity of existing urban greenspaces and promote opportunities for biodiversity gain in all appropriate developments
- raise awareness of urban biodiversity and promote opportunities for involvement in urban conservation

4.30 The Hertfordshire BAP also includes a generic habitat BAP for woodlands, which would therefore include Harebreaks Wood, which lies immediately to the south of the site.

4.31 The Local Habitat Action Plan (HAP) for woodland includes broadleaved woodland as well as lowland parkland, though it places most emphasis upon ancient semi-natural woodland and replanted ancient woodland sites, under which definition Harebreaks Wood would fall. This local BAP also includes oak-hornbeam woodlands (Harebreaks Wood is an oak and beech woodland including hornbeam coppice), which are recognised as an important local habitat as Hertfordshire supports a significant proportion of the UK resource and accordingly a wider responsibility to conserve this specific woodland habitat.

4.32 The five principal objectives of the woodland HAP are to:

- prevent loss and damage to all ancient and native woodland
- ensure that all existing ancient woodland are maintained and enhanced through appropriate management
- restore ancient replanted woods to semi-natural conditions
- protect and maintain through appropriate management the current extent and distribution of wood pasture, parkland and veteran trees
- raise awareness of woodlands and biodiversity to key target audiences such as landowners, land managers and the general public

Species of Conservation Concern

4.33 *Plants*

4.34 All plant species recorded during the survey are common and widespread.

4.35 *Birds*

4.36 The site is expected to be utilised by common and widespread species of bird both throughout the year, including during the breeding season. The scattered trees, hedgerows and dense shrub borders are considered to provide nesting habitat and forage for a variety birds such as blackbirds, robins, finches and tits. Three bird species of concern conservation were also noted on-site during the survey, namely

two Red List species (house sparrow and starling) and an Amber List species (green woodpecker). At least some of the on-site buildings may also be used by nesting birds.

- 4.37 All birds, their eggs and active nests are protected under the Wildlife and Countryside Act 1981, as amended, with the exception of a number of species considered as pests. This protection includes the birds themselves. Their nests are also protected from damage or destruction both whilst the birds are constructing and using them.

Potential Further Ecological Issues

4.38 *Potential bat roosts*

- 4.39 The older brick buildings B1, B4 and B7 on site are considered to afford some (moderate) potential to support roosting bats, as is building B10, which appeared to possess holes at the apex of both gable ends.

- 4.40 In addition, during the site visit, mature oak tree (T3) and mature cherry (T4) were considered to possess features which afford both trees at most negligible bat roost potential. Specifically, rot holes where branches had been lost / removed were noted on both the oak and cherry whilst the cherry additionally possessed flaking bark.

- 4.41 It is understood that all on-site buildings are to be demolished as part of the site re-development, though it is not known whether T3 and T4 are to be felled.

- 4.42 All bat species are fully protected under the Wildlife & Countryside Act 1981, Countryside and Rights of Way Act 2000 and Conservation (Natural Habitats etc) Regulations 1994. Taken together, this makes it an offence to intentionally or deliberately capture, kill or injure or disturb bats (whether in a roost or not), and intentionally or recklessly damage, destroy or obstruct access to their roosts.

- 4.43 Several species of bat are also Priority Species in the UK Biodiversity Plan and species of principal importance for the conservation of biodiversity in England, including common and soprano pipistrelles, i.e. the most common species of bat and thus most frequently encountered during development works.

4.44 *Other Fauna*

- 4.45 There was no evidence of any badger activity on the site or within the initial 30 m of Harebreaks Wood beyond the site boundary.

- 4.46 It is considered that foxes from Harebreaks Wood may frequent the site, though no evidence of fox earths was incidentally recorded.

- 4.47 The site, being highly managed and without areas of scrub, is not considered to provide suitable reptile habitat and so judged unlikely to support any reptile population(s).

5.0 SITE EVALUATION

- 5.1 The key features with ecological value within the site or on the site's boundary are considered to be the neighbouring Harebreaks Wood, hedgerows and scattered and possibly the college buildings, in the event that bats are identified to be roosting in any of them.
- 5.2 The remainder of the application site comprises of hard standing, which has no ecological low, and amenity grassland and shrub borders, which possess at most low ecological value, and can be easily recreated.

6.0 RECOMMENDATIONS

Further Survey

- 6.1 *Potential bat roosts*
- 6.2 Four of the on-site buildings (B1, B4, B7 and B10) are considered to possess the potential (moderate) to support roosting bats and all four buildings are understood to be scheduled for demolition as part of the site re-development works.
- 6.3 It is therefore recommended that bat survey work be undertaken. Specifically, it is recommended that an internal inspection and detector surveys of each of the buildings be undertaken, where access is permitted and it is safe to do so. The survey work should be carried out in accordance with recently published guidelines (Bat Conservation Trust, 2007).
- 6.4 Two trees with at least some (negligible) bat roost potential occur on-site. Should the intention be to fell these trees, then they should be subject to a pre-felling bat survey. Specifically, they should be subject to a pre-felling detector (emergence) survey on the morning the tree is to be felled. The felling should ideally take place in autumn or that failing early spring. Assuming that no bats are confirmed to be roosting within the tree during this survey, then the tree should be felled, in sections, the same day.
- 6.5 The rationale for the precautionary approach to felling a tree with bat roost potential is the difficulty in proving the presence of roosting bats in trees on account of the nomadic nature and therefore only occasional presence at a tree roost of tree-dwelling bats.
- 6.6 Should bats be identified to be roosting in any of the on-site buildings or potential bat roost tree T3 or T4, then the demolition / felling works should halt and advice of a licensed bat worker be sought as to how to proceed and the potential requirement for a Natural England licence. Demolition / felling of a building / tree within which bats are confirmed to be roosting would need to be carried out under licence (a European Protected Species licence) from Natural England. Planning permission for the development must be in place before the licence from Natural England will be granted.
- 6.7 Further, Natural England will only grant licences for works affecting bats if it can be demonstrated that the actions taken will not be detrimental to the favourable conservation status of bats in their natural range. The licence application will

therefore need to be accompanied by a detailed method statement which will include all necessary mitigation measures (e.g. sensitive timing of works, soft demolition / felling approach and provision of replacement roosts). Further, in order to satisfy a Natural England licence application it may be considered necessary to undertake further bat surveys to fully classify the roost(s) present, the level of activity and species using those roosts. Natural England currently typically takes 30 days to process a licence application.

Mitigation

6.8 *Retention of existing habitats*

6.9 Based upon the provided sketch feasibility layout plan, it is evident that the new development has evidently been designed so that it is effectively accommodated within the western half of the application site. The new development will therefore be largely limited to the existing building and hard-landscaping footprint of the college, such that losses of semi-natural habitat types are minimised. Semi-natural habitats which will necessarily be lost comprise introduced shrub borders, an artificial garden pond, scattered trees and areas of amenity grassland.

6.10 There is, however, considered to be scope to retain boundary features, such as an existing hedgerow (i.e. PH1) and also scattered trees on or towards the site boundary. The retention of both trees and hedgerows, as far as practicable, would ensure compliance with Policies SE 36, 37 and 39.

6.11 *Breeding bird habitat*

6.12 As aforementioned, scattered trees, hedgerows, dense shrub borders and also at least some of the on-site buildings all possess the potential to be used by nesting birds. It is recommended that as far as practicable, breeding bird habitat (particularly hedgerows and scattered trees) is designed-in to the development.

6.13 Any breeding bird habitat clearance that does prove unavoidable, however, should be undertaken outside the breeding bird season, i.e. vegetation clearance / building demolition should be undertaken in the period August to February inclusive. Should it prove necessary to clear breeding bird habitat (including demolishing buildings) during the breeding season, then the area to be cleared should be checked in advance for the presence/absence of any remaining birds' nests, ideally by a supervising ecologist. If any active nests are found in this area then clearance / demolition activities should cease and an appropriate buffer zone should be established. This buffer zone should be left intact until it has been confirmed that the young have fledged and the nest is no longer in use.

6.14 *Designated sites: Wildlife Corridor and Harebreaks Wood LNR and CWS*

6.15 As aforementioned, although the playing field Wildlife Corridor and Harebreaks Wood (LNR, CWS and Wildlife Corridor) would not be subject to direct habitat loss as a result of the re-development proposals, the potential exists, in the absence of mitigation, for indirect adverse impacts to arise both during construction and operation of the new development, should works be planned for the eastern periphery of the re-development area and in particular the south-western corner of the application site.

6.16 Any such indirect impacts upon the statutory LNR and non-statutory CWS and Wildlife Corridor would be contrary to the aforementioned policy SE32 and so appropriate mitigation measures would need to be put in place. It is expected that mitigation measures may include:

- erection of protective fencing (in accordance with BS5837 2005 "Trees in relation to construction"), with appropriate signage, and prohibition of access to the playing fields and Harebreaks Wood by the workforce during the construction phase
- storage of construction materials as well as stockpiles of imported or excavated materials (including topsoil and subsoil) as far from the playing fields and Harebreaks Wood as possible
- containment of building material such as sand and gravel in large lifting sacks to prevent accidental spillage or run off
- storage of materials such as cement and plasters in a protective site hut
- provision of plastic covering over stockpiles to reduce run off during heavy rain or wind blown dust during dry weather which may otherwise impact the playing fields and Harebreaks Wood. Alternatively, the stockpiles could be dampened during dry weather to avoid dust generation. The ground beneath the stockpiles (if not hard-surfaced) should similarly be covered with protective sheeting. Dust minimisation could also be achieved by watering down all cutting plant (steel-saws) and by providing a water bowser to soak the roads.
- Provision of double lined and sealed fuel tanks with appropriate built-in catch pits, which should be sited within a specifically designed hard-surfaced and sealed compound to contain any spillages.
- Minimisation of machinery idling in order to prevent unnecessary noise and fumes.

6.17 *Generic mitigation*

6.18 Appropriate measures should also be employed to protect the on-site habitats that are proposed to be (at least partially) retained. Such measures should include the protective fencing of trees in accordance with BS5837 2005 "Trees in relation to construction". Retained hedgerows and other areas of semi-natural habitat (i.e. amenity grassland) should similarly be protected adopting measures adapted from BS5837, as appropriate.

6.19 Further, it is recommended that external lighting within the new development is minimised, especially in the vicinity of the boundary of Harebreaks Wood as well as any retained / planted hedgerows and scattered trees, since these ecological features are likely to be used both by foraging and commuting bats, which are believed to be dissuaded for using lit areas.

7.0 OPPORTUNITIES FOR ENHANCEMENT

- 7.1 Although the site is predominantly built environment, amenity grassland with introduced shrubs and trees, there are opportunities to create and improve habitats and features of nature conservation interest as per Policy SE37.
- 7.2 Specifically, the new development would be expected to incorporate a soft landscaping plan and this plan represents an opportunity to both mitigate for any unavoidable habitat losses and to create and improve habitats and features of nature conservation interest. The ecological value of the new development could be maximised by way of designing a planting schedule which is dominated by native tree and shrub species and non-native species of known benefit to wildlife.
- 7.3 Specifically, native trees species, native species-rich hedgerows and native species shrub borders could be planted and in all instances, for native species planting, species of local provenance should be obtained, if practicable.
- 7.4 Ornamental shrub borders are also expected to form part of the soft landscaping scheme. Such shrub planting should seek to include appropriate native species (e.g. box and holly), where possible, as well as non-native species which are of known benefit to wildlife. An exhaustive list is not provided here, but by way of example such species could include: junberry, barberry, californian lilac, cotoneaster, escallonia, firethorn, lavender, lilac, shrubby cinquefoil, spotted laurel and viburnum.
- 7.5 For information, a useful reference database is the online version of Gardening with Wildlife in Mind from English Nature (now Natural England) which aims to assist people to choose plants likely to attract wildlife.
- 7.6 Further measures to enhance the ecological value of the new development include, for example, the erection of bird and bat boxes within the new buildings and / or on mature trees and the possible creation of a wildlife pond surrounded by an area of wildflower meadow within the communal grounds of one of the apartment blocks.

APPENDIX 1 PLANT SPECIES LIST AND RELATIVE ABUNDANCE

Common name	Species name	SBT	TR1	TR2	AM	ESP	IS	PH1	PH2	C1	C2	C3
Annual Meadow-grass	<i>Poa annua</i>				F	O	O				O	
Apple sp.	<i>Malus domestica</i>							R				
Ash	<i>Fraxinus excelsior</i>						O	O				
Autumn Hawkbit	<i>Leontodon autumnalis</i>					R	R					
Barberry	<i>Berberis thunbergii aurea</i>						O					
Balm	<i>Melissa officinalis</i>										R	
Barren Brome	<i>Anisantha sterilis</i>			O	O							
Bellflower	<i>Campanula sp.</i>										R	
Black Horehound	<i>Ballota nigra</i>		LF									
Black Medick	<i>Medicago lupulina</i>						O					
Bramble	<i>Rubus fruticosus</i>						R					
Bridewort	<i>Spiraea japonica</i>						R					
Broad-leaved Dock	<i>Rumex obtusifolius</i>						R					
Broad-leaved Willowherb	<i>Epilobium montanum</i>										O	
Burnet-saxifrage	<i>Pimpinella saxifraga</i>										R	
Butterfly-bush	<i>Buddleja davidii</i>						O				R	
Californian Lilac	<i>Ceanothus sp.</i>						F					
Canadian Fleabane	<i>Conyza canadensis</i>					O						
Cat's-ear	<i>Hypochaeris radicata</i>					O						
Cherry Laurel	<i>Prunus laurocerasus</i>						F			A		
Clary	<i>Salvia sp.</i>						R					
Cleavers	<i>Galium aparine</i>						F	O	O		O	
Cock's-foot	<i>Dactylis glomerata</i>				F							
Colorado Spruce	<i>Picea pungens</i>											R
Common Chickweed	<i>Stellaria media</i>				LF							
Common Knapweed	<i>Centaurea nigra</i>		O									
Common Mallow	<i>Malva sylvestris</i>										R	
Common Nettle	<i>Urtica dioica</i>		A									
Common Ragwort	<i>Senecio jacobaea</i>			A								O
Common Toadflax	<i>Linaria vulgaris</i>		O				O					R
Cotoneaster	<i>Cotoneaster sp.</i>						A			O		

Common name	Species name	SBT	TR1	TR2	AM	ESP	IS	PH1	PH2	C1	C2	C3
Cotoneaster	<i>Cotoneaster horizontalis</i>						O					
Creeping Buttercup	<i>Ranunculus repens</i>		O	O	O	O						
Creeping Thistle	<i>Cirsium arvense</i>		O				R					
Cultivated Rose	<i>Rosa sp.</i>						F					
Curled Dock	<i>Rumex crispus</i>										R	
Cut-leaved Crane's-bill	<i>Geranium dissectum</i>				O							
Daisy	<i>Bellis perennis</i>				F							
Dandelion	<i>Taraxacum officinale</i>				O	O						
Dog-rose	<i>Rosa canina</i>						R	O	O			
Dogwood	<i>Cornus sp.</i>						O	R	R			
Dove's-foot Crane's-bill	<i>Geranium molle</i>				O	O						
Elder	<i>Sambucus nigra</i>						R	R				
Elm species	<i>Ulmus sp.</i>	R										
Golden Robinia	<i>Robinia pseudoacacia Frisia</i>	R										
False Cypress	<i>Chamaecyparis chryoides</i>						R					
False Cypress species	<i>Cupressus sp.</i>						O					
False Oat-grass	<i>Arrhenatherum elatius</i>		O									
Field Bindweed	<i>Calystegia sepium</i>		O				A					F
Field Maple	<i>Acer campestre</i>							O	O			
Firethorn	<i>Pyracantha sp.</i>						O					
Forsythia	<i>Forsythia sp.</i>						O	R				
Fox-and-cubs	<i>Pilosella aurantica</i>										R	
Gean	<i>Prunus avium</i>	O										
Garden Loosestrife	<i>Lysimachia punctata</i>										R	
Greater Plantain	<i>Plantago major</i>				F	O						
Green Alkanet	<i>Pentaglottis sempervirens</i>										R	
Ground-elder	<i>Aegopodium podagraria</i>		LF		LF							
Groundsel	<i>Senecio vulgaris</i>					O	O					
Hawthorn	<i>Crataegus monogyna</i>							D	A			
Hedge Mustard	<i>Sisymbrium officinale</i>					O						
Hedge Veronica	<i>Hebe sp.</i>						A					
Herb-Robert	<i>Geranium robertianum</i>					O					O	
Holly	<i>Ilex aquifolium</i>	R										
Hop	<i>Humulus lupulus</i>			R								

Common name	Species name	SBT	TR1	TR2	AM	ESP	IS	PH1	PH2	C1	C2	C3
Ivy	<i>Hedera helix</i>						O					
Japanese Aralia	<i>Fatsia japonica</i>						R					
Juniper	<i>Juniperus sp.</i>						F			O		O
Knotgrass	<i>Polygonum aviculare</i>				F							
Lamb's-ear	<i>Stachys byzantina</i>										R	
Larch	<i>Larix sp.</i>	R										R
Laurustinus	<i>Viburnum tinus</i>						O					
Lavender	<i>Lavandula angustifolia</i>						LF					
Lesser Trefoil	<i>Trifolium dubium</i>				O	O						
London Plane	<i>Platanus x hispanica</i>	O										
Meadow Vetchling	<i>Lathyrus pratensis</i>						R					
Mexican Orange Blossom	<i>Choisya ternata</i>						F					R
Mugwort	<i>Artemisia vulgaris</i>		LF									
Ornamental Bramble	<i>Rubus sp.</i>						F					
Ornamental Cherry	<i>Prunus sp.</i>	F									R	
Osier	<i>Salix viminalis</i>						O					
Pedunculate Oak	<i>Quercus robur</i>	O										
Perennial Rye-grass	<i>Lolium perenne</i>				A							
Petty Spurge	<i>Euphorbia peplus</i>					O						
Pine	<i>Pinus sp.</i>											R
Pittosporum	<i>Pittosporum tenuifolium</i>						O					
Portugal Laurel	<i>Prunus lusitanica</i>						O					
Prickly Lettuce	<i>Lactuca serriola</i>					O						
Prickly Sow-thistle	<i>Sonchus asper</i>					O						
Purple Barberry	<i>Berberis thunbergii atropurpurea</i>						O					
Purple Norway Maple	<i>Acer platanoides var.</i>	O										
Purple Cherry Plum	<i>Prunus cerasifera var.</i>	O									R	
Purple-loosestrife	<i>Lythrum salicaria</i>										R	
Red Clover	<i>Trifolium pratense</i>										R	
Red Currant	<i>Ribes rubrum</i>						R					
Red Fescue	<i>Festuca rubra</i>						R					
Ribwort Plantain	<i>Plantago lanceolata</i>		O		F							
Rosemary	<i>Rosmarinus officinalis</i>						R					
Rough Hawk's-beard	<i>Crepis biennis</i>						LF					

Common name	Species name	SBT	TR1	TR2	AM	ESP	IS	PH1	PH2	C1	C2	C3
St John's Wort	<i>Hypericum sp.</i>						R					
Salad Burnet	<i>Sanguisorba minor ssp minor</i>										R	
Sapphire Berry	<i>Symplocos paniculata</i>						O					
Shepherd's-purse	<i>Capsella bursa-pastoris</i>				F							
Shrubby Ragwort	<i>Senecio greyi</i>						F			A		
Silver Birch	<i>Betula pendula</i>	R										
Smooth Hawk's-beard	<i>Crepis capillaris</i>					O						
Smooth Sow-thistle	<i>Sonchus oleraceus</i>					O						
Snowberry	<i>Symphoricarpos albus</i>							R				
Soapwort	<i>Saponaria officinalis</i>										R	
Spanish Dagger	<i>Yucca gloriosa</i>						R					
Sycamore	<i>Acer pseudoplatanus sapling</i>						O					
Tansy	<i>Tanacetum vulgare</i>										R	
Traveller's-joy	<i>Clematis vitalba</i>						A					
Variegated Euonymus	<i>Euonymus fortunei var.</i>						O					
Wall Barley	<i>Hordeum murinum</i>				LF							
Whitebeam	<i>Sorbus aria agg.</i>	O										
Wild Marjoram	<i>Origanum vulgare</i>										R	
Wild Strawberry	<i>Fragaria vesca</i>										R	
Willowherb sp.	<i>Epilobium sp.</i>										O	O
Wood Avens	<i>Geum urbanum</i>					O					O	
Yarrow	<i>Achillea millefolium</i>		O			F						
Yellow Iris	<i>Iris pseudacorus</i>										R	
Yew	<i>Taxus baccata sapling</i>	R										
Yorkshire-fog	<i>Holcus lanatus</i>		O		O		O				F	O

APPENDIX 2 SITE PHOTOGRAPHS

Photograph showing 3 mature oak trees (T1, T2 and T3 from right to left)



Photograph showing building B1 from the eastern courtyard showing gaps around piping in soffit box, which could provide potential access points to bats



Photograph showing building B7 showing gaps between roof tiles, which may afford access to bats



Photograph showing species-poor hedgerow with trees PH1



View across eastern car park to London Plane trees and avenue SBT1



Main entrance showing building B2



