



Preliminary Ecological Appraisal

Caversham Primary School, Reading
for:

Ashley House Plc

CRM.1112.014.EC.R.001



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Project:	Caversham Primary School
For:	Ashley House Plc
Status:	Final
Date:	28 th March 2018
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Non-Technical Summary

- i. In February 2018 Enzygo Ltd was commissioned by Ashley House Plc to undertake an Ecological Impact Assessment of Caversham Primary School, Hemdean Road, Reading, RG4 7RA (central grid reference: SU 71240 75420), located within the Reading Borough Council planning authority. The study will inform full planning permission for the construction of a new school building.
- ii. The following ecological constraints and associated recommendations to avoid/ mitigate/ compensate for potential impacts have been identified:
 - **Bats** (only limited roosting potential within building proposed for demolition) – undertake a supervised strip of roofing materials and limit indirect impacts to adjacent buildings during construction phase;
 - **Common reptiles** (limited potential for individuals) - clearance of habitats in an ecologically sensitive manner under supervision of a suitably qualified ECoW; and
 - **England SPI/Local BAP and Notable species** - clearance of habitats in an ecologically sensitive manner under supervision of a suitably qualified ECoW;

1 Introduction

1.1 Commission

- 1.1.1 In February 2018 Enzygo Ltd was commissioned by Ashley House Plc to undertake an Ecological Impact Assessment of Caversham Primary School, Hemdean Road, Reading, RG4 7RA (central grid reference: SU 71240 75420), located within the Reading Borough Council planning authority. The study will inform full planning permission for the construction of a new school building.
- 1.1.2 It is our understanding that the proposed works will involve the demolition of the existing dining hall (B3) and construction of a replacement building (see Appendix A for proposed phasing plan). The existing building is connected to the two immediately adjacent buildings (B2b and B4) via a single-storey corridor. The fire escape of building B2b will be modified and ply boarding erected between B2b and B3 whilst construction work is underway. Building B4 will not be directly affected by the works. Vehicle access will be provided via a temporary site access created at the northern site boundary off Victoria Road. A temporary trackway for vehicles will be laid across the amenity grassland from the site entrance to building B3 including an area south of building B3, and structure S4 will be removed. A contractors' compound will be erected on the amenity grassland to the east of structure S3. Heras fencing will be erected along the eastern edge of the amenity grassland area and along the southern edge of the grassland area to demarcate the working footprint. There will be no impact to any other buildings or habitats across the site.
- 1.1.3 The survey area/boundary, for the purpose of this report, includes all school buildings and grounds contained within the ownership boundary. However, the application boundary (red line) differs from the survey boundary in that it does not include the caretaker's cottage and garden, as well as a strip of amenity grassland with scattered trees and two sheds (S2&S3).

1.2 Aims and Objectives

- 1.2.1 The aim of the survey and supporting desk study was to satisfy the requirements of the National Planning Policy Framework (NPPF), identifying ecological features within or near the site that could potentially pose a constraint to the proposed development and opportunities for incorporating biodiversity enhancements into the development proposals. The following ecological features are relevant to this exercise:
- Statutory sites designated or classified under international conventions or European legislation;
 - Statutory sites designated under national legislation (excluding geological);
 - Locally designated wildlife sites;
 - Ancient Woodland Inventory sites, Important Hedgerows (as defined by The Hedgerow Regulations 1997), Veteran Trees, trees listed under Tree Preservation Orders (TPOs), and trees within a Conservation Area;
 - England Habitats of Principal Importance (HPI) identified as requiring action in the UK Biodiversity Action Plan (UK BAP) and Local BAP Habitats;
 - Legally protected species;
 - England Species of Principal Importance (SPI) identified as requiring action in the UK BAP and Local BAP Species;

- Notable species (which includes: Species of conservation concern and Red Data Book (RDB) species, Birds of Conservation Concern (BOCC), and nationally rare and nationally scarce species);
- Invasive species (listed under section 14 of Schedule 9); and
- The wider green infrastructure resource.

1.2.2 This report has been produced with reference to current guidelines for preliminary ecological appraisal (CIEEM, 2012), Preliminary Roost Assessment of structures (Collins, 2016), Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2016), and in accordance with BS42020:2013: Biodiversity – Code of Practice for Planning and Development (BSI, 2013).

1.2.3 This report remains valid for 2 years from the date of publication, or until conditions across the site should substantially alter.

1.3 Background

1.3.1 A search of Reading Borough Council planning portal revealed 8 historic planning applications associated with the site. The most recent application dating from 2013 related to the provision of a modular classroom and associated external works. Other previous applications related to the installation of modular classrooms, a temporary classroom and an extension to accommodate a new toilet block.

1.3.2 No ecological reports were submitted as part of any of the previous applications. However, a preliminary ecological appraisal was carried out by Mott McDonald in August 2016 with associated report issued in November 2016 to inform the feasibility study for the proposed development. A further preliminary ecological appraisal to update the previous findings was carried out in October 2017 by Focus Ecology Ltd.

1.3.3 Pre-application advice was requested by the applicant and a response issued by Reading Borough Council in February 2017 (170044). As part of the response provided an update preliminary ecological appraisal including preliminary bat roost assessment of the site and buildings was requested.

1.4 Site Context

1.4.1 The 1.08 ha existing school site comprises seven interconnected school buildings surrounded by hardstanding in the eastern part of the site and amenity grassland in the western part. Scattered trees are present along the northern, western and part of the southern boundary of the school site. Ornamental planting and species poor hedgerows are also present on the wider school site. The caretaker's cottage and associated garden are situated to the south of the main school buildings; please note that these are outside the application boundary.

1.4.2 The site is located in Caversham, a suburb in the Borough of Reading. The surrounding area is therefore largely urban in nature with residential housing neighbouring the site on the south and east. Caversham cemetery is located on the other side of Victoria Road immediately to the north of the site and allotments border the site on the west. An area of broadleaved woodland is present 150m to the east of the site boundary. The River Thames runs from west to east approximately 700m south of the survey site.

1.4.3 Overall the connectivity to the wider landscape is good via allotments, backlinked gardens, hedgerows and pockets of woodland.

Figure 1.1: Surveyed Area



Image courtesy of Google Image Pro 7.1.8.3036, 51°28'24.02"N 0°58'30.73"W Elev. 0m. Imagery date 25th March 2017. Image accessed 14th March 2018.

1.4.4 The site lies within the Chilterns National Character Area (Natural England, 2018) which is characterised by extensively wooded and farmed landscape underlain by chalk bedrock that rises up from the London Basin to form a north-west facing escarpment. The countryside is a patchwork of mixed agriculture with woodland, set within hedged boundaries.

2 Methodology

2.1 Desk Study

2.1.1 Desk study details were obtained from the following sources on the associated dates to provide background on ecological features in the vicinity of the site. Records over 10 years old for transient species and all species protected from sale only are excluded. In each case the search included the site and the specified area beyond the site boundary. The search radius was based on the professional judgement of the ecologist leading the appraisal, taking into account the scope of the proposed works and associated potential impacts, with reference to current guidelines for preliminary ecological appraisal (CIEEM, 2013). Records obtained included:

- European statutory sites within a 15km radius, national statutory sites designated for bats and birds within a 10km radius, all other national statutory sites within a 2km radius, and England HPI identified as requiring action in the UK BAP (JNCC, 2015), Ancient Woodland, and pre-existing European Protected Species Licenses within a 0.5km radius (MAGIC, 14th March 2018);
- TPOs and Conservation Areas within the immediate zone of influence (Reading Borough Council 14th March 2018);
- Waterbodies within a 0.5km radius (Online mapping sources including: Google Maps; MAGIC; and Ordnance Survey Street View, 13th March 2018); and
- Locally designated wildlife sites, Legally protected species, England SPI identified as requiring action in the UK BAP (JNCC, 2015), Local BAP Habitats/Species, any Notable species (which includes: Species of conservation concern and RDB species (JNCC, 2014a), BOCC (Eaton et al., 2015); and nationally rare and nationally scarce species (JNCC, 2014b)) within a 2km radius and invasive species within a 0.5km radius. (Thames Valley Environmental Records Centre, 6th March 2018).

2.2 Field Survey

2.2.1 The Extended Phase I Habitat Survey and Preliminary Bat Roost Assessment was undertaken on 5th March 2018 by a consultant ecologist from Enzygo (Sonja Kaulbarsch MSc BSc [Hons]) under the guidance of Derek Allan (MCIEEM MSc BSc [Hons]) a licenced bat surveyor (Natural England licence level 2, 2015-14659-CLS-CLS), who satisfies all necessary field survey competencies as stipulated by the Chartered Institute for Ecology and Environmental Management (CIEEM). Weather conditions on the day of survey were dry with moderate wind, 80% cloud and a temperature of 8°C.

Phase I Habitat Survey

- 2.2.2 Phase I Habitat Survey (JNCC, 2010) is a standard technique for obtaining baseline ecological information for large areas of land in which the main vegetation types present within the survey area are mapped using a standard set of habitat categories.
- 2.2.3 In addition to mapping, each of the main habitats within the survey area was described; including details of component plant species abundances (recorded using the DAFOR scale: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare).
- 2.2.4 Incidental observations of Legally protected species, England SPI/Local BAP Species, any Notable species (which includes: Species of conservation concern and RDB species; BOCC; and nationally

rare and nationally scarce species) and Invasive species, and the potential for such species to occur on site (and in the surrounding landscape where relevant) were also noted.

Preliminary Bat Roost Assessment

2.2.5 In accordance with current guidance (Collins, 2016), a systematic thorough search of the exterior and interior of all buildings was undertaken, where access was available. This included: roof spaces, cellars, and unoccupied rooms. Equipment used to aid the survey included: ladders, low and high-powered torches, binoculars and basic personal protective equipment (PPE). Crawl boards and specialised PPE for confined spaces/asbestos were not utilised. Notes were made on the following:

- Type, construction and age of building (particularly if traditional materials have been used or the presence of specialist bat roosting features);
- Presence/absence of potential roost features throughout the interior (i.e. uncluttered isolated roof voids, warm and dark undisturbed spaces, gaps around ridge beams, exposed beam joints, gaps within traditional bituminous felt/wooden sarking boarding etc);
- Presence/absence of potential roost features throughout the exterior (i.e. raised ridge tiles, hanging tiles, raised/missing tiles or lead flashing that would allow access beneath roofing structures, crevices behind soffit boxing/barge boarding/ship-lap boarding, gaps around window frames and doors, boarded up windows, gaps within mortar or brickwork, access into wall cavities etc);
- Presence/absence of potential hibernation features (i.e. underground spaces or rooms that would provide an isolated stable temperature and moist conditions during the winter period etc);
- Environmental factors that would increase the probability of bat presence (i.e. dark zones with no/limited exterior lighting, south/west facing aspects, good quality foraging/commuting habitat nearby particularly prominent linear features) and those that would decrease the probability of bat presence (high light levels, dense urban areas, recent works, modern Breathable Roofing Membranes (BRMs) or other modern tight fitting roofing materials, recent timber treatment or pest control, ultrasonic rodent deterrents, draughty/exposed conditions, high levels of noise or vibration or human disturbance, poor quality foraging/commuting habitat etc); and
- Type and location of any roosting bat evidence (i.e. presence of live or dead bats, audible squeaking, droppings, feeding remains, urine stains, grease marks etc).

2.2.6 Additionally, where bat droppings are identified, an assessment of these is undertaken (i.e. measurement and characteristics recorded) in accordance with current guidance (Stebbing, 2007), and a sample taken for later eDNA analysis, where requested.

2.3 Assessment

2.3.1 Potential ecological constraints to development have been identified from desk study and field survey data using current development proposals (see Appendix A). An ecological value has been assigned to each ecological feature that poses a constraint/potential constraint to development in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines (CIEEM, 2016), where sufficient baseline data are available to do so. Where no value has been assigned, this is due to insufficient information.

2.3.2 An assessment of likely impacts and ecological effects has been undertaken in accordance with CIEEM guidelines (CIEEM, 2016) only where clear evidence is available to substantiate and justify the findings. In the absence of such evidence, the ecological feature is merely identified as a potential constraint to development.

2.3.3 Where ecological constraints to development are identified, further survey requirements and/or avoidance, mitigation, compensation measures that are proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed works are described. In addition, in accordance with the NPPF, opportunities to enhance or create benefits to wildlife are explored alongside the hierarchy of aforementioned measures.

Preliminary Bat Roost Assessment

2.3.1 Based on the findings of the survey, each building/structure has been classified into one of the following categories in accordance with current guidance (Collins, 2016). The assessment is made irrespective of species conservation status, which is established after presence is confirmed/following further surveys:

- Known or confirmed roost – Structure with evidence of bat use or bat presence;
- High Suitability – A structure 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, protection, conditions and surrounding habitat;
- Medium Suitability – A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status;
- Low Suitability – 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 large numbers of bats (i.e. unlikely to be suitable for maternity or hibernation); or
- Negligible Suitability – Negligible features likely to be used by roosting bats.

2.3.2 Where roosts are identified, likely status (irrespective of species conservation status) has been categorised as follows in accordance with current guidance (Collins, 2016):

- Transitional roost (April-September/October) – used by a few individuals or occasionally small groups of bats on waking from hibernation or in the period prior to hibernation;
- Maternity roost (May-August) – used by breeding females, where babies are born and raised to independence. Adult males rarely found here;
- Satellite roost (May-August) – used by a few individuals to small groups of breeding females as alternative roost sites in close proximity to maternity roosts;
- Mating roost (September-November) – established by males of some species to display/call to females to mate;
- Hibernation roost (October-March) - where bats may be found during the winter. They vary greatly in terms of the number of individuals and diversity of species using them;
- Night roost (March-November) – used by bats as roosts other than traditional day roosts to rest in during the night. May be used by a single individual on occasion or regularly by an entire colony;

- Day roost (March-November) – used by bats during the day to rest in, often by males. Bats may regularly use a number of days’ roosts or the same site for several weeks;
- Feeding roost (May-November) – can be occupied by a single bat or a few individuals to an entire colony to feed, shelter from the weather or to rest temporarily; and
- Swarming sites (August-November) – where large numbers of bats from several species gather, generally around caves and mines.

2.3.3 Following the framework for valuing bats in Ecological Impact Assessment set out by Wray et al. (2007), bat roosts are then assigned a value, based on roost type and species rarity (as detailed within Table 2.1), using a geographic frame of reference as shown in Table 2.2. The value assigned is based on the information available at the time of writing and may change following further roost characterisation surveys.

Table 2.1: Categorisation of Bats by National Rarity

Rarity within Range	England	Wales	Scotland	Northern Ireland
Common (population over 100,000)	Common Pipistrelle Bat (<i>Pipistrellus pipistrellus</i>), Soprano Pipistrelle Bat (<i>Pipistrellus pygmaeus</i>), Brown Long-eared Bat (<i>Plecotus auritus</i>)	Common Pipistrelle Bat, Soprano Pipistrelle Bat	Common Pipistrelle Bat, Soprano Pipistrelle Bat	Common Pipistrelle Bat, Soprano Pipistrelle Bat
Rarer (population 10,000-100,000)	Lesser Horseshoe Bat (<i>Rhinolophus hipposideros</i>), Whiskered Bat (<i>Myotis mystacinus</i>), Brandt’s Bat (<i>Myotis brandtii</i>), Daubenton’s Bat (<i>Myotis daubentonii</i>), Natterer’s Bat (<i>Myotis nattereri</i>), Leisler’s Bat (<i>Nyctalus leisleri</i>), Noctule Bat (<i>Nyctalus noctula</i>), Nathusius’ Pipistrelle Bat (<i>Pipistrellus mathusii</i>), Serotine Bat (<i>Eptesicus serotinus</i>)	Lesser Horseshoe Bat, Daubenton’s Bat, Natterer’s Bat, Brown Long-eared Bat	Daubenton’s Bat, Natterer’s Bat, Brown Long-eared Bat	Daubenton’s Bat, Natterer’s Bat, Leisler’s Bat, Nathusius’ Pipistrelle Bat, Brown Long-eared Bat
Rarest (population under 10,000)	Greater Horseshoe Bat (<i>Rhinolophus ferrumequinum</i>), Bechstein’s Bat (<i>Myotis bechsteinii</i>), Alcathe Bat (<i>Myotis</i>	Greater Horseshoe Bat, Whiskered Bat, Brandt’s Bat, Bechstein’s Bat, Alcathe Bat, Noctule Bat,	Whiskered Bat, Brandt’s Bat, Alcathe Bat, Noctule Bat, Nathusius’	Whiskered Bat

Rarity within Range	England	Wales	Scotland	Northern Ireland
	<i>alcaethoe</i>), Barbastelle Bat (<i>Barbastelle barbastellus</i>), Grey Long-eared Bat (<i>Plecotus austriacus</i>)	Nathusius' Pipistrelle Bat, Serotine Bat, Barbastelle Bat	Pipistrelle Bat, Leisler's Bat	
*Vagrant species and occasional visitors	Greater Mouse-eared Bat (<i>Myotis myotis</i>), Parti-coloured Bat (<i>Vespertilio murinus</i>), Kuhl's Pipistrelle Bat (<i>Pipistrellus kuhlii</i>), Savi's Pipistrelle Bat (<i>Hypsugo savii</i>), Pond Bat (<i>Myotis dasycneme</i>), Notch-eared Bat (<i>Myotis emarginatus</i>), Northern Bat (<i>Eptesicus nilssonii</i>)			

Table 2.2: Roost valuation system

Geographic Frame of Reference	Roost Types
District, Local or Parish	Feeding Perches (common species), individual bats (common species), small numbers of non-breeding bats (common species), mating sites (common species)
County	Maternity sites (common species), small numbers of hibernating bats (common and rarer species), feeding perches (rarer/rarest species), individual bats (rarer/rarest species), small numbers of non-breeding bats (rarer/rarest species)
Regional	Mating sites (rarer/rarest species) including well-used swarming sites, maternity sites (rarer species), hibernation sites (rarest species), significant hibernation sites
National/UK	Maternity sites (rarest species), Sites of Special Scientific Interest (SSSI)
International	Special Areas of Conservation (SAC)

2.4 Nomenclature

2.4.1 The English names of flora and fauna species are given in the main text of this report. Scientific names are used alongside the English name where this first occurs. Vascular plants and Charophytes follow the nomenclature of The Botanical Society for the British Isles database (BSBI, 2007) with all other flora and fauna following the National Biodiversity Network (NBN) Gateway (NBN, 2014).

2.5 Limitations

2.5.1 The survey was undertaken in March (considered to be a sub-optimal time of year for flora identification). However, this was sufficient to classify common terrestrial habitats.

2.5.2 Internal survey of all buildings was not possible due to the buildings being in constant use during school hours. The surveyor was informed that no roof voids exist in any of the building by the site manager, however this information was not verified.

2.5.3 This document does not contain a comprehensive list of botanical species on site. Only plant species characteristic of each habitat and incidental observations of notable plant species were recorded. In addition, many plant species are only evident at certain times of the year and so some plant species may have gone undetected.

- 2.5.4 Data held by consultees may not be exhaustive. The absence of evidence, does not indicate evidence of absence.
- 2.5.5 Enzygo cannot take responsibility for the accuracy of external data sources and as such discrepancies and inaccuracies may occur.
- 2.5.6 TVERC did not supply information on important hedgerows or veteran trees.

3 Results and Evaluation

3.1 Sites and Habitats Identified by the Desk Study

3.1.1 Sites and habitats identified by the desk study are presented below, along with the reason(s) for their designation and associated ecological value. Potential direct or indirect impacts resulting from the construction phase or operation of the buildings within the survey area, and the associated ecological effect have been identified, including details of any relevant Impact Risk Zone (IRZ) within which the proposed works fall. Where potential impacts/effects to ecological features have been identified, the site/habitat is shown on Drawing CRM.1112.014.EC.D.001.

Table 3-1: Sites and Habitats Identified by the Desk Study

Name (distance/direction from works)	Details and Ecological Value	Potential Impact/Effect
Statutory sites designated or classified under international conventions or European legislation		
Hartslock Wood Special Area of Conservation - 9.5km NW	This site hosts the priority habitat type "orchid rich sites". The steep slopes of this site on the chalk of the Chilterns comprise a mosaic of chalk grassland, chalk scrub and broadleaved woodland. The site supports one of only three UK populations of monkey orchid <i>Orchis simia</i>, a nationally rare Red Data Book species. The site also contains Yew <i>Taxus baccata</i> woodland and associated flora. International value.	No (no potential impacts identified)
Thames Basin Heaths Special Protection Area – 12.7km SE	Together with the nearby Wealden Heaths SPA and Ashdown Forest SPA, the Thames Basin Heaths form part of a complex of heathlands in southern England that support important breeding bird populations. The qualifying species include Dartford Warbler (<i>Sylvia undata</i>), Nightjar (<i>Caprimulgus europaeus</i>) and Woodlark (<i>Lullula arborea</i>). International value.	No (no potential impacts identified). Survey site is not located within SPA buffer zone.
Chilterns Beechwoods Special Area of Conservation – 14.8km NE	The Chilterns Beechwoods represent a very extensive tract of <i>Asperulo-Fagetum</i> beech forests in the centre of the habitat's UK range. The woodland is an important part of a	No (no potential impacts identified)

Name (distance/direction from works)	Details and Ecological Value	Potential Impact/Effect
	grassland-scrub-woodland mosaic. A distinctive feature in the woodland flora is the occurrence of the rare coralroot <i>Cardamine bulbifera</i>. In addition, annex I habitat is present as a qualifying feature in the form of semi-natural dry grassland and scrubland. In addition, stag beetle (<i>Lucanus cervus</i>) an annex II species is present as a qualifying feature. International value.	
Statutory sites designated under national legislation		
Falls within SSSI Impact Risk Zones (IRZ)	Proposed development does not meet criteria requiring consultation with Natural England	No (no potential impacts identified).
Clayfield Copse – Local Nature Reserve 1.8km NE	Parts are ancient woodland and overall it retains significant elements of semi-natural woodland but it has been modified by sycamore invasion and the planting of beech, hornbeam, sweet chestnut and conifers. National value.	No (no potential impacts identified).
Locally designated wildlife sites		
Old Cemetery, Victoria Road, WS – 20m north	Small Victorian cemetery is laid out on a formal grid with tarmac paths surrounded by hedges. It is a sheltered man-made habitat in the midst of an urban environment in Caversham, Reading. Many large trees, generally not native and evergreens, form a backdrop to a carpet of native and garden bluebells, native primroses and celandine in a shaded moist environment. Local Value.	No (no potential impacts identified). Site is located on other side of Victoria Road which is currently heavily used by local residents and school staff for parking. Therefore, no significant effects resulting from construction vehicles travelling along the road are perceived.
The Warren Woodlands Complex, WS – 480m SW	Complex of woodland sites situated on the chalk scarp of The Warren in Caversham. Local value.	No (no potential impacts identified)
Highdown Wood, WS – 510m N	This is a small broadleaved woodland, dominated by mature beech indicating plantation origin.	No (no potential impacts identified)

Name (distance/direction from works)	Details and Ecological Value	Potential Impact/Effect
	Local value.	
Rotherfield Way Copse, WS – 730m NE	This small broad-leaved woodland is situated in a sheltered dry valley sloping moderately from NE to SW between roads and houses in Emmer Green, Reading. Local value.	No (no potential impacts identified)
Hemdean Bottom, WS – 820m NW	A chalk valley on the edge of Caversham. Most of the site is grassland with small areas of woodland and planted scrub towards the edges. The valley sides are fairly gently sloping and the grassland is quite neutral in character but there is still a strong calcareous influence. On the steeper slopes where the sward is short there are more elements of lowland calcareous grassland. Local value.	No (no potential impacts identified)
Furzeplat, WS – 1km N	Small area of mixed semi-natural woodland that holds a diversity of tree and shrub species and typical habitats, including substantial standing and fallen deadwood. Local value.	No (no potential impacts identified)
Cow Lane Depot, WS – 1.9km SW	The site forms a mosaic of habitats ranging from willow scrub with mature trees, to open standing water with swamp to ruderal and tall herb grassland. Local value.	No (no potential impacts identified)
The Coal, Kennetmouth and Kings Meadow East, WS – 1.9km SE	The Coal is also an old colliery spoil site and there is still evidence of this industrial past, with coal found on the surface throughout. The site comprises a central and riverside woodland area and an open wayleave at the foot of a steep railway embankment. Kennetmouth is a short length of towpath at the confluence of the River Kennet and the River Thames at Reading. It includes the western bank of the Kennet and the southern bank of the Thames.	No (no potential impacts identified)

Name (distance/direction from works)	Details and Ecological Value	Potential Impact/Effect
	Kings Meadow East is at the eastern end of a large Tesco supermarket development. The site is currently utilised as a recreational area and as a short cut through to the supermarket from the boating jetty on the Thames. Local value.	
Reading Golf Course (East), WS – 1.9km N	A strip of woodland and grassland on a south facing chalk bank in Reading golf course. Local value.	No (no potential impacts identified)
Reading Golf Course (West), WS – 2km NW	Site is located on a steep bank to the west of the golf course and supports chalk grassland. Local value.	No (no potential impacts identified)
England HPI, Local BAP Habitats, Ancient Woodland, Important Hedgerows, Veteran Trees, TPOs and Conservation Areas		
Deciduous woodland, priority habitat inventory –20m N, 100mW & 150m E	Pockets of broadleaved, deciduous woodland. Within zone of influence value.	No (no potential impacts identified).

3.2 Habitats Identified on Site

3.2.1 Habitats identified on site during the field survey are presented below, along with their associated ecological value. The distribution of these habitats is shown on Drawing CRM.1112.014.EC.D.001. Potential direct or indirect impacts resulting from the construction phase or operation of the site, and the associated ecological effect have been identified.

Table 3-2: Habitat Identified on Site

Habitat Type (code)	Details and Ecological Value	Potential Impact/Effect
Amenity Grassland (J.1.2) 	The western part of the site comprises amenity grassland dominated by Perennial Rye-grass (<i>Lolium perenne</i>) with abundant Daisy (<i>Bellis perennis</i>), frequent Dandelion (<i>Raraxacum officinale</i>) and Daffodils (<i>Narcissus spp.</i>) and Ribwort plantain (<i>Plantago lanceolate</i>) present. Cock's foot (<i>Dactylis glomerata</i>) and Ground ivy (<i>Glechoma hederacea</i>) were occasionally and Cleavers (<i>Galium aparine</i>) rarely recorded. This sward height at the time of survey was 10 centimetres with approximate 50% moss and the field is believed to be regularly mown. Amenity grassland is not an England HPI or Local BAP Habitat. Negligible value.	No – no habitat will be lost due to the proposed works. A small area will be temporarily disturbed during the construction phase as vehicles travel across the area. However, this is not a significant impact (it will be re-instated following completion of works).
Species poor intact hedge (J.2.1.2) 	Along the eastern site boundary are sections of privet hedgerow (H1) approximately 1.5m tall with an understorey of ivy (<i>Hedera helix</i>) and Daffodils. In the western part of the site east of building B1 is section of hedgerow (H2) dominated by hazel (<i>Corylus avellane</i>) with occasional holly (<i>Ilex aquifolium</i>) and field maple (<i>Acer campestre</i>) rarely recorded. Hedgerows, for the purpose of HPI classification, are defined as any boundary line of trees or shrubs over 20 metres long and less than 5 metres wide where any gaps between the trees or shrubs are less than 20 metres wide. These must also be comprised of 80% or more of at least 1 woody UK native species. The hedgerows on site do not meet the criteria to warrant classification as a HPI or local BAP habitat.	No – no habitat will be lost due to the proposed works.

Habitat Type (code)	Details and Ecological Value	Potential Impact/Effect
Dense scrub (A.2.1) 	Area of scrub dominated by bramble (<i>Rubus fruticosus</i>) with some occasional hazel and blackthorn (<i>Prunus spinosa</i>) present. This habitat type is not an England HPI or Local BAP Habitat. Negligible value.	No – no habitat will be lost due to the proposed works.
Scattered Trees – Broadleaved (A.3.1) 	Lines of scattered trees are present along the northern, western and southern site boundary. No species was dominant but Sycamore (<i>Acer pseudoplatanus</i>) was frequently recorded with Horse Chestnut (<i>Aesculus hippocastanum</i>) occasionally present and Ash (<i>Fraxinus excelsior</i>), Common Lime (<i>Tilia x europaea</i>), Beech (<i>Fagus sylvatica</i>), Pedunculate oak (<i>Quercus robur</i>), Silver Birch (<i>Betula pendula</i>), Weeping Willow (<i>Salix babylonica</i>), Crab apple (<i>Malus sylvestris</i>), Rowan (<i>Sorbus aucuparia</i>), Whitebeam (<i>Sorbus aria</i>) and Cherry (<i>Prunus spp.</i>) rarely recorded. Some of the trees such as Ash are covered in dense ivy. This habitat type is not an England HPI or Local BAP Habitat. Negligible value.	No – no habitat will be lost due to the proposed works.
Scattered Trees – Coniferous (A.3.2) 	Six Lawson cypress (<i>Chamaecyparis lawsoniana</i>) trees in two groups of three located along the southern site boundary. This habitat type is not an England HPI or Local BAP Habitat. Negligible value.	No – no habitat will be lost due to the proposed works.

Habitat Type (code)	Details and Ecological Value	Potential Impact/Effect
Introduced Shrub (J.1.4) 	Introduced shrub is present to the east of B7 and in the north eastern corner of the site and in the garden of the caretaker's cottage. Species included Butterfly bush (<i>Buddleja spp.</i>), Lavender (<i>Lavendula spp.</i>), Bay tree (<i>Laurus nobilis</i>) and ornamental garden species. This habitat type is not an England HPI or Local BAP Habitat. Negligible value.	No – no habitat will be lost due to the proposed works.

Habitat Type (code)	Details and Ecological Value	Potential Impact/Effect
Tall Ruderal (C.3.1) 	Areas of overgrown grassland are present around building B2a and B2b. The area is dominated by Yorkshire fog (<i>Holcus lanatus</i>) with abundant perennial rye-grass and frequent broadleaved dock (<i>Rumex obtusifolius</i>) and common nettle (<i>Urtica dioica</i>) present. This habitat type is not an England HPI or Local BAP Habitat. Negligible value.	No – no habitat will be lost due to the proposed works.
Bare Ground (J.4) 	Bare ground was present in the north-eastern corner of the site around the ornamental planting. This habitat type is not an England HPI or Local BAP Habitat. Negligible value.	No – no habitat will be lost due to the proposed works.

Habitat Type (code)	Details and Ecological Value	Potential Impact/Effect
Fencing (J.2.4), Building/Structure (J.3.6) and Hardstanding (J.5) 	The site is enclosed by various types of fences on all sides. Metal picket fencing is present along the eastern and northern boundaries, wooden post and panel fence is present along buildings B2a, B2b and B3. Post and wire fencing forms the boundary along the western and southern edges of the site. There are seven school buildings located in the centre and eastern part of the site. All the buildings are interconnected with the exception of a free-standing classroom (B1) and the caretaker's cottage (B8). There are also a number of sheds and covered seating areas present across the site. Hardstanding surrounds the majority of all school buildings and provides access to parking areas. Fencing, buildings, and bare ground/hardstanding are not an England HPI or Local BAP habitat. Negligible value.	No – Loss of single building alone not perceived significant .

3.3 Protected and Notable Species

3.3.1 Legally protected species, England SPI/Local BAP Species, any Notable species (which includes: Species of conservation concern and RDB species; BOCC; and nationally rare and nationally scarce species), and Invasive species identified by the desk study and field survey are presented below, along with their associated ecological value. Potential direct or indirect impacts resulting from the construction phase or operation of the site, and the associated ecological effect have been identified. This is based on an assessment of habitat suitability and other relevant factors, such as: national distribution of each species/group; previous records of species occurrence obtained through the desk study; connectivity to suitable habitats in the surrounding landscape; and any field signs suggesting presence of species within or near to the site. Given the large number of England SPI/Local BAP Species, and Notable species (which includes: Species of conservation concern and RDB species; BOCC; and nationally rare and nationally scarce species), these have only been included if identified from the desk study and/or observed on site during the field survey.

Table 3-3: Species Identified from the Desk Study and Field Survey

Species/Group	Desk Study Record (distance/direction from works)	Field Survey Habitat/Evidence	Ecological Value	Potential Impact/Effect
Bats (<i>Chiroptera spp.</i>)	Soprano Pipistrelle Bat Roost (23 individuals), 1.3km west.	Five school buildings on site provide moderate and low suitability for roosting bats (i.e. roof tiles, ridge tiles, lead	Local value.	Yes – a) if roosting bats present, demolition of building or adjacent works could result in the loss of a bat roost, or killing/injury of bats. Significant

Species/Group	Desk Study Record (distance/direction from works)	Field Survey Habitat/Evidence	Ecological Value	Potential Impact/Effect
	Field records and roost records (individual or small numbers) of Common Pipistrelle (50), Soprano Pipistrelle (45), Brown Long-eared Bat (18), Noctule (21), Serotine (1), Daubenton's bat (8), Natterer's bat (1), Whiskered bat (1), Leisler's bat (3), Nathusius pipistrelle (1), Long-eared bat species (4), Pipistrelle bat species (8) and unidentified bat species (6).	flashing). The dining hall (B3) proposed for demolition provides negligible to low potential for roosting bats. The other flat-roofed buildings, modern classrooms and sheds provide negligible or negligible to low potential [refer to Appendix B for full details]. Some of the scattered trees along the western and northern boundaries may provide potential roosting features (PRFs) for bats, however no specific features were noted during incidental observations. Amenity grassland area provides potential foraging habitat, small size site of low quality (Collins, 2016), but limited in extent. The lines of trees along the western site boundary provide some suitable habitat for commuting bats. Allotments and cemetery located offsite provide good potential foraging and commuting habitat.	All bat species listed as England SPI, and on Local BAP.	adverse, permanent, irreversible impact is anticipated. Yes – b) any retained roosts and off-site commuting/foraging habitat, lighting in vicinity during construction or operation of site could result in indirect disturbance. Significant adverse, temporary, reversible impact.
Badger (<i>Meles meles</i>)	16 records including 5 records for setts. The nearest sett record is	Optimal foraging and commuting habitat in western part of site.	Negligible (not SPI or local BAP and not protected by WCA).	No (no significant loss of habitat <10% of typical range, no impacts to significant commuting routes or fragmentation/isolation of habitats identified).

Species/Group	Desk Study Record (distance/direction from works)	Field Survey Habitat/Evidence	Ecological Value	Potential Impact/Effect
	from 2009 located in the Victoria Road cemetery just north of the survey site.			
Dormouse (<i>Muscardinus avellanarius</i>)	None within search area.	None (no suitable habitat or connections to off-site habitats).	N/A	No.
Otter (<i>Lutra lutra</i>)	Two records from the river Thames the nearest 1.4km SE.	None (no suitable habitat or connections to off-site habitats).	N/A	No.
Water Vole (<i>Arvicola amphibious</i>)	None within search area.	None (no suitable habitat or connections to off-site habitats).	N/A	No.
Other Protected Mammals	None within search area.	None (only common habitat types present).	N/A	No.
Specially Protected Birds	Records for Red Kite <i>Milvus milvus</i> (5), Peregrine <i>Falco peregrinus</i> (2) and Black Redstart <i>Phoenicurus ochruros</i> (3)	Incidental observation of Red Kite circling above site during the survey. No suitable Red Kite habitat present on site.	Local value.	No.
All Other Birds	48 records for 10 other species including Swift (<i>Apus apus</i>), Grey wagtail (<i>Motacilla cinerea</i>), Green Woodpecker (<i>Picus viridis</i>) and Song Thrush (<i>Turdus philomelos</i>).	Hedgerow and trees provide a limited extent of nesting opportunities for a limited range of common bird species. Incidental observations of Wood Pigeon (<i>Columba palumbus</i>), Robin (<i>Erithacus rubecula</i>) and Woodpecker (aural only) during survey.	Within zone of influence value only.	No loss of nesting habitat will occur as result of activities.

Species/Group	Desk Study Record (distance/direction from works)	Field Survey Habitat/Evidence	Ecological Value	Potential Impact/Effect
Common Reptiles	1 record for common lizard and adder, 3 records for Grass Snake and 6 records for slow-worm including 1 record from the cemetery directly north of the survey site.	Amenity grassland provides limited suitable habitat for common reptiles. Site is connected to suitable off-site habitats in the form of the allotments to the east which in turn are connected to the Victoria Road cemetery.	Within zone of influence value only.	Yes – a) risk of killing/injury during site clearance/ construction activities. Minor adverse, temporary and reversible impact. (no significant loss of habitat)
Great Crested Newt (<i>Triturus cristatus</i>)	1 record dating from 2017 from a pond on View Island, 1.5km SE.	No waterbodies on site or within 500 metres.	N/A	No.
Other Protected Herpetofauna	None within search area.	None (no suitable habitat or connections to off-site habitats).	N/A	No.
White-clawed Crayfish (<i>Austropotamobius pallipes</i>)	None within search area.	None (no suitable habitat or connections to off-site habitats).	N/A	No.
Fish/Marine	None within search area.	None (no suitable habitat or connections to off-site habitats).	N/A	No.
Protected Invertebrates	None within search area.	None.	N/A	No.
Protected Flora	Nine records for Bluebell (<i>Hyacinthoides non-scripta</i>) protected from sale only.	Common habitat types present only.	N/A	No.
England SPI/Local BAP and Notable species	Six records for West European hedgehog the nearest 500m W, 1 record for Cinnabar (<i>Tyria jacobaeae</i>). Two records for stag beetle (<i>Lucanus</i>	Amenity grassland provides some suitable habitat for foraging hedgehogs and good habitat for commuting hedgehogs.	Within zone of influence value only.	Yes – a) limited risk of killing/injury during site clearance/ construction activities. Minor adverse, temporary and reversible impact. (no significant loss of habitat)

Species/Group	Desk Study Record (distance/direction from works)	Field Survey Habitat/Evidence	Ecological Value	Potential Impact/Effect
	<i>cervus</i>), the nearest 450m S.	No deadwood habitats present on site, limited habitat for adult stage. Suitable habitat may be present offsite in the allotments and Victoria Road cemetery.		
Invasive Flora	Records for Japanese knotweed (<i>Fallopia japonica</i>) (3), Indian balsam (<i>Impatiens glandulifera</i>) (2), Rhododendron (<i>Rhododendron ponticum</i>) (1)	None recorded.	N/A	No.
Invasive Fauna	One record for American Mink (<i>Neovison vison</i>), one record for Northern River Crangonyctid (<i>Crangonyx pseudogracilis</i>) and one record for <i>Chelicorophium curvispinum</i>	None recorded.	N/A	No.

3.4 Contribution to the Wider Green Infrastructure Resource

- 3.4.1 The site is located within a largely residential area with pockets of green space such as the adjacent allotments and the Victoria Road cemetery nearby. The surveyed area provides some contribution to the green infrastructure in the form of scattered trees situated around the site perimeter and amenity grassland in the western part of the site. The surveyed area is directly connected to the allotments located to the west of the amenity grassland area and therefore may provide some connectivity for species present in the allotments. There will be no impact on the existing green infrastructure resulting from the proposals for development within the application site boundary.
- 3.4.2 No aquatic features on site, therefore does not contribute to the wider blue infrastructure.
- 3.4.3 No environmental dark zones are specified within the core strategy or sites and detailed policies document but given its location the site is likely located within zone E3: medium district brightness areas (Guidance Notes for the Reduction of Obtrusive Light GN01:2011). No significant increase in lighting.

4 Relevant Legislation and Policy

4.1 Legislation

4.1.1 Wildlife legislation and policy relevant (or potentially relevant pending further survey) to the proposed works, based on the findings of the desk study and field survey are set out below. This legal information is a summary only, and the original legal documents should be consulted for definitive information.

Table 4-1: Legislation Protection Afforded to Sites/Habitats that could Potentially be Affected by the Proposed Works

Designated Site/Habitat	Legal Status
None.	-

Table 4-2: Legislation Protection Afforded to Species that could Potentially be Affected by the Proposed Works

Species	Legal Status
European Protected	
Bats	These animal species and their breeding sites or resting places are protected under Regulation 41 of the Conservation of Habitats and Species (Amendment) Regulations 2012, which makes it illegal to: • Deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs; • Deliberately disturb such an animal; • Damage or destroy a breeding site or resting place of such an animal. European Protected Species (EPS) licences can be granted by Natural England in respect of development to permit activities that would otherwise be unlawful under the Conservation Regulations, providing that the following 3 tests (set out in the EC Habitats Directive) are passed: • The development is for reasons of overriding public interest; • There is no satisfactory alternative; and • The favourable conservation status of the species concerned will be maintained and/or enhanced. Under Regulation 9(5) of the Conservation Regulations, Planning Authorities have a legal duty to 'have regard to the requirements of the EC Habitats Directive in the exercise of their functions'. This means that they must consider the above 3 tests when determining whether Planning Permission should be granted for developments likely to cause an offence under the Conservation Regulations. As a consequence, Planning Applications for such developments must demonstrate that the 3 tests will be passed.
Nationally Protected	
Bats	These animals receive full protection under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to: • Intentionally kill, injure or take any such animal; • Intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any such animal; and • Intentionally or recklessly disturb such animals while they occupy a place used for shelter or protection.
Adder, Common Lizard, Grass Snake, Slow-worm	These animals receive limited protection under The Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal to intentionally kill or injure any such animal.

- 4.1.2 Section 40 of the Natural Environment and Rural Communities Act 2006 (the NERC Act) places a legal duty on public bodies, including planning authorities, to 'have regard' to the conservation of biodiversity when carrying out their normal functions, which includes consideration of planning applications.
- 4.1.3 In compliance with Section 41 of the NERC Act, the Secretary of State has published a list of species and habitats considered to be of principal importance for conserving biodiversity in England under the UK Post-2010 Biodiversity Framework. This is known as the list of Habitats and Species of Principal Importance (HPI/SPI), of which there are 56 habitats and 943 species. The HPI/SPI list is used to guide planning authorities in implementing their duty under the NERC Act.

4.2 National Planning Policy

- 4.2.1 The NPPF set out the Government's planning policies for England and how these are expected to be applied. At the heart of the NPPF is a presumption in favour of sustainable development. This presumption does not apply where development requiring Appropriate Assessment under the Birds or Habitats Directives is being considered, planned or determined.

- 4.2.2 The NPPF states that:

'When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:

- if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- proposed development on land within or outside a Site of Special Scientific Interest (SSSI) likely to have an adverse effect on a SSSI (either individually or in combination with other developments) should not normally be permitted. Where an adverse effect on the site's notified special interest features is likely, an exception should only be made where the benefits of the development, at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of SSSIs;
- development proposals where the primary objective is to conserve or enhance biodiversity should be permitted;
- opportunities to incorporate biodiversity in and around developments should be encouraged;
- planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss; and
- the following wildlife sites should be given the same protection as European sites: potential Special Protection Areas (SPA) and possible Special Areas of Conservation (SAC); listed or proposed Ramsar sites; and sites identified, or required, as compensatory measures for adverse effects on European sites, potential SPAs, possible SACs, and listed or proposed Ramsar sites.'

- 4.2.3 Under the NPPF, the Planning Authority has a responsibility to promote 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, and identify suitable indicators for monitoring biodiversity in the plan.

- 4.2.4 Also under the NPPF the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and providing 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.

4.3 Local Planning Policy

- 4.3.1 The following policies within the Reading Borough Core Strategy (adopted January 2008) and Reading Borough Sites and Detailed Policies Document (2012) are relevant:

- CS34: Pollution and Water Resources (Light pollution);
- CS36: Biodiversity and Geology;
- CS38: Trees, Hedges and Woodlands (protection from damage or removal);
- DM17: Green Network (connection of green spaces); and
- DM18: Tree Planting (provision for tree planting by new development).

- 4.3.2 There is no known Supplementary Planning Document (SPD) covering Reading Borough Council for Thames Basin Heaths SPA.

5 Discussions and Recommendations

5.1 Overview of Ecological Features subject to Potential Impacts/Effects

5.1.1 In the absence of mitigation, the following ecological features could be subject to potential impacts/effects as a result of the proposed works:

- Bats;
- Common reptiles; and
- England SPI/Local BAP and Notable species.

5.2 Further Survey and Mitigation

5.2.1 For each potential impact/effect identified, all mitigation options provided follow the established mitigation hierarchy as set out in BS42020:2013 (BSI, 2013). This seeks as a preference to avoid impacts, then to mitigate unavoidable impacts, and as a last resort, to compensate for unavoidable residual impacts that remain after avoidance and mitigation measures. All recommended surveys and mitigation measures follow current best practice guidance as identified by CIEEM (CIEEM, 2014) and is proportionate to the level of impact identified and to the nature and scale of the proposed works. A clear and valid justification of methods has been provided where necessary.

Bats

5.2.2 Avoidance: Although only limited potential roosting features were identified in building B3, there is a small possibility that individual/small numbers of common species may shelter between asbestos sheeting. As such the removal of roofing materials will be carried out under the supervision of a licenced/accredited bat ecologist as a precaution. Contractors will be briefed on the potential presence of bats prior to works commencing and construction activities will be undertaken sensitively. If at any time a bat or evidence of a roost is encountered, then works will immediately cease and the ecologist contacted to determine the best method to proceed and need for an EPS Licence from Natural England. No further surveys i.e. dusk emergence, have been deemed necessary in this instance due to the limited unlikely risk of bat presence.

5.2.3 To avoid the disturbance of off-site roosts, there will be no construction activities undertaken which could obstruct access to this structure (i.e. no scaffolding or building built directly in front of/or adjoining the north and south boundaries, i.e. likely flight lines to off-site habitats/woodland). Any construction activities undertaken within the proximity of the off-site properties will be undertaken sensitively and with minimal noise disturbance.

5.2.4 To avoid the disturbance of commuting routes associated with these off-site roosts, and prevent fragmentation effects, there will be no removal of existing boundary features or mature trees.

5.2.5 To avoid indirect disturbance of off-site roosts, commuting routes, and foraging habitats (garden to remain so no direct loss of these) there will be no night working or night lighting during the construction period.

5.2.6 Mitigation: None proposed.

5.2.7 Compensation: None proposed.

Common Reptiles

5.2.8 Avoidance: To avoid the risk of killing/injury of any common reptiles, the grassland will be maintained at the current sward height until commencement of construction activities. If any

suitable habitat remains at the start of construction works, the site will be cleared in an ecologically sensitive manner. This will be undertaken by an ecological contractor or under the direct supervision of a suitably qualified Ecological Clerk of Works (ECOW). In each instance, an ecologist will check any potential habitats/refugia prior to clearance. This approach can only be undertaken between April and October (weather dependant) when reptiles are active. It is not appropriate for use between November and March when reptiles are in hibernation. Any potential refugia i.e. grass cuttings/brush piles, will also be inspected. If necessary, this can be subject to a planning condition and will not require any further survey prior to planning determination (note: a full reptile survey has not been recommended due to the limited extent of suitable habitat and the small number of common reptiles that could be expected within the development footprint).

5.2.9 Mitigation: None proposed.

5.2.10 Compensation: None proposed.

England SPI/Local BAP and Notable species

5.2.11 Avoidance: Habitats will be sensitively managed to avoid impacts to any England SPI/Local BAP and Notable species that could be present on-site. Any located will be allowed to disperse into off-site habitats or moved by hand.

5.2.12 Mitigation: None proposed.

5.2.13 Compensation: None proposed.

5.2.14 To comply with guidance set out in BS42020:2013, a Construction Environment Management Plan (CEMP) would normally be produced prior to the commencement of construction activities, including site clearance works. However, due to the limited number of ecological features identified, this report (specifically the mitigation details outlined within section 5.2) will sufficiently serve to advise site contractors of any measures necessary to avoid/mitigate impacts to any protected species and habitats. A Landscape and Ecological Management Plan (LEMP) would also normally be produced prior to operation of the site. Again, due to the limited features that will be incorporated into the landscape, this will not be produced.

5.3 Opportunities for Biodiversity Enhancement

5.3.1 Opportunities for biodiversity enhancement (above and beyond those required to mitigate for any identified impacts) have been determined through consideration of: Ecological Features identified on site and within the zone of influence; Historical records of protected species/habitats present within the locality; National and Local planning policy including UK BAP SPI/HPI and Local BAP species/habitats; Local Development Plan including consideration of Green/Blue Infrastructure Resource; Consultation with third parties/stakeholders where applicable; and Other influencing factors such as Geology/Hydrology, intended operational activities, and existing disturbance activities within the locality. Where necessary, proposed enhancements should refer to the Construction (Design and Management) Regulations 2015 (CITB, 2016):

- **Bird Boxes** – 2 x Schwegler 1B bird boxes to be installed on trees along the western site boundary; bird boxes will be installed at a minimum height of 2 metres facing north-west and south-west
- **Bat Boxes** – 2 x Schwegler 2FN bat boxes to be installed on trees along the western site boundary; boxes will be installed at a minimum height of 2 metres and facing south and south-west with unobstructed flight lines;

6 Conclusion

- 6.1.1 If all of the avoidance and mitigation measures outlined above are incorporated into the proposed works programme, then no significant residual impacts to protected species and habitats are perceived.
- 6.1.2 The proposed enhancements will result in a biodiversity gain.

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Drawing CRM.1112.014.EC.D001 – Phase I Habitat Map



Key

	Survey Area
	Dense Scrub (A2.1)
	Scattered Tree - Broadleaved (A3.1)
	Scattered Tree - Coniferous (A3.2)
	Tall Ruderal Vegetation (C3.1)
	Introduced Shrub (J1.4)
	Amenity Grassland (J1.2)
	Intact Hedge, Species-poor (J2.1.2)
	Fence (J2.4)
	Buildings (J3.6)
	Bare Ground (J4)
	Hardstanding (J4)



Samuel House, 5 Fox Valley Way, Stocksbridge, Sheffield, S36 2AA

CLIENT:
Ashley House Plc

SCALE:
1:800@A3

PROJECT REF:
CRM.1112.014

DRAWN:
MG

CHECKED:
SK

DATE:
Mar 2018

PROJECT:
Caversham Primary School

TITLE:
Phase I Habitat Map

DRAWING NO:
CRM.1112.014.EC.D.001

Appendix A – Phasing Plan



1 Phase 1



2 Phase 2



3 Phase 3



4 Phase 4

Key:

- Site Access
- Application Boundary
- Site Boundary
- Heras Fencing
- Ply Hoarding
- Welfare/Office
- Trackway or Stone
- Alter Fire Strategy
- Modify Fire Scape
- Move Play Equipment
- Demolish
- Proposed Block

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P0.1 - WIP

RF RM Issued for Information

Rev	Date	Prep	Check	Description
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Client
Ashley House PLC

Project
Caversham Primary School

Drawing Title
Phasing Plans

Purpose of Issue
Work in Progress

Status Code
S0

Scale
@ A1

Drawing Number
project originator zone level type role number
EFA - PPA - 03 - 00 - DR - A - 30150

Revision
P0.1 - WII

Appendix B – Preliminary Bat Roost Assessment Survey Results

Features which will increase the probability of bat presence include: presence of foraging with wider landscape; and number of bat records in the area.
Features which will decrease the probability of bat presence include: urban setting with associated lighting,

Reference	Description	Assessment
B1	Modern classroom constructed from metal wall panels and a metal roof with double glazed PVC windows and plastic guttering. No roof voids are present. The building is well sealed and in constant use; no suitable roosting features are present. 	Negligible
B2a & B2b	Two single-storey classrooms with rendered walls, concrete roof and ridge tiles and felt present at gable ends. Timber fascia boards, plastic window frames and plastic guttering are present. There were no gaps present between roof tiles and fascia boards were tightly fitting against the buildings. The buildings are in constant use. No potential roosting features were identified.	Negligible

Reference	Description	Assessment
		
B3	Single-storey building currently used as a dining room and proposed for demolition. It consists of painted breeze block walls with corrugated asbestos sheeting present on the roof. Corrugated asbestos sheeting is also present at both gable ends and contains vents. Single-glazed metal windows are present at both side elevations. Internally, the walls and ceiling consist of metal panelling and no loft space is present. The building was well sealed internally. Externally, only very limited suitable roosting features were present in the form of gaps between the asbestos sheets and behind the sheets present on the gable ends. Although unlikely, an individual bat could shelter between sheets on an occasional basis. 	Negligible - Low suitability.

Reference	Description	Assessment
		
B4	This building is located east of B3 and is connected to it via a single storey corridor. The building is currently used as the school kitchen (run by a third party company). The building has a red brick base and a hipped roof laid with plain, clay tiles and clay ridge tiles; clay ladies' bonnets are present at the hips. A red brick chimney is located at the centre of the roof with lead flashing present where it adjoins the roof tiles. No internal access was possible. Suitable roosting features include gaps under ridge tiles; loose, uneven and missing tiles and gaps under the lead flashing surrounding the chimney.  	Moderate suitability.
B5a	Conservatory with brick base attached to the northern elevation of B5a.	Negligible.

Reference	Description	Assessment
		
B5b	L-shaped single-storey building with felted flat roof and brick base; this building forms an extension to B7. Closed wooden soffits are present along the length of this section. Windows are modern, double-glazed PVC. Limited suitable roosting features present in the form of some gaps behind the soffit boards. 	Negligible – Low suitability.
B5c	Single-storey hipped building with a brick base and laid with plain, clay tiles; clay ridge tiles and clay ladies'bonnets. The ridge appears to contain a ventilation system in the form of vents. Closed timber soffits are present with timber fascia boards. Plastic guttering is attached to fascia boards. There are some suitable roosting features present in the form of uneven tiles and vents in the ridge which may allow access for bats.	Moderate suitability.

Reference	Description	Assessment
		
B6	Two-storey brick building used as school hall. The duo pitched roof is laid with plain clay tiles and clay ridge tiles. Two large brick chimneys are present at the south-east elevation. There are no bargeboards present at the gable ends but closed timber soffits are present along the two side elevations. Modern PVC windows and plastic guttering are present. Overall the building is well sealed with no obvious gaps under tiles. 	Low suitability.
B7a	Single-storey building with a brick base and hipped roof. The roof is laid with plain, clay tiles; clay ridge tiles and clay ladies'bonnets. Modern PVC windows are present on each side elevation. Suitable roosting features include uneven tiles, gaps under ridge tiles and some gaps behind the soffits.	Moderate suitability.

Reference	Description	Assessment
		
B7b	This building has the same layout and is constructed from the same materials as B7a. A brick chimney is present at the western hip. Suitable roosting features include uneven tiles, gaps under ridge tiles and some gaps behind the soffits. 	Moderate suitability.
B7c	Flat roofed section connecting B7a and B7b. Single-storey building with brick base and flat felted roof. This area contains the school office and reception area. No suitable roosting features present. 	Negligible.

Reference	Description	Assessment
B7d	Single-storey building with brick base and duo pitched roof located west of B7b and connected by a flat-roofed section. Roof is laid with plain, clay tiles and clay ridge tiles. Ladies' bonnets are present only on the hipped eastern end. Suitable roosting features include uneven tiles and gaps under ridge tiles. 	Moderate suitability.
B8	Caretaker's cottage constructed of same materials as school buildings. This building is located outside the application boundary and was not fully assessed. 	Moderate suitability.
S1	Metal storage shed adjacent to B4. No suitable roosting features.	Negligible.

Reference	Description	Assessment
		
S2 & S3	Small wooden sheds in good condition. Outside application boundary.  	Negligible.
S4, S6 & S7	Covered seating areas. No suitable roosting features.	Negligible

Reference	Description	Assessment
	  	
S5	Converted bus used as mobile library. No suitable roosting features. 	Negligible.
S8 & S9	Wooden sheds located in caretaker's garden. No suitable roosting features. These structures are outside the application boundary.	Negligible.



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