ATKINS

Member of the SNC-Lavalin Group

Woodlands Meed College, Burgess Hill

Bat Survey - Building Inspections

West Sussex County Council

September 2019

Notice

This document and its contents have been prepared and are intended solely as information for West Sussex County Council and for use in relation to the proposed demolition of existing Woodlands Meed College buildings and subsequent construction of replacement buildings on the same Site.

Atkins (member of the SNC Lavalin group) assumes no responsibility to any other party in respect of or arising out of or in connection with this document and/or its contents.

The information which Atkins has provided has been prepared by an environmental specialist in accordance with the Code of Professional Conduct of the Chartered Institute of Ecology and Environmental Management. Atkins confirms that the opinions expressed are our true and professional opinions.

This document has 20 pages including the cover.

Document history

Revision	Purpose description	Origin-ated	Checked	Reviewed	Author-ised	Date
Original	Draft for Client Review	DEJ	SG	VH		10/09/2019

Client signoff

Client	West Sussex County Council
Project	Woodlands Meed College, Burgess Hill
Job number	5190243
Client signature / date	

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1. Introduction

1.1. Terms of Reference

Atkins (member of the SNC Lavalin Group) was commissioned by West Sussex County Council to assess the ecological constraints in connection with the proposed re-development of Woodlands Meed College. The proposed works include demolition of existing buildings and subsequent construction of replacement buildings on the same site (hereafter referred to as the Scheme). The Scheme is located in the heart of Burgess Hill, a town located in West Sussex, as identified by the red line boundary on Figure A-1 in Appendix A (hereafter referred to as the Site).

Bats are fully protected as European Protected Species (EPS) under the *Conservation of Habitats and Species Regulations 2017* (as amended) and under the *Wildlife and Countryside Act 1981* (as amended). The legislation relating to bats is summarised in Appendix B.

This report has been produced with reference to good practice[1] and forms part of the technical information commissioned by the West Sussex County Council in connection with the Scheme.

This report is intended for advice in respect of project design, site layout and/or site investigation. Further ecological surveys and/or ecological impact assessment may be required in connection with a planning application or to contribute to an Environmental Impact Assessment.

1.1.1. The Site

The Site is located in the heart of Burgess Hill, West Sussex, at Ordnance Survey National Grid Reference (OSNGR) TQ 32155 18389. It sits within a large residential area and is bordered by residential properties to the north, south and west. The eastern boundary of the site lies adjacent to Birchwood Community Primary School. Both educational facilities combined create a large area of green space within a predominantly residential area.

The Site is approximately 1.6 hectares and contains buildings, hard standing, amenity grassland, scattered trees, and areas of introduced shrub. The Site lies within a highly populated residential area, with residential gardens forming scattered green areas within the surrounding landscape. The local railway corridor is located 0.57km from Woodlands Meed College and provides a commuting route for bats to roosting and foraging habitats, including the arable fields and broadleaved woodland, present along and adjacent to the railway. Several lakes utilised for fishing lie 0.4km to the southeast of the Site and provide optimal foraging opportunities for bats. The network of watercourses that run off from the lakes connect the waterbodies to the wider habitat and provide optimal commuting and foraging opportunities for bats.

1.1.2. The Scheme

The proposed work involves the demolition of existing buildings on the Site. These are to remain open until either a new College is available for occupation at the same Site, or alternatively temporary school buildings are available on the Site of Woodlands Meed School.

1.1.3. Scope of the Assessment

This report presents ecological information obtained during the following:

- A desk study of the Site in June 2019, lifted from the previous ecological constraints report of the site issued in 2019[2]. The information included in this report relates only to bats.
- An inspection of buildings on the Site on 30th August 2019.

Brief references are made to a walkover survey of accessible land within and adjacent to the Site conducted on the 5th June 2019[3].

[1] Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). The Bat Conservation Trust, London.

[2] A separate Ecological Constraints and Opportunities Assessment document has been prepared by Atkins for the playing field Site at Woodlands Meed College: Atkins (2019) Woodlands Meed College, Burgess Hill – Ecological Constraints and Opportunities Assessment.

[3] A separate Ecological Constraints and Opportunities Assessment document has been prepared by Atkins for the playing field Site at Woodlands Meed College: Atkins (2019) Woodlands Meed College, Burgess Hill – Ecological Constraints and Opportunities Assessment.

The building inspections and identification of potential ecological constraints were based on the condition of the Site and its immediate surrounds encountered at the time of the walkover survey, and current information about the Scheme available at the time. If information on the Scheme should change, the Site may need to be re-visited to establish if there are any further ecological constraints arising from changes to the design.

2. Methodology

2.1. Desk Study

In June 2019 the Sussex Biodiversity Records Centre (SBRC) was contacted to obtain records of bats within 2km of the Site. In addition, the Multi-Agency Geographic Information for the Countryside (MAGIC) website[4] was reviewed for statutory designated sites (statutory sites only) within 5 km of the Site e.g. Sites of Special Scientific Interest (SSSIs) and Special Areas of Conservation (SACs). Designated sites can be of importance to bats and can be partly or fully designated for supporting particular bat species.

2.2. Building Inspections

The assessment of potential roosting sites for bats detailed below, was undertaken in accordance with good practice guidance[5] and CIEEM competencies for undertaking bat surveys[6]. The survey was undertaken by Atkins Ecologists. Visual examinations of buildings within the Survey Area were undertaken from the ground, during daylight hours and were aided with the use of binoculars and a bright torch. The surveyors looked for features such as cracks, crevices and voids within each building. The assignment of bat roost potential was carried out according to good practice guidance[7], which assigns each feature either Negligible, Low, Moderate or High suitability for roosting bats.

Table 1 - Guidelines for assessing the potential bat suitability of proposed development sites.

Suitability	Description for Roosting Habitats[8]
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these 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 larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
Medium	A structure or tree 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 (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger number of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

2.3. Survey Limitations

Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. Therefore, the absence of evidence of any

[4] The Multi-Agency Geographic Information for the Countryside (MAGIC) Available on at: www.magic.gov.uk. Accessed in June 2019.
[5] Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). The Bat Conservation Trust, London.
[6] CIEEM (April, 2013) Competencies for Species Survey: Bats.
[7] Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). The Bat Conservation Trust, London.
[8] Descriptions for roosting habitats have been lifted from guidance published in Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). The Bat Conservation Trust, London.

species should not be taken as conclusive proof that the species is not present or that it will not be present in the future.

It was not possible to access the eastern/north-eastern side of Building 6, due to placement immediately adjacent to Building 3 and the presence of a fence to the rear of Building 3. The lack of access does not act as a limitation as the placement of the building and the presence of the fence would prevent access to bats on the eastern/north-eastern side of the building.

3. Results

3.1. Desk Study

SBRC returned recent records for ten species of bat (whiskered, noctule, Daubenton's, Natterers, brown long-eared bat, common pipistrelle, Nathusius pipistrelle, soprano pipstrelle, Brandts and serotine) in addition to unidentified species of Myotis, pipstrelle, long-eared bat, and whiskered/Brandts bat within 2 km of the Site[9].The closest of these records were 150 m north west of the Site in 2010 for a pipistrelle species and 2013 for a long-eared bat species, both during building inspections on Ferndale Road, Burgess Hill and both records including unspecified roosts.

There are recent roost records within 2 km of the Site for Natterer's bat, common pipistrelle, unidentified pipistrelle, serotine bat, brown long-eared bat and whiskered/Brandt's bat. This includes 17 hibernacula roosts, 15 unspecified roosts and two maternity roosts.

Table 2 below, details five designated sites located within 5km of the Site. None of the sites identified were fully or partly designated for supporting bats.

Table 2 - Summary of Designated Sites within 5km of the Site.

Site Name and Designation	Location of Designated Site	Features of Interest
South Downs National Park	Approximately 0.6km south of the Site.	The South Downs National Park covers over 1600 square kilometres, including areas of rolling hills, heathland, river valleys, ancient woodland and the iconic white cliffs of the Heritage Coast.
Ditchling Common SSSI	Approximately 1km east of the Site.	A large area which formerly supported very species-rich acid grassland. Variable drainage and past management of the site have led to a diversity of habitats. An acidic heath grassland dominates but ungrazed areas consist of bracken, scrub and woodland. Streams dissect the site, although all but one are seasonally dry, and there is a small pond. Butterfly and moth populations are of importance and the site is locally valuable for breeding birds. Whist our Site is within the SSSI Impact Zone for Ditchling Common, the Scheme does not fulfil any requirements which would indicate the need for Natural England to be consulted.
Bedelands Farm Local Nature Reserve (LNR)	Approximately 2.4km north of the site.	Habitats include wildflower meadows, grazed meadows, wetlands, ancient hedgerows and woodland.
Ashenground and Bolnore Woods LNR	Approximately 4km south of the site.	The woodland consists of relix stands of hornbeam, ash and hazel coppice, with oak and mature beech also common. The woodland supports a wide variety of bats and birds including woodpeckers and owls.
Clayton to Offham Escarpment SSSI	Approximately 5km southeast of the Site.	This large site lies on the chalk escarpment and dip slope of the South Downs. The nationally uncommon chalk grassland habitat dominates much of the site but woodland and scrub is better represented here than the other chalk sires in East Sussex. The site supports a rich community of breeding birds including all three British woodpeckers, tawny owl and a variety of warblers and tits. Over one hundred and eighty species of moth occur and thirty-three species of butterfly.

[9] The predicted Ecological Zone of Influence of the Scheme on this species.

3.2. Building Inspections

In the previous Ecological Constraints Report completed by Atkins in July 2019[10], ten buildings, one tree and two tree groups were identified as possessing potential roosting features. In addition, a species-rich hedge with interspersed trees adjacent to the large area of green space was also identified as providing habitat suitable for foraging and commuting bats on the Site.

Building 2 was the only building subject to an external building inspection in June 2019. The remaining nine buildings were subjected to external building inspections in August 2019. Table 3 below, details the features associated with the nine buildings surveyed on the Site, that have the potential to support roosting bats.

Please note, further details regarding Building 2 including further survey recommendations are detailed in the Ecological Constraints Report issued by Atkins in 2019[11].

Table 3 - Summary of Bat Roosting Potential on the Site.

Feature with Bat Potential	Date of Building Inspection	Description of Feature and Location[12]	Suitability Potential[13]
Building 1	30/08/2019	The caretakers house on the northern edge of the Site. All uPVC windows and doorframes visible were in good condition and well-sealed throughout. The roof possessed several slipped/raised roof tiles, with each having created a 2cm – 3cm access point, located 3m from ground level (Photograph 1). This building is not due to be impacted by the works.	Low
Building 3	30/08/2019	The main school building. All windows and doorframes visible were in good condition and were well-sealed throughout. The building possessed numerous gaps between the soffit boards and walls, approximately 1cm in width and up to 10cm long, located 3m from ground level (Photograph 5).	Low
Building 4	30/08/2019	Three sheds on the west of the Site, constructed from wood and bitumen felted roofs. All three sheds were in good condition and well-sealed throughout. The structures possessed no noticeable features suitable for roosting bats.	Negligible
Building 5	30/08/2019	Shed on the west of the Site, adjacent to the basketball court, constructed from wood with a bitumen felted roof. The shed was in good condition and well-sealed throughout. The structure possessed no noticeable features suitable for roosting bats.	Negligible

[10] A separate Ecological Constraints and Opportunities Assessment document has been prepared by Atkins for the playing field Site at Woodlands Meed College: Atkins (2019) Woodlands Meed College, Burgess Hill – Ecological Constraints and Opportunities Assessment.
[11] A separate Ecological Constraints and Opportunities Assessment document has been prepared by Atkins for the playing field Site at Woodlands Meed College: Atkins (2019) Woodlands Meed College, Burgess Hill – Ecological Constraints and Opportunities Assessment.
[12] All photographs refer to Appendix C.
[13] Buildings have been classified as having Negligible, Low, Moderate or High potential to support roosting bats, or as a Confirmed roost.

Feature with Bat Potential	Date of Building Inspection	Description of Feature and Location[12]	Suitability Potential[13]
Building 6	30/08/2019	Small prefab type building, south of the main school building (Building 3), clad with plastic sheets, with a flat roof. The building was in good condition and well-sealed throughout. The structure possessed no noticeable features suitable for roosting bats. Please note, there was no access to the eastern/north-eastern side of the building.	Negligible
Building 7	30/08/2019	A building clad with plastic sheets, with uPVC fixtures including window frames and soffits. The building possessed numerous gaps between the soffit boards and walls, providing access points up to 10cm x 1cm in size. A total of five gaps were identified between the soffit boards and walls across all aspects of the building (Photograph 5).	Low
Building 8	30/08/2019	School building on the southeast of the Site, clad with plastic sheets with a flat roof and fitted with uPVC fixtures including window frames and soffits. The building possessed crawl space between the wall and soffit box, with an access point of 1 cm wide, approximately 3m from ground level (Photograph 5). Access into the soffit box was also possible through a fallen vent, approximately 3m from ground level (Photograph 2).	Low
Building 9	30/08/2019	Shed in good condition towards the south of the Site, constructed from wood with a flat roof. The structure possessed no noticeable features suitable for roosting bats.	Negligible
Building 10	30/08/2019	A school building constructed from wood with a flat roof, located on the southern boundary of the Site. Netting had been fitted underneath the wooden soffit board to the wall, however a hole in the netting created a 15cm x 5cm access point, approximately 3m from ground level (Photograph 4). A 2cm x 3cm hole in the wall provided another entry point, approximately 1m from ground level (Photograph 3).	Low

4. Conclusion

Based on the results of the building inspections and to ensure there are no adverse impacts to any roosting bats, the following is recommended:

- Building 1 is not anticipated to be impacted by the works and therefore the building requires no further surveys;
- Buildings 4, 5, 6 and 9 were assessed as providing negligible roosting potential for bats and therefore the buildings do not require further surveys;
- Buildings 3, 7, 8 and 10 were assessed as providing low roosting potential for bats and therefore at least one dusk emergence survey or dawn re-entry survey will be required of each building between May and August, prior to the proposed construction period. The survey should be carried out in accordance with BCT guidance, to determine presence/likely absence of roosting bats and the requirement for further surveys and/or an EPSM licence;
- Ecological constraints and associated recommendations regarding bats for the remainder of the site are detailed in the Ecological Constraints Report issued by Atkins in 2019[14];

Due to the mobility of animals and the potential for colonisation of the Site, it is recommended that an updated ecological survey be undertaken prior to the redevelopment of this Site should this not occur within 12 months of the date of this survey.

[14] A separate Ecological Constraints and Opportunities Assessment document has been prepared by Atkins for the playing field Site at Woodlands Meed College: Atkins (2019) Woodlands Meed College, Burgess Hill – Ecological Constraints and Opportunities Assessment.

Appendices

Appendix A. Site Location Plan and Extended Phase 1 Habitat Survey Plan

Figure A-1 - Site Location Plan.

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Legend

Site Boundary

Basemap: Google.cn Satellites

0 25 50 75 100 m

Atkins Limited © Woodcote Grove Ashley Road Epsom Surrey KT18 5BW	Project: Woodlands Meed School and Woodlands Meed College, Burgess Hill	Title: Woodlands Meed College Site Location Plan	Drawn by: GG	Checked by: VG	Reviewed by: VH	Original scale: 1:3000
	Client: West Sussex County Council	Drawing number: Figure A-1	Date: 12/06/2019	Date: 25/06/2019	Date: 12/07/2019	

Figure A-2 – Phase 1 Habitat Survey Plan.

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Legend

- Site Boundary
- Tree
- Target notes
- Species-poor intact hedge
- Species-rich hedge with trees
- A — Amenity grassland
- Introduced shrub
- Bare ground
- SI — Semi-improved grassland
- Hardstanding
- Buildings

Basemap: OpenStreetMap

0 20 40 60 80 m

Atkins Limited © Woodcote Grove Ashley Road Epsom Surrey KT18 5BW	Project: Woodlands Meed School and Woodlands Meed College, Burgess Hill	Title: Woodlands Meed College Site Phase 1 Survey Plan	Drawn by: GG	Checked by: VG	Reviewed by: VH	Original scale: 1:2300
	Client: West Sussex County Council	Drawing number: Figure C-1	Date: 12/06/2019	Date: 25/07/2019	Date: 12/07/2019	

Appendix B. Summary of Relevant Ecological Legislation

Species	Legislation	Offences	Licensing procedures and guidance
Bats *European protected species*	Conservation of Habitats and Species Regulations 2017 Reg 43	Deliberately[15] capture, injure or kill a bat; deliberate disturbance[16] of bats; or damage or destroy a breeding site or resting place used by a bat. [The protection of bat roosts is considered to apply regardless of whether bats are present.]	A Natural England (NE) licence in respect of development is required. Guidance documents: *NE Standing Advice for protected species 2013* *European Protected Species: Mitigation Licensing- How to get a licence* (NE 2013) *Bat Mitigation Guidelines* (English Nature 2004) *Bat Workers Manual* (JNCC 2004)
	Wildlife and Countryside Act 1981 (as amended) S.9	Intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb[17] a bat in such a place.	Licence from NE is required for surveys (scientific purposes) that would involve disturbance of bats or entering a known or suspected roost site.

[15] Deliberate capture or killing is taken to include "accepting the possibility" of such capture or killing

[16] Deliberate disturbance of animals includes in particular any disturbance which is likely a) to impair their ability (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of hibernating or migratory species, to hibernate or migrate; or b) to affect significantly the local distribution or abundance of the species to which they belong.

[17] Lower levels of disturbance not covered by the Conservation of Habitats and Species Regulations 2017 remain an offence under the Wildlife and Countryside Act 1981 although a defence is available where such actions are the incidental result of a lawful activity that could not reasonably be avoided.

Appendix C. Photographs

Photograph Number	Description	Photographs
1	Slipped/raised tiles on the roof of Building 1. Multiple entry points of 2-3cm, approximately 3m from ground level.	
2	Fallen vent fitted underneath the soffit box of Building 8, approximately 3m from ground level. Large single-entry point.	
3	Hole in exterior wall of Building 10. Single entry point of 2cm x 3cm, approximately 1m from ground level.	

Photograph Number	Description	Photographs
4	Hole within the protective netting fitted between the soffit box and wall of Building 10. Single entry point of 15cm x 5cm, approximately 3m from ground level.	
5	Examples of multiple entry points between soffit boxes and walls, identified on numerous buildings on the Site.	 

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Ecological Constraints and Opportunities Assessment

West Sussex County Council

July 2019

Notice

This document and its contents have been prepared and are intended solely as information for West Sussex County Council and use in relation to the proposed demolition of existing Woodlands Meed College buildings and subsequent construction of replacement buildings on the same Site.

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This document has 63 pages including the cover.

Document history

Revision	Purpose description	Origin-ated	Checked	Reviewed	Author-ised	Date
Rev 1.0	Draft for Client Review	GG	VG	VH	DA	15.07.2019

Client signoff

Client	West Sussex County Council
Project	Woodlands Meed College, Burgess Hill
Job number	5188668
Client signature / date	

Contents

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Figures

1. Introduction

1.1. Terms of Reference

Atkins (member of the SNC Lavalin Group) was commissioned by West Sussex County Council to assess the ecological constraints in connection with the proposed re-development of Woodlands Meed College. The proposed works include demolition of existing buildings and subsequent construction of replacement buildings on the same site (hereafter referred to as the Scheme). The Scheme is located in the heart of Burgess Hill, a town located in West Sussex, as identified by the red line boundary on Figure A-1 in Appendix A (hereafter referred to as the Site).

The assessment of ecological constraints has been undertaken with reference to current good practice[1] and forms part of the technical information commissioned by West Sussex County Council in connection with the Scheme.

Following the principles of the mitigation hierarchy[2] and British Standard (BS) 42020:2013[3], opportunities to provide biodiversity enhancements[4] have been outlined. Consideration has been given to how the Scheme could best contribute to delivering local biodiversity priorities, such as those priority habitats[5] identified in the Mid-Sussex District Plan 2014 - 2031[6]. In particular, the District Plan supports the protection of trees, woodland and hedgerows and requires developments to take these into account during the design and landscaping of any scheme. The District Plan also promotes the restoration, management and expansion of priority habitats in the District. This report is intended for advice in respect of project design, site layout and/or site investigation. Further ecological surveys and/or ecological impact assessment may be required in connection with a planning application or to contribute to an Environmental Impact Assessment.

1.1.1. The Site

The Site is located in the heart of Burgess Hill, West Sussex, at Ordnance Survey National Grid Reference (OSNGR) TQ 32155 18389. It sits within a large residential area and is bordered by residential properties to the north, south and west. The eastern boundary of the site lies adjacent to Birchwood Community Primary School. Both educational facilities combined create a large area of green space within a predominantly residential area.

The Site is approximately 1.6 hectares and contains buildings, hard standing, amenity grassland, scattered trees, and areas of introduced shrub.

1.1.2. The Scheme

The proposed work involves the demolition of existing buildings on the Site. These are to remain open until either a new College is available for occupation at the same Site, or alternatively temporary school buildings are available on the Site of Woodlands Meed School[7].

The Scheme Site Viability Options for Woodlands Meed College are shown on Figure A-2 in Appendix A. Landscaping of the Site is also proposed in this Figure.

1.1.3. Scope of the Assessment

This report presents ecological information obtained during the following:

- A desk-study undertaken in June 2019; and,
- A walkover survey of accessible land within and adjacent to the Site on 5th June 2019.

[1] Chartered Institute of Ecology and Environmental Management (2017) Guidelines for Preliminary Ecological Appraisal.
[2] The mitigation hierarchy seeks preferentially to avoid impacts, then to mitigate unavoidable impacts, and as a last resort to compensate for residual impacts that remain after avoidance and mitigation measures.
[3] British Standards Institution (2013). British Standard 4020:2013. Biodiversity – Code of practice for planning and development.
[4] Enhancements are additional to any measures necessary to deal with potential impacts on site, as they are an opportunity to provide new benefits for biodiversity as a consequence of the development being implemented (BS 4020:2013).
[5] Priority habitats are taken as principal habitats for the conservation of biodiversity listed under Section 41 of the Natural Environment and Rural Communities Act 2006.
[6] West Sussex County Council (Adopted 2018) Mid-Sussex District Plan 2014 – 2031. This can be found at https://www.midsussex.gov.uk/media/3406/mid-sussex-district-plan.pdf [Last accessed 12/06/2019]
[7] A separate Ecological Constraints and Opportunities Assessment document has been prepared by Atkins for the playing field Site at Woodlands Meed School: Atkins (2019) Woodlands Meed School, Burgess Hill – Ecological Constraints and Opportunities Assessment.

The walkover survey and identification of potential ecological constraints was based on the condition of the Site and its immediate surrounds encountered at the time of the walkover survey, and current information about the Scheme available at the time. If information on the Scheme should change, the Site may need to be re-visited to establish if there are any further ecological constraints arising from changes to the design.

The report provides an initial appraisal of any likely ecological constraints upon protected species and other features of ecological interest. It identifies the need for any measures to avoid or mitigate damage and disturbance to habitats and species, and provides recommendations for further ecological survey as required.

The Ecological Zone of Influence (EZoI)[8] of the Scheme applied during the data gathering and assessment of potential ecological constraints, and the assessment methodology for assessing ecological constraints, are described in Appendix B.

Specific survey limitations are also described in Appendix B .

[8] The EZoI is an area defined by the assessment in which there may be ecological receptors subject to impacts and subsequent effects as a result of the Scheme.

2. Constraints and Recommendations

2.1. Designated Sites and Ancient Woodland

Table 1 and Table 2 summarise the statutory designated sites and non-statutory designated sites (respectively) within the predicted EZoI of the Scheme (See Appendix B for Assessment Methodology). There are no parcels of ancient woodland[9] and no veteran trees listed on the Woodland Trust Ancient Tree Inventory[10] within the predicted EZoI of the Scheme.

Table 1 – Statutory Designated Sites within the Site and/or EZoI of the Scheme

Site Name and Designation	Location of Designated Site[11]	Features of Interest[12]
South Downs National Park (SDNP)	Approximately 580 m south east of the Site.	The SDNP covers over 1600 square kilometres, including areas of rolling hills, heathland, river valleys, ancient woodland and the iconic white cliffs of the Heritage Coast.
Ditchling Common Site of Special Scientific Interest (SSSI)	Approximately 1 km east of the Site.	A large area which formerly supported very species-rich acid grassland. Variable drainage and past management of the site have led to a diversity of habitats. An acidic heath grassland dominates but ungrazed areas consist of bracken, scrub and woodland. Streams dissect the site, although all but one are seasonally dry, and there is a small pond. Butterfly and moth populations are of importance and the site is locally valuable for breeding birds. Whist our Site is within the SSSI Impact Zone for Ditchling Common, the Scheme does not fulfil any requirements which would indicate the need for Natural England to be consulted.

[9] This has been confirmed using both MAGIC and through using A revision of the Ancient Woodland Inventory for Mid Sussex District, West Sussex - Report and Inventory Maps, Revised February 2007. This can be found at https://www.midsussex.gov.uk/media/2190/ancient-woodland-inventory-revision-2006.pdf [Last accessed 10/07/2019]

[10] Woodland Trust (2019) Ancient Tree Inventory. This can be found at: https://ati.woodlandtrust.org.uk/tree-search/?v=1458694&ml=map&z=13&nwLat=53.41418947331978&nwLng=-1.5799482812500365&seLat=53.348042838062426&seLng=-1.3602217187500365 (Last accessed 17/06/2019). It must be noted that the Woodland Trust Ancient Tree Inventory is a living database of ancient trees, which anyone can add data to, with a verification process to ensure accuracy and that no records could mean no one has submitted data rather than no veteran trees are present.

[11] Where designated sites are situated outside of the Site boundary, the distance and direction is given at the closest point of the designated site from the Site

[12] The information on the features of interest of each designated site was obtained from the following:

1) South Downs National Park Authority - South Downs National Park: Special Qualities. This can be found at: https://www.southdowns.gov.uk/wp-content/uploads/2015/03/SDNP-Special-Qualities.pdf [Last accessed 17/06/2019]
2) Natural England – Ditching Common Citation. This can be found at: https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1002188.pdf [Last Accessed 17/06/2019]

Table 2 – Non-Statutory Designated Sites within the Site and/or EZoI of the Scheme

Site Name and Designation	Location of Designated Site[13]	Features of Interest[14]
Burgess Hill Railway Lands Local Wildlife Site (LWS)	Approximately 975 m north west of the Site.	The site consists of a series of meadows which adjoin the railway near Wivelsfield Station on the edge of Burgess Hill. The railway embankment has secondary oak and ash woodland with abundant young sycamore and shrubs. These areas provide cover and feeding sites for small birds and mammals. The grassland is of value for butterflies.
Keymer Tile Works LWS	Approximately 460 m north east of the Site.	This is a working clay pit which supports a matrix of successional habitats ranging from temporary pools and bare clay through unimproved grassland to dense scrub, deciduous woodland and willow carr. It is a very varied site of particular importance for breeding amphibians. Five species of amphibians breed here, with reasonable numbers of common toad and high numbers of great crested newt. Freshwater mussels are found in many of the most recently dug pools. Two older ponds have developed marginal vegetation including some reedbeds of *Phragmites australis* that will be of importance to invertebrates and birds.

It is understood that all work associated with the Scheme will be restricted to the land within the Site boundary only. All designated sites listed in Table 1 and Table 2 are separated from the Site by urban infrastructure, predominantly made up of residential houses. Due to the presence of urban infrastructure, the distance between the designates sites and the Site and the absence of hydrological connections between these designated sites and the Site, these designated sites are not anticipated to be affected by the Scheme. As a result, no recommendations are provided in relation to designated sites.

2.2. Notable Habitats

There are three parcels of deciduous woodland within the predicted EZoI of the Scheme (see Appendix B for assessment methodology). The closest of these is 460 m west of the Site. All three parcels of woodland are separated from the Site by urban development comprised of residential

[13] Where designated sites are situated outside of the Site boundary, the distance and direction is given at the closest point of the designated site from the Site

[14] The information on the features of interest of each non-statutory designated site was obtained from a Sussex Biodiversity Record Centre data search: Sussex Biodiversity Record Centre (2019) Ecological data search for land at Woodlands Meed College, Burgess Hill (Report reference: SxBRC/19/242)

properties and roads. Due to the presence of urban infrastructure, the distance between the woodlands and the Site and the absence of hydrological connections between these woodlands and the Site, no impacts are anticipated to these notable habitats as a result of the Scheme.

Recommendations

Whilst no impacts on these notable habitats are anticipated, it is recommended that standard pollution control measures are put in place during construction. This should be done with regard to the Pollution Prevention Guidelines (PPGs)/Guidance on Pollution Prevention (GPPs)[15] and the Construction Industry Research and Information Association (CIRIA) guidance on the control of pollution from construction sites[16]. These detail good practice advice for undertaking works that may have the potential to cause pollution.

2.3. Main Habitats Within and Adjacent to the Site

The main habitats present within the Site and the predicted EZoI of the Scheme (see Appendix B for assessment methodology) are listed in Table 3 below. Habitats within the Site are indicated on the extended Phase 1 habitat survey plan in Figure C-1 in Appendix C with specific features highlighted by Target Notes (TN) on the drawing. TN descriptions are also provided in Appendix C.

Table 3 – Main habitats within and immediately surrounding the Site

Habitat Type	Habitat Description and Location[17]	Relevant Target Notes
Hardstanding	The Site is predominantly hard standing, made up of a car park, internal school road, playground and pathways around the Site.	TN1, TN7, TN13, TN15, TN21, TN22
Semi-improved grassland	Two areas of semi-improved grassland are found on the west of the Site. The north west parcel of this habitat includes an area adjacent to the car park which is mown and used as an extended car park as well an area adjacent to the western boundary of the Site which is unmown rough grassland of at least 30 cm in height, including cleavers, a few nettles, rough grassland and various weeds. The south west parcel of this habitat is located around a fire pit area and includes dock, cleavers and rough grassland.	TN8, TN9, TN12, TN17
Species-poor intact hedgerow	Species-poor intact hedgerow is predominantly found on the north west side of the Site, at the front of the school. However, there are other areas of this habitat adjacent to the south side of the basketball court, to the north of the main school building and around the caretakers house.	TN9, TN20

[15] Pollution Prevention Guidelines (PPGs) are out of date and a review process is currently underway to replace them with Guidance for Pollution Prevention (GPPs). These documents are available at http://www.netregs.org.uk/environmental-topics/pollution-prevention-guidelines-ppgs-and-replacement-series/guidance-for-pollution-prevention-gpps-full-list/. GPPs provide environmental good practice guidance for the whole UK, and environmental regulatory guidance directly to Northern Ireland, Scotland and Wales only. For businesses in England, regulatory guidance is available from GOV.UK instead.
[16] The CIRIA documents are a series of publications developed by the Construction Industry Research and Information Association. Each document is targeted at a particular type of business or activity and covers environmental good practice to minimise pollution.
[17] Where habitats situated outside of the Site boundary, the distance and direction is given at the closest point of the habitat from the Site

Habitat Type	Habitat Description and Location[17]	Relevant Target Notes
Species rich hedgerow and trees	There is an area of species rich hedgerow and interspersed trees on the south west of the Site, adjacent to the playing field.	TN19
Bare Ground	There is one circular area of bare ground where the fire pit is located. Whilst there is weed growth apparent and a years growth of yellow composites. No habitat has formed yet.	TN17
Introduced shrub	Introduced shrub is found adjacent to school buildings in various areas around the Site.	TN5
Amenity grassland	The playing field is the main area of amenity grassland on the Site. There are further areas scattered around the school, adjacent to the car park and around the outside of the main school building.	TN5, TN7, TN11, TN13, TN15, TN16, TN19, TN20, TN21, TN24
Scattered broadleaved trees	There are scattered broadleaved trees within and adjacent to the Site. Species present include mature willow on the north of the Site, within the car park, as well as silver birch, ash and oak trees in residential properties adjacent to the Site, to the north west and south respectively. There is also a mature pine tree outside the north west boundary of the Site.	TN6, TN8, TN12, TN18, TN19, TN20, TN21
Buildings	The buildings on the Site consist of one main central school building, in addition to three further buildings to the south of the main building and a number of small sheds. There is also an old brick barn and caretakers house on the north of the Site. The barn was the only building found to have potential to support roosting bats. The remainder of the buildings have negligible potential to support roosting bats.	TN1, TN2, TN3, TN4, TN5, TN7, TN11, TN13, TN22, TN23

Recommendations

Due to the anticipated loss of habitats within the Site and the potential for damage to habitats adjacent to the Site, the following is recommended:

- Loss of trees to be minimised as far as possible and replacement of any removed trees with native species of local provenance on a ratio of at least 1:1;
- Any retained trees within the Site should be protected in accordance with BS 5837:2012. Trees in relation to design, demolition and construction – Recommendations[18]; and,
- All clearance and construction works should be undertaken with regard to the PPGs/GPPs and CIRIA guidance on the control of pollution from construction sites. These detail good practice advice for undertaking works that may have the potential to cause pollution.

[18] British Standard BS 5837:2012. Trees in relation to design, demolition and construction. – Recommendations. BSI Standards Limited 2012.

For recommendations relating to notable species which may be associated with habitats at the Site, refer to Section 2.4.

2.4. Notable Species

Evidence of notable species[19], or habitats with the potential to support notable species have been highlighted by TNs, which are indicated on the extended Phase 1 habitat survey plan in Figure C-1 in Appendix C. TN descriptions are provided in Appendix C.

2.4.1. Great Crested Newt

Sussex Biodiversity Records Centre (SBRC) returned no recent[20] records of great crested newts being present within 500 m of the Site (the predicted EZoI of the Scheme on this species). The desk study highlighted a total of six ponds within 500m of the Site, which based on publicly accessible aerial imagery, exhibit features suitable for great crested newts[21].

Table 4 below details the features within the EZoI of the Scheme, identified using Ordnance Survey maps (as described in Section B.2) that have the potential to support breeding populations of great crested newts.

Table 4 - Summary of Great Crested Newt Potential within the EZoI of the Scheme

Feature with Great Crested Newt Potential	Location of Feature[22]	Connectivity to the Site	Further Surveys Required
P1	Approximately 245 m north west of the Site	There are two roads and several residential properties acting as a barrier to amphibian dispersal between P1 and the Site.	None
P2	Approximately 36 m east of the Site	Located in the grounds of the adjacent Birchwood Grove County Primary School. Amphibians such as great crested newts could easily travel between P2 and the Site. TN 17 on Figure C-1 in Appendix C shows the eastern border of the Site, adjacent to Birchwood Grove County Primary School. There is only a mesh barrier between the Sites. As such if great crested newts are present in P2, there would be no barrier to stop them entering terrestrial vegetation on the Site.	An Environmental DNA (eDNA) survey was recommended[23]. The results of this came back negative for the presence of great crested newt. No further surveys are recommended.

[19] Notable species are taken as principal species for the conservation of biodiversity listed under Section 41 of the Natural Environment and Rural Communities Act 2006; any species listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended); any species listed under Schedule 2 or Schedule 4 of the Conservation of Habitats and Species Regulations 2010 (as amended); any species listed in an IUCN Red Data Book; and any other species listed under the Mid-Sussex District Plan.
[20] For the purposes of this assessment, a recent record is one that has been recorded in the last 10 years of the date of this assessment.
[21] Suitable features include the size of the waterbody, adjacent terrestrial habitat, and the presence of aquatic vegetation. Great crested newts tend to favour waterbodies 50 m² to 250 m² in size, with extensive aquatic vegetation with adjacent terrestrial habitat consisting of grassland, scrub and woodland (Great Crested Newt Conservation Handbook, Froglife, 2001).
[22] Where a feature is situated outside of the Site boundary, the distance and direction is given at the closest point of the feature from the Site
[23] eDNA makes use of the concept that small amounts of nuclear or mitochondrial DNA can be released from an organism in the environment. eDNA survey techniques can detect the presence of great crested newts in a given waterbody.

Feature with Great Crested Newt Potential	Location of Feature[22]	Connectivity to the Site	Further Surveys Required
P3	Approximately 395 m south east of the Site. The most eastern pond of a cluster of three large ponds present at Wintons Fishery.	There are three roads, including the B2113, and several residential properties acting as a barrier to amphibian dispersal between P3 and the Site. If this pond is stocked with fish it is unlikely that great crested newts will be present.	None
P4	Approximately 400 m south east of the Site. The most northern pond of a cluster of three large ponds present at Wintons Fishery.	There are three roads, including the B2113, and several residential properties acting as a barrier to amphibian dispersal between P4 and the Site. If this pond is stocked with fish it is unlikely that great crested newts will be present.	None
P5	Approximately 495 m south east of the Site. The most southern pond of a cluster of three large ponds present at Wintons Fishery.	There are three roads, including the B2113, and several residential properties acting as a barrier to amphibian dispersal between P5 and the Site. If this pond is stocked with fish it is unlikely that great crested newts will be present.	None
P6	Approximately south east of the Site. A small pond between the three larger ponds which are a part of Wintons Fishery.	There are three roads, including the B2113, and several residential properties acting as a barrier to amphibian dispersal between P6 and the Site. If this pond is stocked with fish it is unlikely that great crested newts will be present.	None

There are also three linear waterbodies located within 500 m of the Site. These are located 320 m south of the Site, 450 m south east of the Site and 370 m east of the Site. Great crested newts are known to have a preference for breeding in still water (although these waterbodies have not been surveyed and may contain sections of still water) furthermore these watercourses are all separated from the site by multiple roads and several residential properties, acting as a barrier to great crested newt dispersal.

Great crested newts typically use suitable terrestrial habitat with dense cover such as scrub, rough grassland, and woodland, up to 500 m from a breeding pond. However, there is a notable decrease

in great crested newt abundance beyond a distance of 250 m from a breeding pond[24]. As such, due to their distance and lack of habitat connectivity to the Site indicated in Table 4, Ponds 1, 2, 4, 5 and 6 have all been scoped out.

A Habitat Suitability Index (HSI) assessment and environmental DNA (eDNA) survey were recommended to be undertaken for Pond 2 between mid-April and end-June. An HSI score of 0.69 was obtained, indicating good suitability for Pond 2 to support great crested newts. The eDNA survey found no evidence for the presence of great crested newts in Pond 2. No additional surveys, mitigation or European Protected Species (EPS) mitigation licences are therefore required.

Recommendations

Due to the close proximity of Pond 2 to the Site and the anticipated loss of suitable terrestrial habitats for great crested newts within the Site, the following is recommended:

- The proposed works, site access, tracked machinery and temporary storage of materials should be kept to existing paths, trackways and short grassland to avoid encroaching into potential great crested newt habitats as far as possible; and
- Vegetation removal should be kept to the minimum required to enable the Scheme.

2.4.2. Bats

SBRC returned recent records for nine species of bat (whiskered, noctule, Daubenton's, Natterers, brown long-eared bat, common pipistrelle, Nathusius pipistrelle, soprano pipstrelle, and serotine) in addition to unidentified species of Myotis, pipstrelle, long-eared bat, whiskered/Brandts bat and Brandts bat within 2 km of the Site (the predicted EZoI of the Scheme on this species). The closest of these records were 150 m north west of the Site in 2010 for a pipistrelle species and 2013 for a long-eared bat species, both during building inspections on Ferndale Road, Burgess Hill and both records including unspecified roosts.

There are recent roost records within 2 km of the Site for Natterer's bat, common pipistrelle, unidentified pipistrelle, serotine bat, brown long-eared bat and whiskered/Brandt's bat. This includes 17 hibernacula roosts, 15 unspecified roosts and two maternity roosts.

Table 5 below details the features within the Site, that have the potential to support roosting bats.

Table 5 - Summary of Roosting Bat Potential within the Site

Feature with Bat Potential	Description of Feature and Location[25][26]	Relevant Target Notes
Building 1	This is the caretakers house on the northern edge of the Site. All windows and doorframes visible throughout the caretaker's house are in good condition and well-sealed. A full building inspection was not undertaken and a full building inspection by a bat licensed ecologist will be required.	N/A
Building 2	An old brick barn used as storage on the north of the Site with several potential features which could provide potential access for bats. These include potential gaps between the wall and roofing throughout (Photo 3 in TN1), areas of light entering the roof of the building which could imply openings, visible when entering the southern end of the building (Photo 4 and Photo 5 in TN 1) and an approximately 10 cm hole in the brickwork on the east side of the building around 4 m from ground level (Photo 6 and Photo 7 in TN 2). This building is considered to be of high potential[27] for roosting bats.	TN1, TN2

[24] Great Crested Newt Mitigation Guidelines (English Nature, 2001).
[25] Where a feature is situated outside of the Site boundary, the distance and direction is given at the closest point of the feature from the Site
[26] All photos and TN notes refer to Figure C-1 in Appendix C
[27] Buildings have been classified as having Negligible, Low, Moderate or High potential to support roosting bats, or as a Confirmed roost. See Appendix B.4 for more details.

Feature with Bat Potential	Description of Feature and Location[2526]	Relevant Target Notes
Building 3	The main school building. All windows and doorframes visible throughout are in good condition and are well-sealed. A full building inspection was not undertaken and a full building inspection by a bat licensed ecologist will be required.	TN22
Building 4	Sheds on the west of the Site. A full building inspection was not undertaken and a full building inspection by a bat licensed ecologist will be required.	
Building 5	Shed on the west of the Site, adjacent to the basketball court. A full building inspection was not undertaken and a full building inspection by a bat licensed ecologist will be required.	
Building 6	Small prefab type building, south of the main school building (Building 3). A full building inspection was not undertaken and a full building inspection by a bat licensed ecologist will be required.	
Building 7	A building made of slightly different materials to that in the main building (Building 3) and with potential internal areas between external and inner walls where bats could roost. A full building inspection was not undertaken and a full building inspection by a bat licensed ecologist will be required.	TN22
Building 8	School building on the south east of the Site. A full building inspection was not undertaken and a full building inspection by a bat licensed ecologist will be required.	
Building 9	Shed towards the south of the Site. A full building inspection was not undertaken and a full building inspection by a bat licensed ecologist will be required.	
Building 10	A school building on the southern boundary of the Site. The joins between the walls and roof, where accessible, are well-sealed throughout. A full building inspection was not undertaken and a full building inspection by a bat licensed ecologist will be required.	
Tree 1	Semi-mature oak tree with a large amount of ivy cover to the rear of the fire pit area. Whilst the ivy itself is not considered a feature suitable for roosting bats, it may obscure the view of potential features (e.g. rot holes, or cracks) which could be used by bats. Due to this, the tree is considered to have low potential to support roosting bats.	TN18
Tree Group 2	Along the western border of the playing field, behind the shrubbery, there are scattered trees, largely with obstructed view due to the vegetation in front of them as well as the presence of ivy. As mentioned above, whilst these obstructions themselves are not considered a feature suitable for roosting bats, it may obscure the view of	TN19

Feature with Bat Potential	Description of Feature and Location[25][26]	Relevant Target Notes
	potential features (e.g. rot holes, or cracks) which could be used by bats. Due to this, these scattered trees are considered to have low potential to support roosting bats.	
Tree Group 3	Along the south eastern border of the Site, there are mature trees, including ash and oak. These trees all appear to be in good condition, with no visible cracks or crevices which could provide entry for bats to roost inside have been classified as having negligible potential to support roosting bats. However, we are only able to see one side of these trees due to them being in adjacent residential gardens. As such must be aware of this limitation.	TN20

In addition to the above, the species-rich hedge with interspersed trees adjacent to the large area of green space, in the form of a playing field, could provide optimum foraging habitat for a variety of bat species. Bats can benefit from hedges for as commuting and foraging routes. If this hedgerow is likely to be impacted, either through introduced lighting or removal, further surveys will be required. New buildings with new lighting sources may disrupt currently unlit corridors across the Site. Artificial lighting can cause problems for bats through the following[28];

- Delaying or preventing emergence from roosts;
- Bats abandoning or becoming entombed in the roost;
- Affecting the feeding behaviour of bats away from the roost; and,
- Affecting commuting and foraging routes.

Recommendations

To ensure there are no adverse impacts to any roosting bats the following is recommended:

- All buildings within the Site require full building inspections by a bat licensed ecologist;
- The old barn with high potential to support roosting bats should be subject to three dusk emergence surveys for bats scheduled to be undertaken prior to construction of the Scheme in order to determine the presence/likely absence of roosting bats and the requirement for further survey and/or a protected species mitigation licence, if necessary;
- Trees within the Site which have low potential to support roosting bats will require at least one bat emergence survey scheduled to be undertaken prior to construction of the Scheme in order to determine the presence/likely absence of roosting bats and the requirement for further survey and/or a protected species mitigation licence, if necessary;
- Where possible trees with bat potential should be avoided and protected with strict adherence to the British Standard BS 5837 (2012) Trees in relation to design, demolition and construction guidance[29]; and,
- Night time construction activities (taken to be from 30 minutes prior to sunset to 30 minutes following sunrise) should be avoided during the time of year bats are regularly active (April to October inclusive). If this is not possible, lighting should also be sensitive to bats, by minimising light spill and avoiding directional lighting on commuting or foraging habitats. Lighting should not illuminate buildings with low potential to support roosting bats surrounding the Site during night time or areas adjacent to where bat boxes are to be located. Lighting should be designed in accordance with Bat Conservation Trust (BCT) and the Institute of Lighting Professionals

[28] Bat Conservation Trust guidance on Lighting can be found at: https://www.bats.org.uk/about-bats/threats-to-bats/lighting [Last accessed 12/07/2019]

[29] British Standard BS 5837 (2012) Trees in relation to design, demolition and construction guidance – Recommendations, and The National Joint Utilities Group (NJUG) Guidelines for planning, installation and maintenance of utility apparatus in proximity to trees. A copy is available at: http://www.crawley.gov.uk/pub_livx/groups/operational/documents/plappcomment/ehfp2040459_attachment_1.pdf (last accessed 28/01/2019)

Guidance Note 08/18 Bats and artificial lighting in the UK Bats and the Built Environment Series (August 2018)[30].

2.4.3. Badger

SBRC returned no recent records of badgers being present within 500 m of the Site (the predicted EZoI of the Scheme on this species).

No evidence of badgers was recorded during the walkover survey. Due to the absence of recent records, field evidence, and the residential surroundings providing limited connectivity to suitable habitats nearby for foraging and commuting, and the completely flat environment, it is unlikely that badger setts would be present in the terrestrial habitat within and immediately adjacent to the Site. As a result, no recommendations are provided for this species.

2.4.4. Otter and Water Vole

SBRC returned no recent records of otter or water vole being present within 500 m of the Site (the predicted EZoI of the Scheme on this species).

Whilst there are three ditches within 500 m of the Site, due to the urban nature of the Site and absence of suitable watercourses/waterbodies within and adjacent to the Site, it is unlikely that otter or water vole will be present in the terrestrial habitat within and immediately adjacent to the Site.As a result, no recommendations are provided for these species.

2.4.5. Birds

SBRC returned 10 species of bird present within 500 m of the Site (the predicted EZoI of the Scheme on this species), all of which were recorded in 2015, with the closest recording being a red kite, 345 m north east of the Site. Recorded species include UK BAP species[31], birds on the UK Birds of Conservation Concern 4 Red List for Birds[32] and birds on Section 41 of the Natural Environment & Rural Communities Act 2006 in the England Biodiversity List.

A mature pine, with a potential birds nest near the top, was identified adjacent to the area west of the car park, just outside the Site boundary (TN 10 on Figure C-1 in Appendix C).

There is also a mature tree, south of the car park with bird feeders already installed (TN 10 on Figure C-1 in Appendix C).

An old bird's nest was found just inside the door on the west side of the old barn. The position of this is shown in TN1 and TN2 on Figure C-1 in Appendix C.

Mature trees such as those above, introduced shrub and the old barn within Site have the potential to support common species of nesting birds. No evidence of barn owl droppings or pellets were identified within the old barn and no entry points large enough for the entry of barn owls were found.

Recommendations

Due to the potential loss of habitat suitable for nesting birds and the potential for harm and disturbance to these species during construction, the following is recommended:

- Site clearance of vegetation should be undertaken outside of the core bird nesting period (March to August inclusive). If this is not possible, then site clearance will need to be carried out under a PMW in relation to nesting birds, which will involve an inspection of all vegetation to be cleared by a suitably qualified ecologist no more than 24 hours prior to clearance. If any nests are found, an appropriate buffer zone (dependent on species and location of the nest) will be put place around the nest until the chicks have fledged and the nest is no longer active. Birds can nest at any time of year. Therefore, the site clearance team should be vigilant to the potential for birds, such as pigeons, to nest all year round;

[30] Bat Conservation Trust (BCT) and the Institute of Lighting Professionals Guidance Note 08/18 Bats and artificial lighting in the UK Bats and the Built Environment Series (August 2018) can be found at https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/ (last accessed 26/03/2019)
[31] Bat Conservation Trust (BCT) and the Institute of Lighting Professionals Guidance Note 08/18 Bats and artificial lighting in the UK Bats and the Built Environment Series (August 2018) can be found at https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/ (last accessed 26/03/2019)
[31] A list of UK BAP bird species can be found at http://jncc.defra.gov.uk/page-5163 (last accessed 29/03/2019)
[32] Birds of Conservation Concern 4 (2015). A copy is available at: https://bto.org/sites/default/files/shared_documents/publications/birds-conservation-concern/birds-of-conservation-concern-4-leaflet.pdf (last accessed 03/02/2019)

- Once vegetation has been cleared, as part of standard maintenance operations or to enable surveys, it should be maintained to an appropriate height until construction. If the area is left to overgrow, nesting birds could return;
- Trees, introduced shrub and other nesting habitat lost should be replaced with similar, encompassing the same or greater area to ensure that there is no overall loss of nesting and foraging habitat for birds. Species planted should be native to the local landscape and/or considered to provide value to local wildlife (e.g. plants that contain fruit for birds and nectar for invertebrates); and,
- Any lighting that may be used during the proposed works should be directed away from vegetation (i.e. trees, shrub, scrub and areas of long grass) to minimise disturbance to nesting birds; and,
- Any bird feeders already present on Site should be replaced with similar before/if they are removed.

2.4.6. Hazel Dormouse

SBRC returned no recent records of hazel dormouse being present within 500 m of the Site (the predicted EZoI of the Scheme on this species).

No habitat suitable for hazel dormouse was recorded during the walkover survey. Hazel dormice are associated with scrub, hedgerows, deciduous woodland, coppice (often hazel) with thick shrubbery (providing refuge) and require good habitat connectivity (offering opportunities for dispersal and foraging). Given the absence of suitable vegetation within and adjacent to the Site and lack of connectivity to suitable habitat in the wider area, it is unlikely that hazel dormice will be present within the Site. As a result, no recommendations are provided for this species.

2.4.7. Common Species of Reptile

SBRC returned one recent record of reptiles being present within 500 m of the Site (the predicted EZoI of the Scheme on this species). This record is for an adult slow-worm 480 m south west of the Site, seen going into a drain cover from a patio, on Keymer Road in Burgess Hill.

Areas of long semi-improved grassland, to the west of the car park (TN9 on Figure C-1 in Appendix C) and in the area surrounding the fire pit on the west of the Site (TN17 on Figure C-1 in Appendix C), compost areas on the north (TN4 on Figure C-1 in Appendix C) and west of the Site (TN14 on Figure C-1 in Appendix C), and the shrubbery bordering the playing field on the west of the Site, could all provide suitable habitat for common species of reptile to forage, bask and possibly hibernate. There is also an area of amenity grassland and an in-built trampoline on the east of the Site (TN24 on Figure C-1 in Appendix C). The area under the trampoline could provide suitable habitat for common species of reptile for refuge and hibernation.

Recommendations

To protect individual reptiles that may be present, the following is recommended:

- If any vegetation clearance and earthworks is required, it should be carried out sensitively following a PMW, with all site staff aware of the potential to encounter reptiles and are provided with written information about what to do if a reptile is found, how to identify reptiles and how to handle reptiles if necessary; and
- If individual reptiles are found during the works, they will be left to move away from the work location of their own accord or be carefully picked up and moved away from the working area into adjacent suitable habitat.

2.4.8. Notable Invertebrates

SBRC returned three recent records of brown hairstreak butterflies being present within 500 m of the Site (the predicted EZoI of the Scheme for notable invertebrates). All three records were made in 2016, the closest being for an adult 345 m north east of the Site. This species was once widely distributed across central Europe, although having suffered a severe decline in both range and abundance, it is now only locally distributed across parts of southern England and south west Wales[33]. It is UK Biodiversity Action Plan (BAP) species and listed on Section 40 of the Natural Environment & Rural Communities (NERC) Act 2006 (as amended). However, it is unlikely that this

[33] Sussex Wildlife Trust (2018) Brown Hairstreak. This can be found at https://sussexwildlifetrust.org.uk/news/brown-hairstreak [Last accessed 19/06/2019]

Site has suitable habitat for brown hairstreak butterflies as they breed on the growth of blackthorn which is not abundant on the Site. An artificial bug habitat is currently located outside the front of the school, on the north east side of the main building (TN 6 on Figure C-1 in Appendix C).

Recommendations

To protect notable invertebrates and their habitat the following recommendations are made:

- Where possible, trees should be avoided, due to the brown hairstreak butterflies adult's preference to bask high up in the canopy of trees;
- The bordering shrub to the west of the playing field should be avoided where possible as areas such as these, sheltered woodland and hedgerows can provide suitable brown hairstreak egg laying habitat, where the larvae overwinter in egg form before pupating in early June or July[33]; and,
- Any current artificial bug habitats already present on Site should be replaced with similar with the planting of blackthorn encouraged.

2.4.9. Invasive Non-native Plant Species

SBRC returned recent records of two invasive non-native plant species within 500 m of the Site (the predicted EZoI of the Scheme for this species). These were Cherry Laurel and Japanese Rose. Whilst Japanese Rose is listed on Schedule 9 of the Wildlife and Countryside Act 1981, Cherry Laurel has been flagged even though it is not officially listed. No invasive non-native plant species were encountered during the walkover survey.

Recommendations

It is recommended that, throughout construction, site staff remain vigilant to the potential for non-native plant species being present.

2.4.10. Hedgehogs

SBRC returned nine recent records of western European hedgehog within 500 m of the Site (the predicted EZoI of the Scheme for other notable species), the closest of which is 120 m south of the Site.

Recommendations

To ensure there are no adverse impacts to any wildlife that may be commuting or foraging within the Site the following is recommended:

- All excavations created during the works should either have graded sides, a ramp, or be covered overnight to prevent animals becoming trapped within. Excavations should be checked in the mornings by the ecologist or ecological representative (as agreed with the client) for trapped animals prior to the commencement of work on Site. If a trapped animal is found, then the ecologist should be contacted immediately (a local wildlife rescue centre may also need to be contacted);
- Any wet concrete or grout should be allowed to dry prior to sunset. Failure to do so could results in animals becoming trapped. Areas which are not dry should be fenced off;
- Leave 'wild' areas suitable for foraging and sheltering of hedgehogs. Suitable habitat includes lawns for foraging, compost heaps and wood piles for nesting, nectar-rich plants for insect food and deciduous leaves for building nests. Further information can be found on the Hedgehog Street Campaign website[34]; and,
- Create hedgehog highways through fences and walls. Hedgehogs travel around one mile every night and enclosed gardens and walls reduce the amount of land available. Further information can be found on the Hedgehog Street Campaign website[35].

[34] Information on habitat creation suitable for hedgehogs can be found at: https://www.hedgehogstreet.org/help-hedgehogs/helpful-garden-features/ [Last accessed 19/06/2019]
[35] Information on hedgehog highways can be found at: https://www.hedgehogstreet.org/help-hedgehogs/link-your-garden/ [Last accessed 19/06/2019]

3. Opportunities for Biodiversity Enhancements

Based on the results of the preliminary walkover survey, following the principles of the mitigation hierarchy, and considering the local biodiversity priorities outlined in the Mid-Sussex District Plan[6], the following opportunities to provide biodiversity enhancements would be appropriate;

- Leave 'wild' areas suitable for foraging and sheltering of hedgehogs. Suitable habitat includes wood piles for nesting and nectar-rich plants for insect food. Further information can be found on the Hedgehog Street Campaign website[36];
- Native trees and shrubs of value to wildlife should be used in any landscape planting. Pollinating insects are vital for the food industry. As such, planting flowers, shrubs and trees that provide nectar and pollen and food for bees and other pollinators throughout the year is recommended. Advice on pollinator plants can be found in The National Pollinator Strategy[37] and more general information on plants of value for wildlife can be found on the RSPB website[38];
- Consideration should be given to installation of features that may provide increased habitat for invertebrates, and in turn other species such as birds, bats and small mammals. Features such as a bug hotel, as shown on the Nestbox website[39] could be installed.
- Bird boxes could be installed on the new school buildings or surrounding trees. It is recommended that a mixture of bird boxes are installed so that a range of species can nest on the Site. Small bird boxes suitable for birds such as house sparrows, and larger boxes for birds such as starlings can be installed. Bird boxes designed for use by swifts and house martins, could be installed under the eaves of the buildings. Examples of bird boxes that could be used can be found on the RSPB website[40];
- Bat boxes could be installed either on the new school buildings or in surrounding trees. Bat boxes are a simple way to enhance a site for bats, which may be using the surrounding area for commuting or foraging. Bat boxes can be integrated into the fabric of a building or fitted externally to buildings or trees. Guidance on fitting bat boxes can be found on the Bat Conservation Trust website[41]; and,
- A wildlife area with pond could be included in the design. Ponds provide sanctuary for various species through provisions of water, food and shelter. They also provide breeding habitats for species such as frogs, dragonflies and birds, as well as an educational area for children at the school.

[36] Information on habitat creation suitable for hedgehogs can be found at: https://www.hedgehogstreet.org/help-hedgehogs/helpful-garden-features/ [Last accessed 19/06/2019]
[37] The National Pollinator Strategy: for bees and other pollinators in England. This can be found at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/409431/pb14221-national-pollinators-strategy.pdf [Last accessed 19/06/2019]
[38] Plants of value for wildlife can be found on the RSPB website at https://www.rspb.org.uk/birds-and-wildlife/advice/gardening-for-wildlife/plants-for-wildlife [Last accessed 19/06/2019]
[39] Information on installing a bug hotel can be found at: https://www.nestbox.co.uk/products/bug-hotel [Last accessed 19/06/2019)
[40] Information on bird nest boxes can be found at: https://shopping.rspb.org.uk/garden-bird-nest-boxes/ [Last accessed 19/06/2019]
[41] Information on bird boxes can be found at the following link: https://www.bats.org.uk/our-work/buildings-planning-and-development/bat-boxes/putting-up-your-box [Last accessed 19/06/019]

4. Summary of Recommendations

4.1. Ecological Constraints

Table 6 below provides a summary of the recommendations for the Site.

Table 6 - Summary of Ecology Recommendations

Ecological Feature	Recommendation	Timing
Notable habitats	Whilst no impacts on these notable habitats are anticipated, it is recommended that standard pollution control measures are put in place. These will be completed with regard to the PPGs and the CIRIA guidance on the control of pollution from construction sites.	During site clearance and construction.
Main habitats	Loss of trees to be minimised as far as possible and replacement of any removed with native species of local provenance on a ratio of at least 1:1.	Pre and post-construction
	Retained trees within and adjacent to the Site to be protected in accordance with BS 5837:2012.	Pre- and during construction
	All clearance and construction works should be undertaken with regard to the PPGs and the CIRIA guidance on the control of pollution from construction sites.	During construction
Great Crested Newt	A Habitat Suitability Index (HSI) assessment and environmental DNA (eDNA) survey were undertaken for Pond 2 between mid-April and end-June. GCN were identified as likely absent.	Pre-construction
	The proposed works, site access, tracked machinery and temporary storage of materials should be kept to existing paths, trackways and short grassland.	During construction
	Vegetation removal should be kept to the minimum required to enable the Scheme.	Pre- and during construction
Bats	The old barn with high potential to support roosting bats requires three dusk emergence or dawn re-entry surveys for bats.	Pre-construction
	All buildings within the Site require full building inspections by a bat licensed ecologist.	Pre-construction
	Trees within the Site which have low potential to support roosting bats will require at least one bat emergence survey scheduled to be undertaken prior to construction of the Scheme in order to determine the presence/likely absence of roosting bats and the requirement for further survey and/or a protected species mitigation licence, if necessary.	Pre-construction
	Where possible, any trees with bat roosting potential adjacent to the Site should be avoided and protected with strict adherence to the British Standard BS 5837:2012.	Pre- and during construction
	Any trees identified for felling should be inspected by an ecologist prior to felling.	Pre-construction

Ecological Feature	Recommendation	Timing
	Night time work should be avoided during the time of year bats are regularly active (April to October). If this is not possible, then lighting should be directed towards the works area only to avoid illumination of adjacent habitat that could be used by commuting or foraging bats. Lighting should be designed in accordance with Bat Conservation Trust (BCT) and the Institute of Lighting Professionals Guidance Note 08/18 Bats and artificial lighting in the UK Bats and the Built Environment Series (August 2018).	During construction
Birds	All clearance of scrub and trees should take place outside the core nesting bird season (typically March to August inclusive). If this is not possible then vegetation clearance will need to be carried out under a PMW regarding nesting birds.	Pre-construction
	Once vegetation has been cleared, it should be maintained to an appropriate height until construction. All clearance of scrub and trees should take place outside the core nesting bird season (typically March to August inclusive). If this is not possible then vegetation clearance will need to be carried out under a PMW regarding nesting birds.	Pre- and during construction
	Trees and scrub habitat lost should be replaced with similar species ensuring that there is no overall loss of nesting and foraging habitat for birds. Species planted should be native to the local landscape and/or considered to provide value to local wildlife. Once vegetation has been cleared, it should be maintained to an appropriate height until construction.	During and post-construction
	Lighting that may be used during the proposed works should be directed away from adjacent vegetation to minimise disturbance to nesting birds. Trees and scrub habitat lost should be replaced with similar species ensuring that there is no overall loss of nesting and foraging habitat for birds. Species planted should be native to the local landscape and/or considered to provide value to local wildlife.	During and post-construction
	Any bird feeders already present on Site should be replaced with similar before/if they are removed. Lighting that may be used during the proposed works should be directed away from adjacent vegetation to minimise disturbance to nesting birds.	Pre- and during construction
Common Species of Reptile	If any vegetation clearance and earthworks is required, it should be carried out sensitively following a PMW, with all site staff aware of the potential to encounter reptiles and are provided with written information about what to do if a reptile is found, how to identify reptiles and how to handle reptiles if necessary. Any bird feeders already present on Site should be replaced with similar before/if they are removed.	Pre- and during construction
	If individual reptiles are found during the works, they will be left to move away from the work location of their own accord or be carefully picked up and moved away from the working area into adjacent suitable habitat. If any vegetation clearance and earthworks is required, it should be carried out sensitively following a PMW, with all site staff aware of the potential to encounter reptiles and are provided with written information about what to do if a reptile is found, how to identify reptiles and how to handle reptiles if necessary.	Pre- and during construction

Ecological Feature	Recommendation	Timing
Notable Invertebrates	Where possible, felling of trees should be avoided, due to the brown hairstreak adult's preference to bask high up in the canopy of trees.	Pre- and during construction
	The bordering shrub to the west of the playing field should be avoided where possible as areas such as these, sheltered woodland and hedgerows can provide suitable egg laying habitat, where the larvae overwinter in egg form before pupating in early June or July. Where possible, felling of trees should be avoided, due to the brown hairstreak adult's preference to bask high up in the canopy of trees.	Pre- and during construction
	Any artificial bug habitats already present on Site should be replaced with similar. The bordering shrub to the west of the playing field should be avoided where possible as areas such as these, sheltered woodland and hedgerows can provide suitable egg laying habitat, where the larvae overwinter in egg form before pupating in early June or July.	Pre- and during construction
Invasive non-native plant species	Throughout construction, site staff should remain vigilant for non-native plant species to be present. Where necessary, a specialist contractor should be employed to provide a written method statement for works or to carry out non-native invasive plant removal tasks, if required. Any artificial bug habitats already present on Site should be replaced with similar	Pre- and during construction
Other Notable Species – Western European Hedgehog	All excavations created during the works should either have graded sides, a ramp, or be covered overnight to prevent animals becoming trapped within. Excavations should be checked in the mornings by the ecologist or ecological representative (as agreed with the client) for trapped animals prior to the commence of work on Site. If a trapped animal is found, then the ecologist should be contacted immediately (a local wildlife rescue centre may also need to be contacted). Throughout construction, site staff should remain vigilant for non-native plant species to be present. Where necessary, a specialist contractor should be employed to provide a written method statement for works or to carry out non-native invasive plant removal tasks, if required.	During construction
	Any wet concrete or grout should be allowed to dry prior to sunset. Failure to do so could results in animals becoming trapped. Areas which are not dry should be fenced off. All excavations created during the works should either have graded sides, a ramp, or be covered overnight to prevent animals becoming trapped within. Excavations should be checked in the mornings by the ecologist or ecological representative (as agreed with the client) for trapped animals prior to the commence of work on Site. If a trapped animal is found, then the ecologist should be contacted immediately (a local wildlife rescue centre may also need to be contacted).	During construction
	Leave 'wild' areas suitable for foraging and sheltering of hedgehogs. Suitable habitat includes lawns for foraging, compost heaps and wood piles for nesting, nectar-rich plants for insect food and deciduous leaves for building nests. Any wet concrete or grout should be allowed to dry prior to sunset. Failure to do so could results in animals becoming trapped. Areas which are not dry should be fenced off	During design and construction

Ecological Feature	Recommendation	Timing
	Create hedgehog highways through fences and walls. Hedgehogs travel around one mile every night and enclosed gardens and walls reduce the amount of land available. Leave 'wild' areas suitable for foraging and sheltering of hedgehogs. Suitable habitat includes lawns for foraging, compost heaps and wood piles for nesting, nectar-rich plants for insect food and deciduous leaves for building nests.	During design and construction

4.2. Biodiversity Enhancements

There are opportunities for enhancements to improve the value of the Application Site for biodiversity through the creation of new wildlife-friendly habitats. The following enhancements should be incorporated into the design of the Scheme:

- Leave 'wild' areas suitable for foraging and sheltering of hedgehogs;
- Native trees and shrubs of value to wildlife should be used in any landscape planting; Planting flowers, shrubs and trees that provide nectar and pollen and food for bees and other pollinators throughout the year is recommended;
- Consideration should be given to installation of features which may provide increased habitat for invertebrates;
- Bird boxes could be installed on retained buildings and surrounding trees;
- Bat boxes could be installed in surrounding trees; and
- A wildlife area with pond would be beneficial for a variety of wildlife.

4.3. Re-Survey of Site

Due to the mobility of animals and the potential for colonisation of the Site, it is recommended that an updated ecological survey be undertaken prior to the redevelopment of this Site should this not occur within 12 months of the date of this survey.

Appendices

Appendix A. Site Location and Scheme Drawings

Figure A-1 - Site Location Plan

ATKINS

Member of the SNC-Lavalin Group

Legend

Site Boundary

Basemap: Google.cn Satellites

0 25 50 75 100 m

Atkins Limited © Woodcote Grove Ashley Road Epsom Surrey KT18 5BW	Project: Woodlands Meed School and Woodlands Meed College, Burgess Hill	Title: Woodlands Meed College Site Location Plan	Drawn by: GG	Checked by: VG	Reviewed by: VH	Original scale: 1:3000
	Client: West Sussex County Council	Drawing number: Figure A-1	Date: 12/06/2019	Date: 25/06/2019	Date: 12/07/2019	

Figure A-2 – Woodlands Meed College Site Viability Plan

Option 1
New Build in Field

Site Layout

Pros

- Mix of one and two storey creates a dominant form.
- Building form creates well defined external spaces.
- Sits well within site, levels will require careful consideration
- Clean Decant

Cons

- Arrival is dominated by drop off and visitor parking.
- Difficult and costly build due to levels across site.
- Proximity to residential boundaries raise planning concerns. But two storey block is away from boundaries.
- Building entrance is some distance from the 'site' entrance.
- Access into site is very difficult during build
- Considerable disruption to students during build.

Option	1	2	3	4
Final Building Quality				
Cost				
Position of Sports Hall / Community Access				
Size of Soft Landscape				
Drop Off / Car Parking Provision				
Disruption to Students				
Length of Disruption				
Handover Date				
Planning and Sport eng				

Site 3D

Levelling

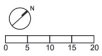
Innovative use of Slope

Buried Sportshall

Precedents

Option 2
Phased Decant

Site Layout



Pros

- Predominantly single storey building creates intimate courtyard spaces and well defined external areas
- Drop off and arrival do not dominate.
- Existing carpark remains on contentious boundary allowing an established 'buffer'.
- Utilises level area of site

Cons

- Sports building and MUGA are difficult to access out of hours. but well located within site.
- Considerable disruption during build
- Phasing is complicated and could be costly.
- Could result in compromised architecture due to phasing

Option	1	2	3	4
Final Building Quality				
Cost				
Position of Sports Hall / Community Access				
Size of Soft Landscape				
Drop Off / Car Parking Provision				
Disruption to Students				
Length of Disruption				
Handover Date				
Planning and Sport eng				

Key

- Construction
- Demolition
- Existing Building

1 Construct Build 1

2 Demolish selected existing

3 Construct Build 2

4 Demolish remaining existing

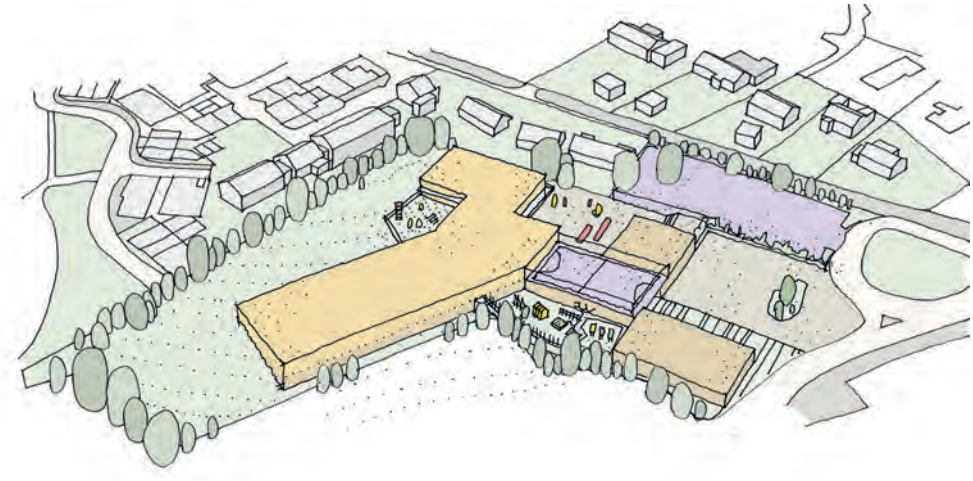
5 Construct Build 3 and finish landscaping

Phasing

Rooftop MUGA

Utilising Roofscapes

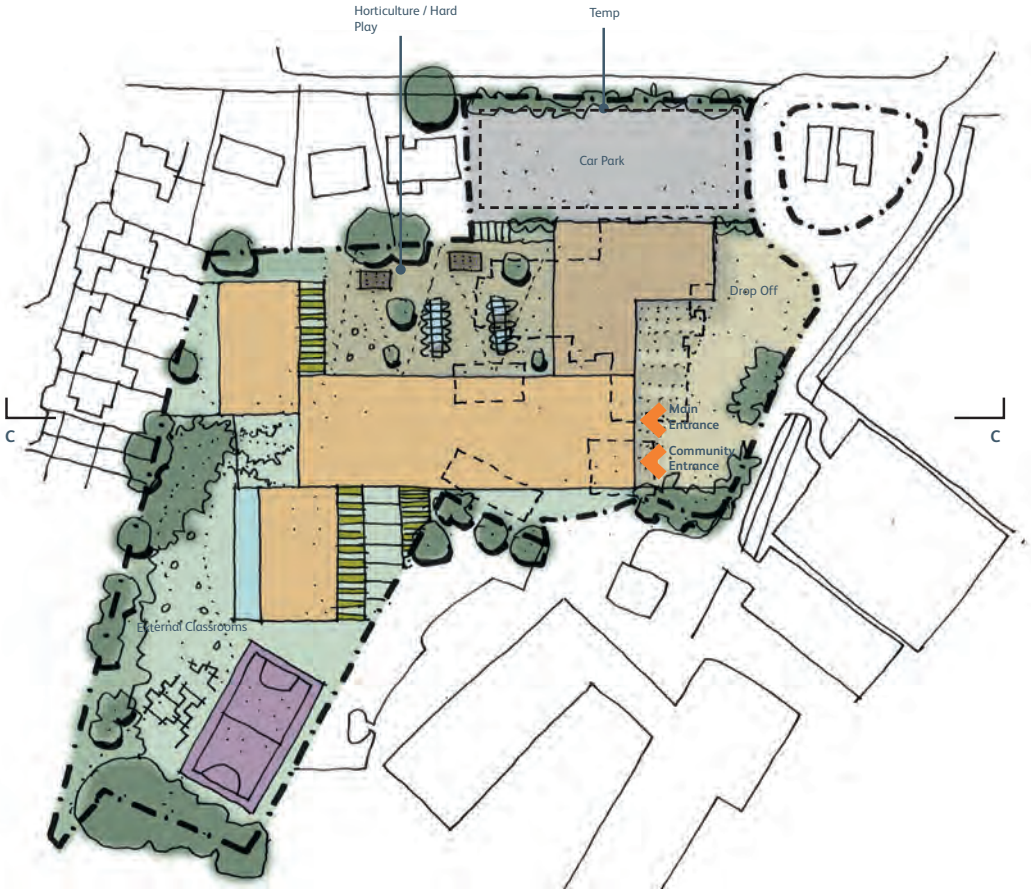
Precedents



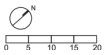
Site 3D

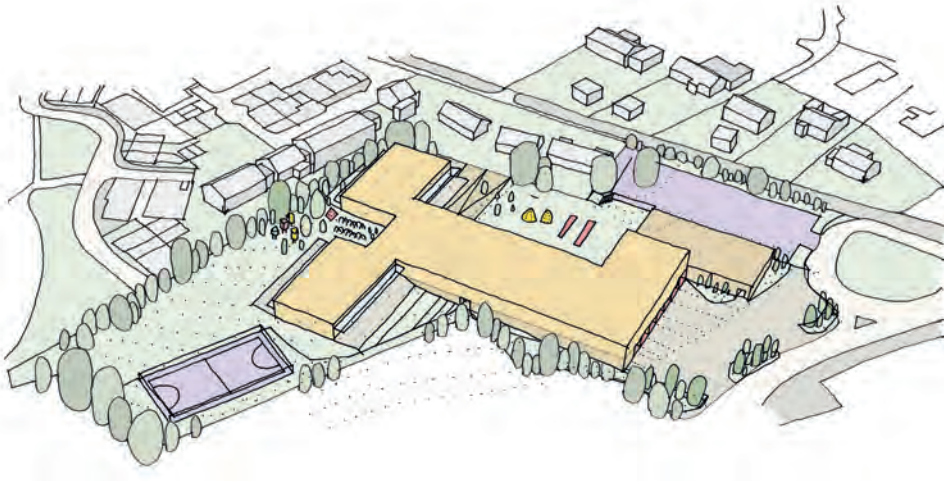
Woodlands Meed College

Option 3
Temporary on College Site



Site Layout





Site 3D

Pros

- Strong connection created with drop off and arrival.
- Two storey block acts as a spine through the scheme is well located within the site and does not dominate.
- a strong mix of external spaces area created.
- Existing carpark remains and is used as the location of the temporary during works.
- MUGA is difficult to access out of hours.

Cons

- MUGA is difficult to access out of hours.

Option	1	2	3	4
Final Building Quality				
Cost				
Position of Sports Hall / Community Access				
Size of Soft Landscape				
Drop Off / Car Parking Provision				
Disruption to Students				
Length of Disruption				
Handover Date				
Planning and Sport eng				

Key

Construction

Demolition

Existing Building

1 Construct temporary building

2 Demolish existing

3 Construct new

4 Demolish temporary building and finish landscape

Phasing

Between Spaces

Courtyards

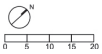
Opportunities with Levels

Precedents

Woodlands Meed College

Option 4
Temporary on School Site

Site Layout



Pros

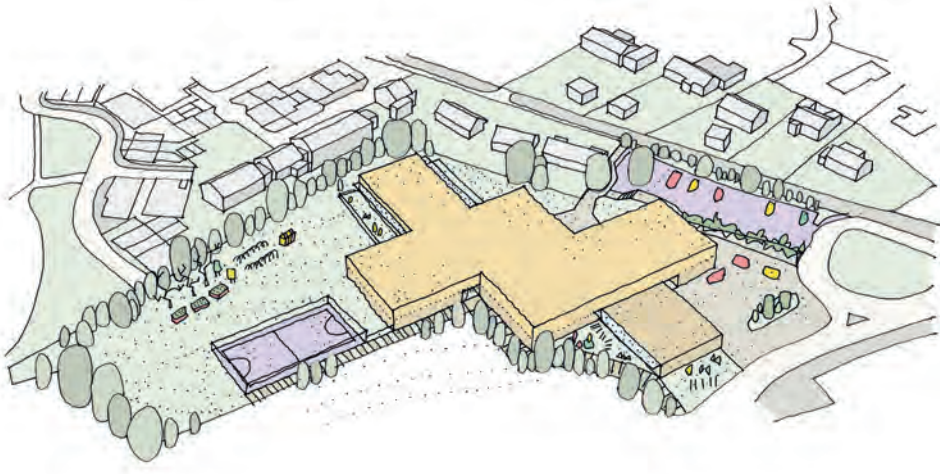
- Strong connection created with drop off and arrival.
- Two storey block acts as a spine through the scheme is well located within the site and does not dominate.
- a strong mix of external spaces area created.
- Existing carpark remains and is used as the location of the temporary during works.
- MUGA is difficult to access out of hours.
- Clear access for Community
- No disruption to students during build.
- Easier to work with entire site

Cons

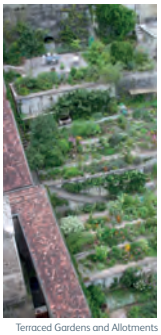
- More costly to build temp off site.
- Movement of students onto other site during build.

Option	1	2	3	4
Final Building Quality				
Cost				
Position of Sports Hall / Community Access				
Size of Soft Landscape				
Drop Off / Car Parking Provision				
Disruption to Students				
Length of Disruption				
Handover Date				
Planning and Sport eng				

Temporary Accomodation Site Layout



Site 3D



Terraced Gardens and Allotments

Slope for Play

Clustered Buildings

Precedents

Woodlands Meed College

Appendix B. Methodology of Assessment

B.1. Ecological Zone of Influence (EZoI)

The predicted EZoI of the Scheme was used to inform the extent of the desk study and field survey. The EZoI was based on the Scheme design, construction and operation information available at the time and an initial review of the Site conditions and the surrounding landscape.

Where applicable, the EZoI was reviewed and amended to determine the potential ecological constraints to the Scheme once the field survey was completed and records were received from the desk study.

The EZoI for initial data gathering is detailed below in Section B.2 (the desk study search area) and B.3 (the extent of the walkover survey).

The EZoI used to determine the potential ecological constraints to the Scheme from designated sites, ancient woodland, and notable habitats and species is detailed in Section 2.

B.2. Desk Study

In June 2019 the Sussex Biodiversity Records Centre was contacted to obtain the following ecological data:

- Records of non-statutory designated sites (Local Wildlife Sites (LWS)) 1 km of the Site boundary;
- Records of legally protected and notable species (fauna and flora) within 500 m of the Site boundary, extended to 2 km for bats, including *Species of Principal Importance for the Conservation of Biodiversity* listed under Section 41 of the Natural Environment & Rural Communities Act 2006 in the England Biodiversity List[42].

The Multi-Agency Geographic Information for the Countryside (MAGIC) website (www.magic.gov.uk) was reviewed for the following information:

- Designated sites of nature conservation importance (statutory sites only) within 1 km of the Site. This included internationally designated sites: Special Protection Areas (SPAs), Wetlands of International Importance (Ramsar sites) and Special Areas of Conservation (SACs); and,
- Notable habitats within 500 m km of the Site, these being areas of ancient woodland and '*Habitats of Principal Importance for the Conservation of Biodiversity*' included in the England Biodiversity List[43].

The Woodland Trust Ancient Tree Inventory[8] was used to identify any ancient and veteran trees within 50 m of the Application Site Boundary.

Ordnance Survey maps were used to initially identify the presence of water bodies within 500 m of the Application Site boundary, in order to establish if the land within and immediately surrounding the Application Site could be used as terrestrial habitat for great crested newts. This species typically uses suitable terrestrial habitat up to 500 m from a breeding pond. However, there is a notable decrease in great crested newt abundance beyond a distance of 250 m from a breeding pond notable decrease in great crested newt abundance beyond a distance of 250 m from a breeding pond[44].

[42] Section 40 of the Natural Environment & Rural Communities Act 2006 requires that every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity. The Secretary of State has drawn up, in accordance with Section 41 of the Act and in consultation with Natural England, a list of habitats and species of principal importance for the conservation of biodiversity in England that is known as the England Biodiversity List

[43] Section 40 of the Natural Environment & Rural Communities (NERC) Act 2006 requires that every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity. The Secretary of State has drawn up, in accordance with Section 41 of the Act and in consultation with Natural England, a list of habitats and species of principal importance for the conservation of biodiversity in England that is known as the England Biodiversity List

[44] Natural England. An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt (ENRR576) http://publications.naturalengland.org.uk/publication/134002.

B.3. Walkover Survey

The walkover survey was undertaken on 5th June 2019 by two Atkins Ecologists, broadly following the Phase 1 habitat survey methodology as set out in Joint Nature Conservation Committee guidance (JNCC, 2010)[45]. This survey method records information on broad habitat types together with any evidence of and potential for legally protected and notable fauna.

All land within and adjacent to the Site (the Survey Area), was surveyed according to CIEEM guidance[46]. Plant names recorded in this survey follow Stace (2010)[47].

Based on the broad habitat types within the EZoI, this survey method recorded in particular:

- Potential roosting sites for bats within trees (identification of suitable cracks and crevices) - survey undertaken from ground only. The assessment of potential value of the trees for roosting sites for bats were categorised based on current good practice guidance as detailed in Appendix B.4;
- Searching for signs of badger activity including setts, tracks, snuffle holes and latrines as detailed in Appendix B.5;
- Assessing the potential of terrestrial and aquatic habitats to support great crested newts. Aquatic habitat was assessed for its suitability to support great crested newts using the Habitat Suitability Index assessment as detailed in Appendix B.6;
- Assessing the suitability of habitats for nesting birds (including any old nests);
- Assessing the suitability of habitats for common species of reptiles (adder, grass snake, slow worm and common lizard);
- Assessing the suitability of habitats for hazel dormouse;
- Assessing the suitability of habitats for notable invertebrates; and,
- Evidence of the presence of certain invasive plants listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and subject to strict legal control (Japanese knotweed, giant knotweed, hybrid knotweed, giant hogweed, Himalayan balsam, rhododendron and cotoneaster species).

B.4. Bat Survey Methodology

The assessment of potential roosting sites for bats detailed below was undertaken in accordance with good practice guidance[48] and CIEEM competencies for undertaking bat surveys[49].

The survey was undertaken by Atkins Ecologists.

Visual examinations of trees within the Survey Area were undertaken from the ground, during daylight hours and were aided with the use of binoculars and a bright torch. For trees, the searches looked for features such as woodpecker holes and rot holes, cracked limbs, dense ivy and flaking bark.

The assignment of bat roost potential was carried out according to good practice guidance[50], which assigns each feature either Negligible, Low, Moderate or High suitability for roosting bats.

B.5. Badger Survey Methodology

The badger survey was carried out in accordance with good practice guidance[51] and CIEEM competencies for undertaking badger surveys[52] .

The survey was undertaken by Atkins Ecologists

[45] Joint Nature Conservation Committee (2010) Handbook for Phase 1 habitat survey - a technique for environmental audit.
[46] Chartered Institute of Ecology and Environmental Management (December, 2017) Guidelines for Preliminary Ecological Appraisal, Second Edition.
[47] Stace, C E (2010) New Flora of the British Isles, 3rd edition. Cambridge University Press.
[48] Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). The Bat Conservation Trust, London.
[49] CIEEM (April, 2013) Competencies for Species Survey: Bats.
[50] Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). The Bat Conservation Trust, London.
[51] Harris, C., et al (1989) Surveying Badgers, Mammal Society.
[52] CIEEM (April, 2013) Competencies for Species Survey: Badger.

The Survey Area, which included all land within the Site boundary, was inspected for evidence of badger activity including setts, latrines, paw prints, snuffle holes (created when foraging), track-ways, hairs (caught on fencing) and scratching posts.

B.6. HSI Assessment and eDNA Survey

B.6.1. HIS Assessment

The HSI is quantitative measure of habitat quality for great crested newts. The HSI is a numerical index between 0 and 1, derived from an assessment of ten habitat variables known to influence the presence of newts such as geographic location, waterbody size and permanence, the presence of predatory fish and wildfowl, availability of suitable terrestrial habitat and proximity to other ponds, and scores each factor based on its level of suitability. An HSI of 1 is optimal habitat (high probability of occurrence), while an HSI of 0 is very poor habitat (minimal probability of occurrence). The HSI is calculated on a single waterbody basis, but takes into account surrounding terrestrial habitat and local waterbody density. If a waterbody has a very low HSI score (<0.5) then there would typically be a minimal chance of great crested newt presence.

The survey was undertaken by two Atkins Ecologists with the lead surveyor holding a great crested newt survey licence from Natural England.

B.6.2. eDNA Survey

When GCN inhabit a waterbody, they deposit traces of their DNA in the water as evidence of their presence. By sampling the water, it is possible to analyse these small environmental DNA (eDNA) traces to confirm GCN habitation or establish GCN absence.

The sampling methodology followed an approved methodology, recognised by Natural England that minimises cross contamination[53] and was completed in accordance with CIEEM competencies for undertaking GCN surveys[54]. Field sampling equipment was supplied as sterile kits by the laboratory that was to carry out the DNA analysis (SureScreen Scientifics). In total, 20 water samples were collected from the waterbody. Areas that may be used by great crested newts for displaying or egg-laying were selected for sampling and the sampling was carried out in daylight hours, and in dry weather. The survey was undertaken by two Atkins Ecologists with the lead surveyor holding a great crested newt survey licence from Natural England. Following completion of the sampling the collected water samples were stored under suitable conditions before being sent to the laboratory for testing.

B.7. Survey Limitations

Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. Therefore, the survey of this Site has not produced a complete list of plants and animals and the absence of evidence of any species should not be taken as conclusive proof that the species is not present or that it will not be present in the future.

The search for water bodies within 500 m of the Site was undertaken by using Ordnance Survey plans and aerial photographs only. These sources may not show all ponds and or water bodies within 500 m of the Site boundary and therefore some water bodies may not have been identified.

The list of invasive plant species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) is extensive and these plants are found in a range of different habitats, including aquatic habitats. The walkover survey checked for the presence of Japanese knotweed, giant knotweed, hybrid knotweed, giant hogweed, rhododendron, cotoneaster species and Himalayan balsam. Other invasive species, in particular those associated with aquatic habitats may not have been recorded, but it is considered that this survey is sufficient to identify any constraints posed by invasive species.

[53] Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P and Dunn F (2014) Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (Triturus cristatus) environmental DNA. Freshwater Habitats Trust, Oxford.
[54] CIEEM (April, 2013) Competencies for Species Survey: Great Crested Newt.

Only limited areas, from ground level, were used to undertake the external inspection for bat roost potential. It was deemed unsafe to access the upper level of the old barn and some trees were located in neighbouring residential gardens.

The results of this ecological assessment have allowed an evaluation of the likely ecological constraints to the Scheme and is considered sufficient to inform the recommendations for further ecological survey and mitigation measures.

Appendix C. Extended Phase 1 Habitat Survey Plan and Target Notes

Figure C-1 – Phase 1 Habitat Survey Plan

ATKINS

Member of the SNC-Lavalin Group

Legend

- Site Boundary
- Tree
- Target notes
- Species-poor intact hedge
- Species-rich hedge with trees
- A — Amenity grassland
- Introduced shrub
- Bare ground
- SI — Semi-improved grassland
- Hardstanding
- Buildings

Basemap: OpenStreetMap

0 20 40 60 80 m

Atkins Limited © Woodcote Grove Ashley Road Epsom Surrey KT18 5BW	Project: Woodlands Meed School and Woodlands Meed College, Burgess Hill	Title: Woodlands Meed College Site Phase 1 Survey Plan	Drawn by: GG	Checked by: VG	Reviewed by: VH	Original scale: 1:2300
	Client: West Sussex County Council	Drawing number: Figure C-1	Date: 12/06/2019	Date: 25/07/2019	Date: 12/07/2019	

C.1. Target Notes

Target Note	Description	Photographs
TN 1	An old brick barn used for storage (left hand building in Photo 1) and caretakers house on the north of the Site (white building on right hand side of Photo 1). All windows and doorframes visible throughout the caretaker's house are in good condition and well-sealed. However, the old brick barn had several potential features which could provide potential access for bats. These include potential gaps between the wall and roofing throughout the perimeter of the building (Photo 3), areas of light entering the roof of the building visible when entering the southern end of the building which could imply openings (Photo 4 and Photo 5) and an approximately 10 cm hole in the brickwork on the east side of the building around 4 m from ground level (Photo 6 and Photo 7 in TN2). An old bird's nest was also found just inside the door on the west side of the building. The position of this is shown in Photo 2 of TN 1 and Photo 8 of TN 3. It must be noted that only access to the lower level of the building was obtained. The upper level was not accessed for safety reasons.	 Photo 1  Photo 2  Photo 3

Target Note	Description	Photographs
		 Photo 4
		 Photo 5

Target Note	Description	Photographs
TN 2	Photo 6 and Photo 7 show an approximately 10 cm hole in the brickwork on the east side of the building around 4 m from ground level.	 Photo 6  Photo 7

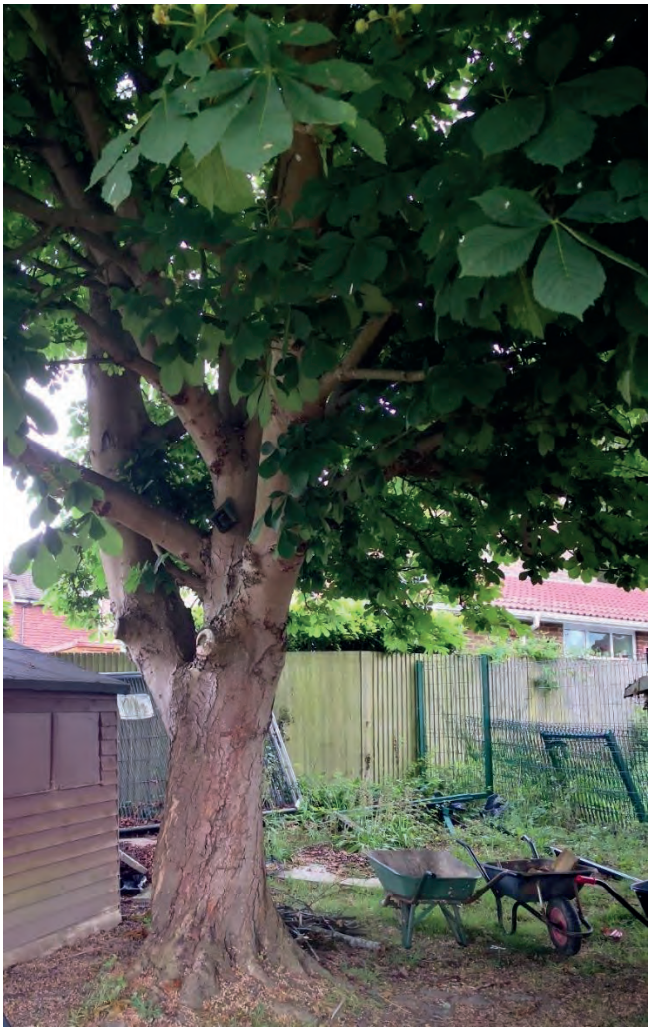
Target Note	Description	Photographs
TN 3	An old bird's nest was found just inside the door on the west side of the building. The position of this is shown Photo 8 of TN 3 (and externally in Photo 2 of TN 1).	 Photo 8
TN 4	A compost area on the north of the Site, adjacent to the north west corner of the old barn which could provide suitable habitat for common species of reptile to forage, bask and possibly hibernate.	 Photo 9

Target Note	Description	Photographs
TN 5	Photo 10 shows the front of the school, looking south from the car park.	 Photo 10
TN 6	A bug habitat is currently located outside the front of the school, on the north east side of the main building.	 Photo 11

Target Note	Description	Photographs
TN 7	Photo 12 shows the car park on the north west of the Site, predominantly made up of hard standing whilst Photo 13 shows the amenity grassland slope adjacent to the south east of the car park.	 Photo 12  Photo 13

Target Note	Description	Photographs
TN 8	Photo 14 and Photo 15 show the semi-mature willow tree present in the south western end of the car park, which has ground made up of mown semi-improved grassland.	 Photo 14  Photo 15

Target Note	Description	Photographs
TN9	An area of unmanaged semi-improved grassland, to the west of the car park, suitable habitat for common species of reptile to forage, bask and possibly hibernate.	 Photo 16
TN10	A mature pine, with potential bird nest near the top, adjacent to the area of unmanaged semi-improved grassland to the west of the car park, just outside the Site boundary.	 Photo 17

Target Note	Description	Photographs
TN 11	An allotment to the South of the car park.	 Photo 18
TN 12	Photo 19 and Photo 20 show a mature tree north of the sheds, south of the car park with bird feeders on the branches.	 Photo 19

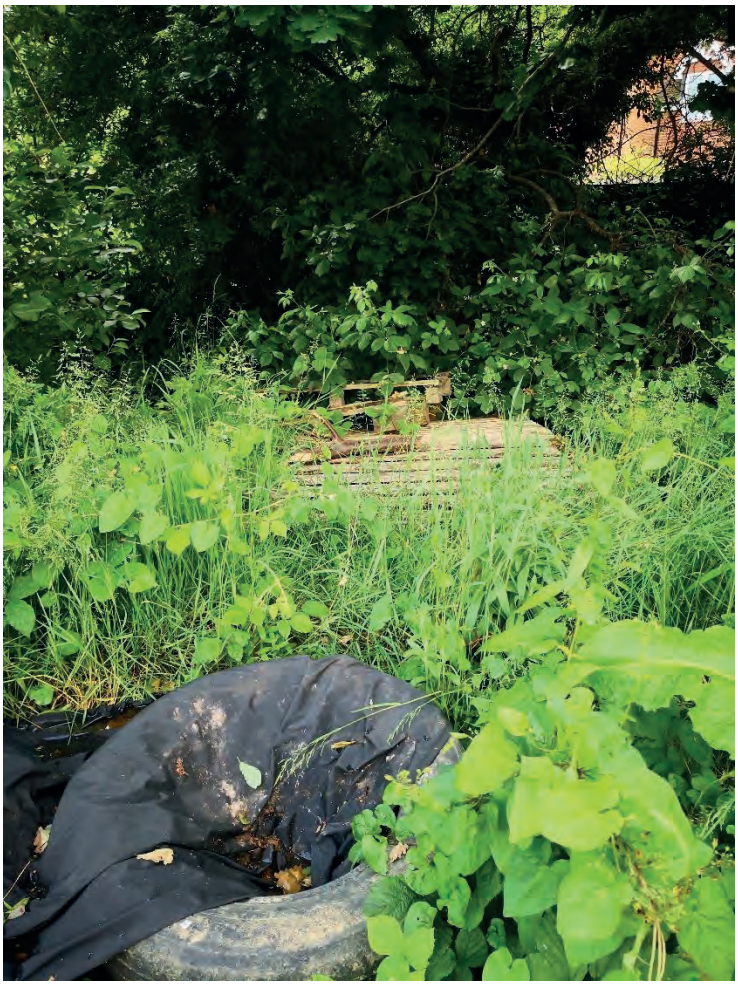
Target Note	Description	Photographs
		 Photo 20
TN 13	Photo 21 shows sheds south of the car park and Photo 22 shows the view south from these of the hardstanding sports area and school buildings.	

Target Note	Description	Photographs
		Photo 21  Photo 22
TN 14	Photo 23 and Photo 24 show a compost area on the west of the Site which could provide suitable habitat for common species of reptile to forage, bask and possibly hibernate.	 Photo 23

Target Note	Description	Photographs
		 Photo 24

Target Note	Description	Photographs
TN 15	Photo 25 shows three silver birch trees overhanging the west boundary of the Site from residential gardens.	 Photo 25

Target Note	Description	Photographs
TN 16	Photo 26 and Photo 27 show orchard plantings on the west of the Site adjacent to the east of the fire pit area.	 Photo 26  Photo 27

Target Note	Description	Photographs
TN 17	Photo 28 and Photo 29 show an area of unmanaged semi-improved grassland in the area surrounding the fire pit on the west of the Site which could provide suitable habitat for common species of reptile to forage, bask and possibly hibernate. It also includes features such as tyres and wooden boards which would provide cover for reptiles (P29).	 Photo 28  Photo 29

Target Note	Description	Photographs
TN 18	Semi-mature tree with a large amount of ivy cover to the rear of the fire pit area. Whilst the ivy itself is not considered a feature suitable for roosting bats, it may obscure the view of potential features (e.g. rot holes, or cracks) which could be used by bats. Due to this, the tree is considered to have low potential to support roosting bats.	 Photo 30
TN 19	Photo 31, Photo 33 and Photo 34 are images of the playing field. The right-hand side of Photo 31 shows the dense shrubbery with trees behind on the south west border of the Site. These trees are largely obstructed from view due to the thick vegetation in front of them as well as the presence of ivy. Whilst these obstructions themselves are not considered a feature suitable for roosting bats, it may obscure the view of potential features (e.g. rot holes, or cracks) which could be used by bats. Due to this, these scattered trees are considered to have low potential to support roosting bats. Photo 32 shows the eastern border of the Site, adjacent to Birchwood Grove County Primary School. There is only a mesh barrier between the Sites. As such, if great crested newts are present in the pond 36 m east of the Site	 Photo 31

Target Note	Description	Photographs
	on the primary school grounds, there would be little barrier to stop them entering terrestrial vegetation on the Site. Photo 33 shows the polytunnel to the north of the playing field, on the west of the Site.	 Photo 32  Photo 33

Target Note	Description	Photographs
TN 20	Photo 34, Photo 35 and Photo 36 show the mature trees, including ash and oak, on the south eastern boundary of the Site. These trees all appear to be in good condition, with no visible cracks or crevices which would provide entry for bats to roost inside and have been classified as having negligible potential to support roosting bats. However, we are only able to see one side of these trees due to them being in adjacent residential gardens. As such must be aware of this limitation.	 Photo 34

Target Note	Description	Photographs

Photo 35

Photo 36

Target Note	Description	Photographs
TN 21	Photo 37 and Photo 38 show an outdoor gym on Site, surrounded by immature trees. This could provide suitable habitat for nesting birds.	 Photo 37  Photo 38
TN 22	Photo 39 shows the hardstanding in the central point between all the school buildings. All windows and doorframes visible throughout the building are in good condition and well-sealed.	 Photo 39

Target Note	Description	Photographs
TN 23	Photo 40 shows the type of join between the walls and roof in the school buildings. These were well-sealed throughout.	 Photo 40
TN 24	Photo 41 shows an area of amenity grassland and in-built trampoline on the east of the Site. The area under the trampoline could provide suitable habitat for common species of reptile for refuge and hibernation opportunities.	 Photo 41

Appendix D. Summary of Relevant Ecological Legislation

Species	Legislation	Offences	Licensing procedures and guidance
Bats *European protected species*	Conservation of Habitats and Species Regulations 2017 Reg 43	Deliberately[55] capture, injure or kill a bat; deliberate disturbance[56] of bats; or damage or destroy a breeding site or resting place used by a bat. [The protection of bat roosts is considered to apply regardless of whether bats are present.]	A Natural England (NE) licence in respect of development is required. Guidance documents: *NE Standing Advice for protected species 2013* *European Protected Species: Mitigation Licensing- How to get a licence* (NE 2013) *Bat Mitigation Guidelines* (English Nature 2004) *Bat Workers Manual* (JNCC 2004)
	Wildlife and Countryside Act 1981 (as amended) S.9	Intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb57 a bat in such a place.	Licence from NE is required for surveys (scientific purposes) that would involve disturbance of bats or entering a known or suspected roost site.
Birds	Wildlife and Countryside Act 1981 (as amended) S.1	Intentionally kill, injure or take any wild bird; intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built; intentionally take or destroy the nest or eggs of any wild bird. Intentionally or recklessly disturb a Schedule 1 species while it is building a nest or is in, on or near a nest containing eggs or young; intentionally or recklessly disturb dependent young of such a species [e.g. most birds of prey, kingfisher, barn owl, black redstart, little ringed plover].	No licences are available to disturb any birds in regard to development. Licences are available in certain circumstances to damage or destroy nests, but these only apply to the list of licensable activities in the Act and do not cover development. General licences are available in respect of 'pest species' but only for certain very specific purposes e.g. public health, public safety, air safety. Guidance documents: *NE Standing Advice for protected species 2013*

[55] Deliberate capture or killing is taken to include "accepting the possibility" of such capture or killing

[56] Deliberate disturbance of animals includes in particular any disturbance which is likely a) to impair their ability (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of hibernating or migratory species, to hibernate or migrate; or b) to affect significantly the local distribution or abundance of the species to which they belong.

[57] Lower levels of disturbance not covered by the Conservation of Habitats and Species Regulations 2017 remain an offence under the Wildlife and Countryside Act 1981 although a defence is available where such actions are the incidental result of a lawful activity that could not reasonably be avoided.

Species	Legislation	Offences	Licensing procedures and guidance
Adder **Common lizard** **Grass snake** **Slow worm**	Wildlife and Countryside Act 1981 S.9(1) and S.9(5)	Intentionally kill or injure any common reptile species.	No licence is required. However an assessment for the potential of a site to support reptiles should be undertaken prior to any development works which have potential to affect these animals. Guidance documents: *NE Standing Advice for protected species 2013*
Rabbits, foxes and other wild mammals	Wild Mammals (Protection) Act 1996	Intentionally inflict unnecessary suffering to any wild mammal.	Natural England provides guidance in relation to rabbits, foxes (which are also protected under the Wildlife and Countryside Act 1981 from live baits and decoys) and other wild mammals, on their website. Lawful and humane pest control of these species is permitted.
Plants *European protected species*	Conservation of Habitats and Species Regulations 2017 Reg 47	Deliberately pick, collect, cut, uproot or destroy a wild plant of a European protected species (Schedule 5).	Licences can be issued for science, education and conservation and also in respect of a development if it is of over-riding public interest. Guidance documents: *NE Standing Advice for protected species 2013* European Protected Species: *Mitigation Licensing- How to get a licence* (NE 2013) *Guidance on sampling rare aquatic plants, NE 2009*
Plants *Nationally protected species*	Wildlife and Countryside Act 1981 S.13 (Schedule 8)	Intentionally pick, uproot or destroy any wild plant on Schedule 8	Licences can be issued by Natural England for specific purposes only, such as science and education or conservation purposes. There is no provision for licensing the above actions for development operations under the Wildlife & Countryside Act 1981 (as amended). No licence is required for survey in England. Guidance on survey techniques is available from Natural England. Guidance documents: *NE Standing Advice for protected species 2013*

Site Designation	Legislation	Protection	Guidance
Site of Special Scientific Interest (SSSI)	Wildlife and Countryside Act 1981 (as amended)	It is an offence to carry out or permit to be carried out any potentially damaging operation. SSSIs are given protection through policies in the Local Development Plan.	Owners, occupiers, public bodies and statutory undertakers must give notice and obtain the appropriate consent under S.28 before undertaking operations likely to damage a SSSI. S.28G places a duty on all public bodies to further the conservation and enhancement of SSSIs. Guidance documents: The *National Planning Policy Framework* (Department for Communities and Local Government, February 2019), with particular reference to Policy 15, and the joint Circular. *Sites of Special Scientific Interest: England's special wildlife and geological sites* (Natural England, 2008)

Local Sites (eg Local Wildlife Sites, County Wildlife Sites, Sites of Importance for Nature Conservation)	There is no statutory designation for local sites.	Local sites are given protection through policies in the Local Development Plan.	Development proposals that would potentially affect a local site would need to provide a detailed justification for the work, an assessment of likely impacts, together with proposals for mitigation and restoration of habitats lost or damaged. Guidance documents: *The National Planning Policy Framework* (Department for Communities and Local Government, February 2019), with particular reference to Policy 15, and the joint Circular.

Habitats & Species	Legislation	Guidance
Species and Habitats of Principal Importance for the Conservation of Biodiversity	Natural Environment & Rural Communities Act 2006 S.40	S.40 of the NERC Act 2006 sets out the duty for public authorities to conserve biodiversity in England. Habitats and species of principal importance for the conservation of biodiversity are identified by the Secretary of State for England, in consultation with Natural England, are referred to in S.41 of the NERC Act for England. The list, known as the 'England Biodiversity List', of habitats and species can be found on the Natural England web site. The 'England Biodiversity List' is used as a guide for decision makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act 2006 to have regard to the conservation of biodiversity in England when carrying out their normal functions. Ecological impact assessments should include an assessment of the likely impacts to these habitats and species.
Biodiversity Action Plan (BAP) Habitats & Species	No specific legislation, unless it is also a species or habitat of principal importance as described above.	The Biodiversity Action Plan (BAP) is the UK's initiative to maintain and enhance biodiversity in response to the Convention on Biological Diversity signed in 1992. The UK BAP was used to draw up the 'England Biodiversity List' and has been succeeded by the UK Post-2010 Biodiversity Framework in 2012, due to a change in government strategy by all UK countries, focussing on managing the environment as a whole rather than dealing with different aspects of biodiversity and environment separately. However, the UK BAP list of priority habitats and species continue to be regarded as conservation priorities in the UK Post-2010 Biodiversity Framework (JNCC & Defra 2012).
Hedgerows	The Hedgerows Regulations 1997	Under the regulations, it is against the law to remove or destroy certain hedgerows without permission from the local planning authority in Wales. In general, permission will be required before removing hedges that are at least 20 metres in length, over 30 years old and contain certain species of plant. The local planning authority will assess the importance of the hedgerow using criteria set out in the regulations.

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