

BERNWOOD ECOLOGY

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Land off Kestrel Way Luton



Preliminary Ecological Appraisal

Luton Borough Council

15th December 2023

LBC-KW-23.001 (Issue 1.2)



Proud to be:



Hensmans Farm, Narton End, Swanbourne, Buckinghamshire, MK17 0SL

Limitations

Ecological assessments can only assess a site at a particular time. This evidence can be used to draw conclusions as to the likely presence or absence of species (animals and plants), population size, use of the site by animals; it is neither definitive nor complete. Any survey is a snapshot in time and should not be regarded as definitive nor complete study.

The preparation of mitigation strategies, consultation exercise and submission of any licence applications cannot be relied upon until approved [licensed] in writing by the Statutory Nature Conservation Organisation. Allowance must be made for both programme and financial change to projects as a result of application failure, amendment or refusal.

Every professional effort and due diligence have been applied to provide an accurate ecological assessment of the site at the time of the preparation of this report, but no liability can be assumed for omissions, or subsequent changes to design and development. Additional works should be anticipated as surveys and proposals for the site progress.

No responsibility will be accepted for any use of or reliance on the contents of this report by any third party. No responsibility will be accepted for changes or alterations made to this report following submission to Bernwood Ecology's client.

Bernwood Ecology, its employees and associates reserve the right to report on any incidents or actions [deliberate or reckless] that result in a breach of licence conditions or are in contravention of existing legislation.

Quality Assurance

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Updated site proposals plan Appendix 3

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Executive Summary

Bernwood Ecology have been instructed to undertake a Preliminary Ecological Appraisal (supported with a data search for historical species and site records) of an area of land off Kestrel Way, Luton. The site includes a radio mast and field containing the supporting anchors. The proposals are for the construction of a Special Education Needs (SEN) school along with associated access, parking and landscaping.

The survey evaluated the habitats within the site boundary as having limited ecological value, consisting predominantly of species-poor semi-improved grassland, hardstanding and scrub. Recommendations are made for habitat enhancement/creation opportunities to help the scheme achieve a net gain for biodiversity.

The site is relatively isolated from the wider landscape and the potential for presence of protected species is limited. As a precaution, further survey of the substation building is required to confirm the absence of roosting bats. Precautionary measures to limit the potential of harming reptiles during site clearance are recommended along with best practice measures to protect general wildlife during the works.

Nesting birds are likely to use the vegetation and structures within the site boundary. Vegetation and building clearance should be timed to avoid the spring and summer when nesting birds are most likely to be present.

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1. Introduction and Objectives

- 1.1 Bernwood Ecology were instructed by Luton Borough Council on 9th June 2023 to undertake a Preliminary Ecological Appraisal (PEA) of an area of land to the south of Kestrel Way, Luton, LU4 0YB (centred at Grid Reference: TL0431 2414) (Appendix 1).
- 1.2 The aims of the survey are to identify any ecological constraints to the development proposals, identify further survey effort required and provide recommendations on ecological enhancements for biodiversity net gain (CIEEM, 2017).
- 1.3 The proposals are understood to be for the construction of a new Special Educational Needs (SEN) School including buildings, playgrounds, infrastructure and landscaping (Appendix 2).

2. Legal Protection

- 2.1 The finding of this report represents the professional opinion of qualified ecologists and does not constitute professional legal advice. The client may wish to seek professional legal interpretation of the relevant wildlife legislation cited in this report.
- 2.2 The following information is a simplified summary of the legislation and the full text of the Wildlife & Countryside Act 1981 (as amended) (WCA 1981), the Conservation of Habitats and Species Regulations 2017 (2017 Regulations) and other legislation together with current published guidelines should be consulted.

European Protected Species

- 2.3 It is understood that 2017 Regulations will be further amended due to the departure of the UK from the EU on 31st January 2020. From that date the provisions in The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 will apply (see <https://www.legislation.gov.uk/ukxi/2019/579/contents/made>). Existing protection for habitats and species including standards and assessment procedures will remain as they have been prior to the UK leaving the EU.
- 2.4 The 2017 Regulations and The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 should be read together until further clarification or changes are made available by the UK Government or legal case law.
- 2.5 All European Protected Species (EPS; great crested newts, bats, otter, white-clawed crayfish, hazel dormice, etc.) are protected under the 2017 Regulations and the WCA 1981. It is an offence under section 41 of the 2017 Regulations to:
 - deliberately capture, injure or kill any wild animal of a EPS;
 - deliberately disturb a EPS (including in particular any disturbance which is likely to impair their ability to survive, breed or reproduce, rear or nurture their young;

or to hibernate or migrate; or which affects significantly the local distribution or abundance of the species);

- deliberately take or destroy the eggs of a EPS;
- damage or destroy a breeding site or resting place of a EPS; or,
- possess, control, transport, sell or exchange, or offer for sale or exchange, any live or dead wild animal of a EPS, or any part of, or anything derived from a EPS.

2.6 Section 9(4) (b) and (c) of the WCA 1981 makes it an offence to:

- intentionally or recklessly disturb a EPS while it is occupying a structure or place which it uses for shelter or protection; or,
- intentionally or recklessly obstruct access to any structure or place which any EPS uses for shelter or protection.

2.7 In order for otherwise illegal acts to proceed lawfully, an appropriate licence must be sought under the 2017 Regulations and WCA 1981. Licences for the purpose of development are currently determined by Natural England and must include an appropriate mitigation and monitoring scheme to secure the “favourable conservation status” of the species in the local area.

Widespread Species of Reptile

2.8 Widespread species of reptiles (grass snakes, adder, slow worm and common lizard) are protected under the WCA 1981. These species receive partial protection under Section 9(1) and section 9(5). It is an offence to:

- intentionally kill or injure a common species of reptile; or
- sell, or attempt to sell a live or dead reptile or any part of or anything derived from it.

Badgers

2.9 Badgers are protected under the Protection of Badgers Act 1992 (PBA 1992). It is an offence (except as permitted by or under the PBA 1992) to:

- wilfully kill, injure or take a badger or to attempt to do so;
- cruelly ill-treat a badger;
- intentionally or recklessly interfere with a badger sett by damaging or destroying a badger sett or any part of it or obstructing access to, or any entrance of, a badger sett; causing a dog to enter a badger sett; or disturbing a badger when it is occupying a badger sett;
- possess or have control of a dead badger or a part of or anything derived from a badger; or,
- sell or offer for sale a live badger or to possess or have control of a live badger.

Non-native Species

- 2.10 It is an offence, under section 14, to release or allow to escape into the wild any animal listed on Schedule 9 Part I of the WCA 1981.
- 2.11 It is an offence, under section 14, to grow, or cause to grow in the wild any plant listed on Schedule 9 Part II of the WCA 1981.

Wild Birds

- 2.12 Wild birds are protected under the WCA 1981. The basic principle of the Act is that all wild birds, their nests and eggs are protected by law and some rarer species are afforded special protection. Wild birds are defined as those resident in or visitors to Great Britain, in a wild state (does not include poultry or game bird). Section 1(1) of the WCA 1981 states that it is an offence to intentionally or recklessly:
- kill, injure or take any wild bird;
 - take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
 - take or destroy an egg of any wild bird.
- 2.13 Section 1(2) of the WCA 1981 states that it is an offence to possess or control any live or dead wild bird or any part of or anything derived from a wild bird or an egg or part of an egg of a wild bird.
- 2.14 It is an offence under section 1(5) of the WCA 1981 to intentionally or recklessly:
- disturb any wild bird included in schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or,
 - disturb dependent young of such a bird.

3. Planning

National

- 3.1 The local planning authority has the power to request information under Article 4 of the Town and Country (Planning Applications) Regulations 1988 (SI1988.1812) (S3) which covers general information for full applications.
- 3.2 The National Planning Policy Framework (NPPF) revised in 2021 requires the planning system and policies to balance economic, social and environmental factors of sustainable development. The environmental component of the NPPF states that any planning application must: *'contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon*

economy'. Chapter 15 (Conserving and Protecting the Natural Environment) includes the methods by which this is to be achieved, including:

- protecting and enhancing valued landscapes, sites of biodiversity or geological value;
- recognising the intrinsic character and beauty of the countryside; and,
- minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

- 3.3 Planning permission should be refused if: significant harm from a development cannot be adequately avoided, adequately mitigated, or as a last resort compensated for. The presumption in favour of development does not apply where development requiring appropriate assessment under the Habitats Directive is being considered, planned or determined. Planning policies and decisions should limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscape and nature conservation. Please see updated Planning Practice Guidance <https://www.gov.uk/government/speeches/local-planning>.
- 3.4 Section 99 of ODPM Circular 06/2005 states: 'It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision. The need to ensure ecological surveys are carried out should therefore only be left to coverage under planning conditions in exceptional circumstances, with the result that the surveys are carried out after planning permission has been granted. However, bearing in mind the delay and cost that may be involved, developers should not be required to undertake surveys for protected species unless there is a reasonable likelihood of the species being present and affected by development. Where this is the case, the survey should be completed and any necessary measures to protect the species should be in place, through conditions and/ or planning obligations, before permission is granted'.
- 3.5 Local authorities have a duty to consider the three derogation 'tests' of the Habitats Directive: no satisfactory alternative, imperative reasons of overriding public interest (including those of a social or economic nature or beneficial consequences for the environment) and that the favourable conservation status of the species will be maintained. If any of these requirements are not met, the local authority should refuse planning permission regardless of any commitment to obtain a Natural England licence.

Local

- 3.6 The Luton Local Plan 2011-2031 (adopted in 2017) includes Policy LLP28, detailing strategies concerning biodiversity and nature conservation, as well as designated sites and ecological networks.
- 3.7 Policy LLP28 sets out the strategies for protecting and enhancing biodiversity and nature conservation through measures, including:
- Measures required to avoid impacts and protected designated statutory and non-statutory sites for nature conservation;
 - Ensure that impacts upon protected and notable species and habitats are fully understood and assessed as part of the planning process.
 - Retain any existing areas of National Priority Habitats wherever possible, and to enhance their visual and biodiversity value with appropriate planting of locally native trees, shrubs, and hedgerows but only in such locations that the long-term impact on existing habitats (grasslands, hedgerows, ponds, etc.) is not deleterious through effects of shading, leaf fall, or other impacts.

4. Methodology

Desk Study

- 4.1 A data search was commissioned from Bedfordshire & Luton Biodiversity Recording and Monitoring Centre (BRMC) covering a 1km search area. Please note that BRMC does not hold records for bats.
- 4.2 A 2km search of MAGIC Map (magic.defra.gov.uk) for statutory sites, European Protected Species Licenses (EPSLs), great crested newt environmental DNA (eDNA) results for pond surveys undertaken by DEFRA 2017-2019, and great crested newt licence returns was undertaken. This was extended to 5km for Special Areas of Conservation (SACs), Special Protected Areas (SPAs) and Ramsar sites, and an additional check was made to ascertain if the site lies within 12.6km of the Chilterns Beechwoods SAC. A 1km search of MAGIC Map was undertaken for records of priority habitats. It should be noted that the MAGIC database was last updated in February 2022, therefore licences granted after that time will not yet be uploaded into the database.

Preliminary Ecological Appraisal

- 4.3 The purpose of the Preliminary Ecological Appraisal (PEA) is to establish the presence or potential presence of protected species and habitats on or near the site (zones of influence), and specifically:
- identify likely ecological constraints associated with the proposals;

- identify any mitigation measures likely to be required, following the 'mitigation hierarchy';
- identify any additional surveys which may be required to inform a full ecological assessment; and,
- identify opportunities offered by a project to deliver ecological enhancements (CIEEM, 2017).

4.4 Habitats on site are assessed and mapped following the JNCC Phase I Habitat Survey methodology (JNCC, 2010). The survey was undertaken by J. Sowden MSc. ACIEEM on 21st June 2023, adhering to good practice guidelines and industry standard (BSI, 2013; CIEEM, 2021). Weather at the time of the survey was warm (24°C, with a light wind and patchy cloud).

Biosafety and Biosecurity

- 4.5 All fieldwork is undertaken in line with the current government and professional (CIEEM, BSI, BCT, IUCN, etc.) COVID-19 guidelines at the time, including maintaining physical distancing between surveyors and wildlife as appropriate.
- 4.6 Hygiene and biosecurity measures set out with Bernwood Ecology's Health and Safety Policy are strictly adhered to, including regular thorough handwashing where possible and, where not, regular use of an appropriate viricidal hand sanitiser.

Scientific Consultation

- 4.7 In agreement with Conservation Evidence, Bernwood Ecology, as Evidence Champions, will:
- ensure that, where possible, the mitigation work is designed around a scientifically testable approach, observing the Conservation Evidence approach to critical assessment, study design, analysis and reporting;
 - build into project planning processes and reports a requirement for ecologists to check the Conservation Evidence website for relevant evidence, and describe the findings in the report; and,
 - where possible, publish results reporting on any tests of conservation interventions whether successful or otherwise in agreement with the client in the Conservation Evidence journal and other peer-reviewed journals.

5. Constraints and Limitations

Historical Records

- 5.1 Environmental records can provide an indication of the likely presence of a species on, or within proximity, to the site. The absence of records for protected species and sites does not necessarily indicate absence. The use of historical environmental

records is not a substitute for appropriate surveys at the correct time of year when informing land use change and development proposals.

- 5.2 Qualifications for historical records, e.g., if a badger record is of a road casualty or of a sett, may not always be known.
- 5.3 Data search accuracy is variable and will often range from 10km to 1m. Most commonly, accuracy will be within 10m. The original raw data from data searches should be consulted where the record accuracy is needed.

Safe Access

- 5.4 Part or all the site may be considered to be inaccessible following an assessment of risk and therefore the survey may be constrained. Risks that may limit the survey effort include structurally unsafe structure(s) (including roof joists), confined spaces and dangerous egress and ingress points, asbestos, sharps, livestock, and hostilities from members of the public. Details of any access constraints are provided within the results of the report.

Digital Mapping

- 5.5 Every effort is made to ensure mapping accuracy; however, the exact locations of features should not be relied upon.

6. Results

Desk Study

- 6.1 There is one statutory site within 2km of the development proposals and three non-statutory sites within 1km. The Chilterns Beechwoods Special Area of Conservation (SAC) is 10.2km to the south west at its closest point. Several priority habitats are present within 1km of the site.
- 6.2 A summary of relevant designated sites and priority habitats is included in Table 1 (public data search results available upon request).
- 6.3 A summary of relevant historical species records is included in Table 2 (public data search results available upon request).
- 6.4 The MAGIC Map Licensing Layer returned no records for granted EPSLs or for great crested newt survey records within 2km.

Table 1. Summary of relevant designated site records and priority habitats. Obtained from BRMC and MAGIC Map.

Abbreviations: SSSI: Site of Special Scientific Interest. SAC: Special Areas of Conservation. CWS: County Wildlife Site. DWS: District Wildlife Site.

Site name	Designation	Approx. distance from the site (at closest point)	Details
<u>Statutory Sites</u>			
Blows Down	SSSI	2km	Designated for species rich calcareous grassland habitats and diverse invertebrate fauna.
Chilterns Beechwoods	SAC	10.2km	Designated for extensive beech woodland, grassland and scrub habitats and presence of stag beetle <i>Lucanus cervus</i> .
<u>Non-Statutory Sites</u>			
River Lea	CWS	300m	Designated for the river and adjacent habitats. Supports a population of water voles <i>Arvicola amphibius</i> .
Lewsey Park	DWS	660m	Designated primarily for its species rich hay meadow habitats.
River Lea	DWS	920m	Contains a flood-plain meadow.
<u>Priority Habitats</u>			
Deciduous woodland	-	110m	Three areas within 1km.
Chalk grassland	-	750m	One area within 1km.
Traditional orchard	-	870m	One area within 1km.

Table 2. Summary of relevant protected species records. Obtained from BRMC.

Abbreviations: WCA Sch1.1: Wildlife and Countryside Act 1981 Schedule 1 part 1. WCA Sch5: Wildlife and Countryside Act 1981 Schedule 5. WCA Sch8: Wildlife and Countryside Act 1981 Schedule 8. PBA: Protection of Badgers Act 1992.

Species	Highest designation	Year of most recent record	Approx. distance from the site	Details
<u>Plants</u>				
Bluebell <i>Hyacinthoides non-scripta</i>	WCA Sch8	1989	> 1km	One record.
<u>Non-Flying Mammals</u>				
Badger <i>Meles meles</i>	PBA	2020	<500m	Numerous records within 1km.
Water vole	WCA Sch5	2015	280m	40 records all from Houghton Brook.
<u>Birds*</u>				
Black redstart <i>Phoenicurus ochruros</i>	WCA Sch1.1	2018	<1km	Two records, vague tetrad.
Barn owl <i>Tyto alba</i>	WCA Sch1.1	2020	<500m	Two records.
Peregrine falcon <i>Falco peregrinus</i>	WCA Sch1.1	2021	<1km	62 records, vague tetrad.
Red kite <i>Milvus milvus</i>	WCA Sch1.1	2021	<1km	246 records, vague tetrad.
Redstart <i>Phoenicurus phoenicurus</i>	WCA Sch1.1	2020	<1km	Four records, vague tetrad.

*Numerous other WCA Sch1.1 bird records were returned from the data search however these were discounted due to specific habitat requirements (where these habitats are not present on site) or them being seasonal migrants highly unlikely to be breeding on site. The full set of records is available upon request.

Preliminary Ecological Appraisal

- 6.5 The site is located on the northern edge of the Lewsey Farm district of Luton within a largely urban area (Appendix 1). Residential properties and gardens border the site to the east, south and west, with Kestrel Way running along the northern boundary. The site is relatively isolated from significant areas of greenspace or semi-natural habitats by residential development and roads. Houghton Brook is located approximately 250m to the north. There are three ponds located within 500m of the site, none of which are within 250m (Appendix 3)
- 6.6 The site is approximately 1.23ha in size, and primarily consists of a grassland area with a large aerial structure and associated supports. Habitats are described in greater detail in Table 3 below and mapped in Appendix 4. Photographs are provided.

Table 3. Habitat descriptions.

Habitat	Description
Species-Poor Semi-Improved Grassland	<p>The majority of the site consists of tall (>400mm high) grassland which is understood to be managed irregularly with occasional mowing (Figures 1-3). Whilst the vegetation height is tall, there are no tussocks present, indicating that at least annual mowing is undertaken at the site—evidence of mowing on aerial imagery also confirms this. The southern and eastern areas of the grassland are species-poor with grass species dominated by false oat-grass <i>Arrhenatherum elatius</i> with frequent cock's-foot <i>Dactylis glomerata</i> and occasional perennial rye-grass <i>Lolium perenne</i>, Yorkshire fog <i>Holcus lanatus</i> and Timothy <i>Phleum pratense</i>. Herb species are generally restricted to the boundary areas and around the fenced anchor points for the radio mast; species recorded include frequent cleavers <i>Galium aparine</i>, occasional meadow vetchling <i>Lathyrus pratensis</i>, occasional cow parsley <i>Anthriscus sylvestris</i> and occasional curly dock <i>Rumex crispus</i>. Occasional meadow ant <i>Lasius</i> sp. hills were noted within the sward.</p> <p>The grassland within the north western section of the site (hatched area within the species-poor semi-improved grassland) displays a slightly higher species richness than the majority of the rest of the grassland, whilst still being considered species-poor (Figure 4). It has a slightly lower (200mm-300mm generally) sward height as well as areas of shorter (<150mm) grassland, allowing a greater diversity of species. The grass species are principally comprised of false oat-grass, cock's-foot and perennial rye-grass with locally abundant wall barley <i>Hordeum murinum</i>. Timothy, bent-grass <i>Agrostis</i> sp, and meadow foxtail <i>Alopecurus pratensis</i> were also noted but appeared to be relatively rare. Herb species recorded included frequent meadow vetchling and cleavers, occasional cow parsley, field bindweed <i>Convolvulus arvensis</i>, dove's-foot cranesbill <i>Geranium molle</i>, and ribwort plantain <i>Plantago lanceolata</i>. Rarely recorded species include marestalk <i>Equisetum arvense</i>, black knapweed <i>Centaurea nigra</i>, goatsbeard <i>Tragopogon pratensis</i>, meadow buttercup <i>Ranunculus acris</i>, hedge bedstraw <i>Galium mollugo</i> and white clover <i>Trifolium alba</i>.</p>
Hardstanding	<p>A tarmac and gravel access track is present in the north western corner of the site which adjoins the substation building (Figure 5). Moss and other vegetation have begun to colonise this area, particularly around the edges; however, the hardstanding is generally in good condition. The base of the radio mast and anchor points are situated within the grassland and have a concrete base with compacted gravel situated around them; they all have colonising vegetation to varying degrees (Figures 6 & 7) with grasses, ruderal vegetation such as common nettle <i>Urtica dioica</i> and scrub including bramble <i>Rubus fruticosus</i> and dogwood <i>Cornus sanguinea</i> present.</p>

Table 3. Continued.

Habitat	Description
Building	A brick-built substation is present in the north western corner of the site, which likely dates from when the radio mast was constructed (approximately 1980/90's) (Figures 8 & 9). It has a flat, likely bitumen covered roof and well-sealed metal doors, with one room sealed off with a metal grate. There are possibly some small gaps around the edge of the roof where a metal capping overlaps the wall. Internal access was not possible at the time of the survey; however no Potential Roosting Features for bats were recorded externally.
Dense Scrub	Two narrow areas of predominantly bramble scrub are situated on the south and western edges of the grassland where the site borders neighbouring properties (Figures 10 & 11). Bramble is the dominant species present, with dogwood and sycamore <i>Acer pseudoplatanus</i> also recorded along with several non-native species including cypress <i>Cupressus</i> sp. and staghorn sumac <i>Rhus typhina</i> . The scrub appears to have established relatively recently and is likely to encroach into the grassland areas if left unmanaged.
Introduced Shrub	Two small areas of introduced shrub are present on the eastern site boundary where garden escapees have spread into the grassland (Figure 12). Species include cypress, staghorn sumac and several unidentified non-native ornamental flowering shrubs.
Tall Ruderal	A tall (>500mm) patch of common nettle, cow parsley and rosebay willowherb <i>Chamerion angustifolium</i> is present along the western site boundary (Figure 13).
Dry Ditch	A shallow (<1m) ditch is present along the northern site boundary (Figure 14). It did not hold any water at the time of the survey and was covered with grassland vegetation, indicating that it is unlikely to hold water for any significant period of time.
Bund	A small bund is present to the south of the ditch, also covered with grassland vegetation (Figure 14). This has grown very tall (>1m) in places and is unlikely to be mown with the rest of the grassland due to the difficult topography. As a result, scrub species including young specimens of dogwood, rose <i>Rosa</i> sp., field maple <i>Acer campestre</i> and ash <i>Fraxinus excelsior</i> have become established.

Table 3. Continued.

Habitat	Description
Fence	A wooden panel fence runs around the eastern, southern and western site boundaries where the site borders residential properties, it is in varying condition and is only likely to form a partial barrier to any wildlife movement (Figure 12). Metal security fencing is present around the radio mast and anchor points as well as the substation building; this appears to be in generally good condition (Figures 6, 7 & 9).



Figure 1. Tall species-poor semi-improved grassland in centre of site.



Figure 2. Tall species-poor semi-improved grassland in south of the site.



Figure 3. Close up view of tall species-poor semi-improved grassland.



Figure 4. Area of slightly higher diversity grassland in northern section of site.



Figure 5. Tarmac access track in north western corner of site.



Figure 6. Hardstanding around anchor point with minimal vegetation growth.



Figure 7. Hardstanding around central mast with abundant vegetation growth.



Figure 8. Substation building, view from north west. Internal access was not possible at the time of the survey.



Figure 9. View of substation building from south.



Figure 10. Dense scrub on southern boundary.



Figure 11. Dense scrub on western boundary.



Figure 12. Introduced shrub on eastern boundary.



Figure 13. Tall ruderal vegetation on western boundary.



Figure 14. Grass-covered ditch and bund on northern boundary.

7. Discussion and Conclusions

Designated Sites

- 7.1 There are no statutory sites within 1km of the proposed development area, and the nearest non-statutory site is approximately 300m away, indicating that impacts upon designated sites during the construction phase of the site are highly unlikely due to the distances involved. The proposals are non-residential, meaning that there will be no additional recreational pressure on local sites and the Chilterns Beechwoods SAC and therefore there are no anticipated negative impacts upon designated sites as a result of the proposals.

- 7.2 The nearest priority habitat is over 100m away from the site boundary and therefore for the same reasons described in the paragraph above, negative impacts upon priority habitats are not predicted to occur as a result of the proposed development.

Habitats

- 7.3 Habitats within the site boundary are of limited ecological value, being relatively common and widespread in the local area and with a relatively low species diversity. The proposed scheme will result in the loss of a large proportion of the onsite habitats, which must be compensated for within the proposed scheme through the creation of new habitats and features to ensure a Biodiversity Net Gain in line with local and national planning policy.

- 7.4 Outline suggestions for habitat creation measures to help achieve Biodiversity Net Gain are provided.

Great Crested Newt

- 7.5 There are no records for great crested newt within 2km of the site. The nearest known pond is over 250m away from the site boundary and therefore it is considered highly unlikely that the species will be present on site or negatively impacted by the proposals. No further survey or mitigation measures are required for great crested newt.

Reptiles

- 7.6 No records of reptiles were returned from the data search. Habitats within the site boundary (tall grassland, scrub) do offer some potentially suitable habitat for sheltering and foraging reptiles; however, the lack of connectivity of the site to adjacent areas of suitable habitat limits the potential for reptiles to be present. As a precaution to minimise the low risk of harming reptiles during site clearance and construction, it is recommended that phased vegetation clearance and a destructive search of suitable areas of habitat under direct ecological supervision is conducted. Details of these measures are provided below.

Non-flying Mammals

- 7.7 There are numerous records for badger within 1km of the site, as well as records for water vole from nearby streams. No evidence of animal burrows was recorded during the site survey and therefore it is considered that badger setts are absent from the site. As the site is located over 250m from the nearest linear waterbody and has only limited connectivity to the wider landscape, the presence of water vole or otter on site is considered highly unlikely.
- 7.8 Some evidence of fox *Vulpes vulpes* was noted during the site survey (droppings and scent), however no evidence of mammal holes was noted. Best practice measures are outlined below to ensure non-flying mammals are protected from harm during the proposed works.

Bats

- 7.9 Records for bats were not commissioned as part of the data search; however, there were no records for granted EPSLs for bats on MAGIC Map within 2km of the site. Although no internal access to the substation building was possible during the site survey, no external features considered to provide suitable roosting features for bats (Potential Roosting Features, PRFs) were observed. Therefore, the building is assessed as providing 'Negligible' potential to support roosting bats under the Bat Conservation Trust's Good Practice Guidelines (2016)—albeit limited in confidence

due to a lack of internal inspection. Due to the limited access, to ensure a thorough assessment of the building is conducted, it is recommended that further survey for bats is required, despite the building's 'Negligible' suitability.

- 7.10 Bats are likely to utilise the site and surrounding gardens for foraging. It is recommended that habitats to be created as part of the landscaping proposals include features to increase the abundance of invertebrate prey such as water features, nectar-providing planting and linear features such as native hedges.
- 7.11 Any lighting required as part of the proposals must ensure it does not have a detrimental effect on local bat populations and must be carefully designed to minimise light spill onto surrounding habitats.

Wild Birds

- 7.12 The presence of nesting birds within the site during the spring and summer months is considered likely; these could be ground-nesting birds within the grassland or common garden birds utilising the scrub and buildings. No evidence of nesting birds was visible on the radio mast; however, this could provide suitable habitat for species such as birds of prey (including Schedule 1 species). Timing demolition and vegetation clearance works to avoid the months in which nesting birds are most likely to be present is recommended.

8. Recommendations

- 8.1 It is understood that the scheme will be seeking Ecology Credits LE02, LE03, LE04 and LE05 as part of BREEAM. This report and the recommendations set out below incorporate the requirements under LE02 & LE03. Measures to aid the scheme address LE04 are recommended in Paragraph 8.5. In order to achieve credit for LE05 a Landscape Ecological Management and Maintenance Plan (LEMP) will be required which will detail how ecological features of interest will be protected during site clearance and construction as well as how habitats and wildlife enhancements will be created and managed. The recommendations detailed below (and in any subsequent ecological reports) must be incorporated into any future LEMP.
- 8.2 The ecological mitigation hierarchy must be followed by all elements of the project, from design, to construction, to end use, to ensure there is a net gain to biodiversity on site and the favourable conservation status of protected species is maintained. The mitigation hierarchy follows:
- *Avoid*: avoid impacts on biodiversity as a priority.
 - *Minimise*: minimise impacts that cannot be completely avoided, through alternations to design, use, scale, location, timing of phases, etc.

- *Mitigate and compensate*: undertake works which will have an impact by implementing safeguarding measures, such as using an Ecological Clerk of Works (ECoW) where there are risks to wildlife. Provide compensation to replace habitats that have been lost as a consequence of proposals.
- *Enhance*: Provide additional habitats and features for wildlife to ensure biodiversity net gain. Habitat offsetting may be required where net biodiversity gain cannot be secured within the site boundary.

8.3 Where protected species are unexpectedly encountered on or near to the site, before or during construction, works are to cease and the advice of a professional ecologist sought to allow a reassessment of impacts and appropriate advice to be given.

Best Practice Measures

- 8.4 General measures are to be implemented to avoid the risk of harm to wildlife before and during the construction activities:
- During construction, excavations are to be backfilled or covered overnight or created with a shallow sloping side to allow any inadvertently captured wildlife to escape unaided.
 - No fires are to be lit on site.
 - No food is to be left on site overnight that may attract scavenging wildlife into the working area.
 - All litter is to be stored in suitable covered bins or taken home to reduce the likelihood of litter being distributed into the local area by the weather.
 - If any suspected mammal holes are discovered during the works, cease activity in the vicinity and contact the project ecologist for advice.
 - Avoidance of creating temporary debris or brash piles in which wildlife may seek shelter.

Habitat Creation and Enhancement

- 8.5 In order to ensure a Biodiversity Net Gain as part of the proposals, the following measures could be incorporated into the landscaping scheme for the project:
- A drainage pond is proposed as part of the drainage strategy. This should aim to provide as much benefit to biodiversity as possible by ensuring that it holds water continuously or for as much of the year as possible. The pond should be planted with native species including oxygenators (e.g., water starwort *Callitriche palustris*, hornwort *Ceratophyllum demersum*), floating plants (e.g., curled pondweed *Potamogeton crispus*, water lily *Nymphaea alba*), and marginal vegetation (e.g., marsh marigold *Caltha palustris*, water mint *Mentha aquatica*, water forget-me-not *Myosotis scorpioides* and lesser pond sedge *Carex acutiformis*) to help establish diverse native pond flora which will increase the

biodiversity value of the drainage pond significantly. The banks and surrounding areas of the pond should be sown with a native pond edge mixture such as Emorsgate EP1 (or equivalent) to encourage a natural border to the pond, which is then subject to an annual cut.

- Grassland areas within the landscaping scheme should be sown and managed as a wildflower meadow where possible. This will involve sowing the areas with a native wildflower seed mix such as Emorsgate EM1 General Purpose Meadow Mixture. Once established, these areas must be subject to a low-intensity regime that allows the wildflowers to grow throughout the spring and summer months before taking a 'hay cut' in late summer to allow seeds to drop, and remove nutrients by removing cut material.
- Recreational areas of grassland which need to be maintained at a short sward length should be sown with a native flowering lawn mixture such as Naturescape N14 (or equivalent), rather than a conventional rye-grass monoculture. Once established, this assemblage of species will tolerate regular mowing but will provide a greater diversity of species and more nectar sources than a conventional lawn seed mix.
- Boundary areas could be planted with a native scrub mix including species such as hawthorn *Crataegus monogyna*, dogwood, field maple, purging buckthorn *Lamnus carthatica*, dog rose *Rosa canina* and crabapple *Malus sylvestris*. These will provide a food and sheltering resource for a range of wildlife including birds, small mammals and invertebrates.
- Native heavy standard trees could be planted within playground/landscaping areas. Suitable species include oak *Quercus robur*, beech *Fagus sylvatica*, hornbeam *Carpinus betulus*, wild cherry *Prunus avium* and field maple. These should be planted as heavy standards to aid establishment as much as possible.

Reptiles

8.6 In order to minimise the risk of harm to reptiles in the unlikely event that they are present on site, several measures are required which will ensure that any individuals are safeguarded during site clearance. These must be conducted in coordination with the project ecologist:

- A phased vegetation cut of the grassland, tall ruderal and scrub areas; this should be timed to take place during the autumn months and will require an initial cut to take the vegetation height down to 150mm. The cutting should take place in a directional manner, moving from the north of the site to the south and ensuring no 'islands' are created. All cut material is to be removed from site immediately. The second cut is to take place after no sooner than 24 hours after the first (in order to allow wildlife to move out of the proposed works area) and will take the vegetation height down to 50mm or less (without disturbing the ground) with all

cut material again being removed. The vegetation must be maintained at this low sward height until site clearance takes place.

- A destructive search of suitable areas of habitat will be conducted under the direct supervision of a suitably experienced ecologist. This will require the use of an excavator with a toothed bucket which will slowly and carefully rake through the top 100mm of vegetation and topsoil, breaking up the soil in which any reptiles could be sheltering. The supervising ecologist will be in close proximity to the excavator and will capture any disturbed animals and move them to nearby suitable areas of habitat (an area of habitat within the site boundary which will be retained will be identified for this prior to works taking place).

- 8.7 Providing these measures are implemented, individual reptiles will be safeguarded during the project in line with planning policy and legislation. Should large numbers of reptiles be encountered, additional measures may be required such as translocation and fencing; this will be at the discretion of the project ecologist but may result in additional delays and costs.

Bats

- 8.8 A Preliminary Roost Assessment including an internal inspection and one emergence survey of the substation building is recommended to provide adequate confidence in the likely absence of roosting bats. If evidence of bat use is observed within the structure, then further bat surveys, carried out in the optimal survey season (May to August), will be required to characterise the roost and inform any future European Protected Species License (EPSL) application required to lawfully facilitate the works.
- 8.9 It is recommended that to provide enhancements for local bat populations, a minimum of four integrated bat boxes are incorporated into the proposed new SEN building. A suitable box would be the Segovia Build-In Woodstone Bat Box (or equivalent) and these should be sited at least 3m above ground and ~1m away from windows and doors, ideally on a south- or west-facing aspect.
- 8.10 There must be no additional lighting on site that will spill artificial light onto any new or possible existing bat roost habitat (e.g., bat boxes, adjacent buildings) or habitats of ecological value (surrounding trees, gardens, etc.). Published guidance on the use of lighting in relation to bats (Institute of Lighting Professionals and the Bat Conservation Trust, 2018) should be used to guide any necessary lighting for health and safety purposes, such as:
- LED luminaires to be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
 - A warm white spectrum (ideally <2700 Kelvin) to be adopted to reduce blue light component.

- Any external security lighting to be set on motion-sensors and short (one-minute) timers.
- Luminaires to feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2013).
- Proposals for light fittings and designs are to include baffles, hoods or louvres to reduce light spill and direct it only to where it is needed.
- The planting of trees, bushes and hedges can be used to mitigate for impacts of artificial lighting through the creation of dark buffers.

Nesting Birds

- 8.11 In order to ensure that active nests are not damaged or destroyed during site clearance and construction works, it is recommended that the removal of the radio mast, demolition of the substation building, and vegetation clearance is conducted during the autumn or winter months (i.e., September-February) when birds are least likely to be nesting, subject to other protected species recommendations such as bats. Works undertaken outside of this period will require a nesting bird check to be conducted by a suitably experienced ecologist no more than 24 hours prior to works starting. If active nests are observed, activity within the vicinity must cease and an appropriate safe zone around the nest established until the young have been verified to have fully fledged by the ecologist and the nest is no longer active.

Age of Survey Data

- 8.12 It is accepted that ecological surveys have a limited period of validity due to changing habitats and the transient behaviours of some UK wildlife species. Delays on the progression of the project beyond 18 months will require the PEA survey to be repeated (CIEEM, 2019).

9. References and Further Reading

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Natural England (2020). Template for Method Statement to support application for licence under Regulation 55(2)(e) of The Conservation of Habitats and Species Regulations 2017 (as amended) in respect of great crested newts *Triturus cristatus*. Form WML-A14-2 (Version April 2020). [online] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/879595/gcn-method-statement.xlsx

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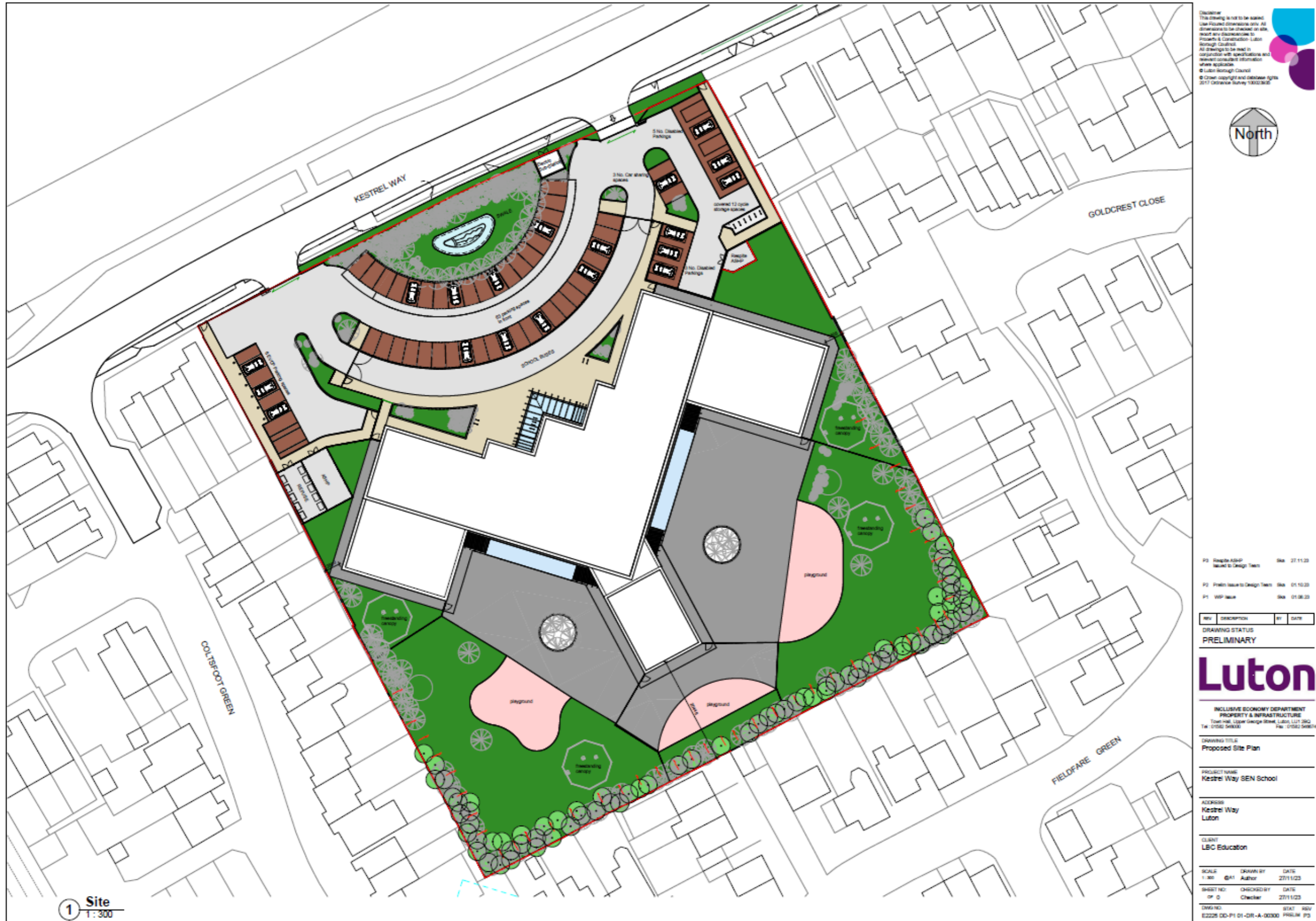
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Appendix 1. Site location.



Appendix 2. Site proposals.



Appendix 3. Pond and linear water feature location plan.



Appendix 4. Habitat plan.

