native ecology

PROMOTING BIODIVERSITY INTEGRATION

PRELIMINARY ECOLOGICAL APPRAISAL (PEA)

LAND ADJACENT TO BANK BUILDING

STATION ROAD, OTFORD

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1. SUMMARY

S.1 This report details a Preliminary Ecological Appraisal (PEA) undertaken in respect of proposed development within the land adjacent to the former Bank Building, Station Road, Otford, TN14 5QX.

S.2 Proposals include the construction of a new residential property with parking and joint access with the adjacent property, from Station Road.

S.3 A PEA site visit was undertaken by Native Ecology on the 14th July 2021.

S.4 The Site is approximately 0.06ha in size and comprises, for the majority, hard-standing. A small portion of the adjacent deciduous woodland Habitat of Principal Importance is located in the north-east corner of the Site.

S.5 No further survey work or assessment is recommended for designated sites, protected species or habitats.

S.6 Mitigation, without the requirement for further survey work, is recommended for bats, hazel dormice, reptiles, badgers, hedgehogs and nesting birds (detailed within Section 10).

S.7 Section 11 includes recommended appropriate biodiversity enhancement measures which could be included within development proposals.

S.8 Appendix 1 gives an overview of relevant legislation, which should be read in conjunction with this report.

S.9 Appendix 3 provides a habitat plan in accordance with UK Habitat Classification System methodologies

2. INTRODUCTION

2.1 This report details a Preliminary Ecological Appraisal undertaken in respect of proposed development within the land adjacent to the former Bank Building, Station Road, Otford, TN14 5QX. (site centred TQ 53244 59452).

2.2 Figure 1, Section 3 provides a site location plan.

COMMISSION

2.3 Native Ecology was commissioned by Gulliver Treatment Ltd in July 2021 to undertake a Preliminary Ecological Appraisal within the site.

APPLICATION SITE

2.4 The application site, hereafter referred to as 'the Site', is approximately 0.06ha in size and comprises predominantly hard-standing with some ruderal regrowth. The Site is bound by a cherry laurel hedge to the north, semi-natural broadleaved woodland to the east and south and a residential development currently under construction immediately west.

2.5 Figure 2, Section 4 provides an existing site plan.

PROPOSED WORKS

2.6 Proposals include the construction of a new residential property with parking and joint access with the adjacent property, from Station Road.

2.7 Figure 3, Section 5 provides a proposed site layout plan.

PURPOSE OF REPORT

2.8 This report aims to provide general advice on ecological constraints associated with proposed development within the Site and includes recommendations for mitigation and further survey work, where required.

2.9 The objectives of the report are to:

- Describe the current ecological conditions present within the site.
- Identify any key ecological constraints to the proposed development both with regards protected species and sites.
- Identify where mitigation will allow significant ecological effects to be avoided or minimised wherever possible.
- Identify any further ecological surveys required in order to assess the possible impact on protected and important / notable species.
- Recommend ecological enhancements to be incorporated into the development proposals.

3. SITE LOCATION PLAN

Figure 1. Location of development site. Reproduced from OS Explorer 147 1:25,000 Ordnance Survey © Crown copyright and database rights [2015] (Site centred TQ 53244 59452).

4. EXISTING SITE PLAN

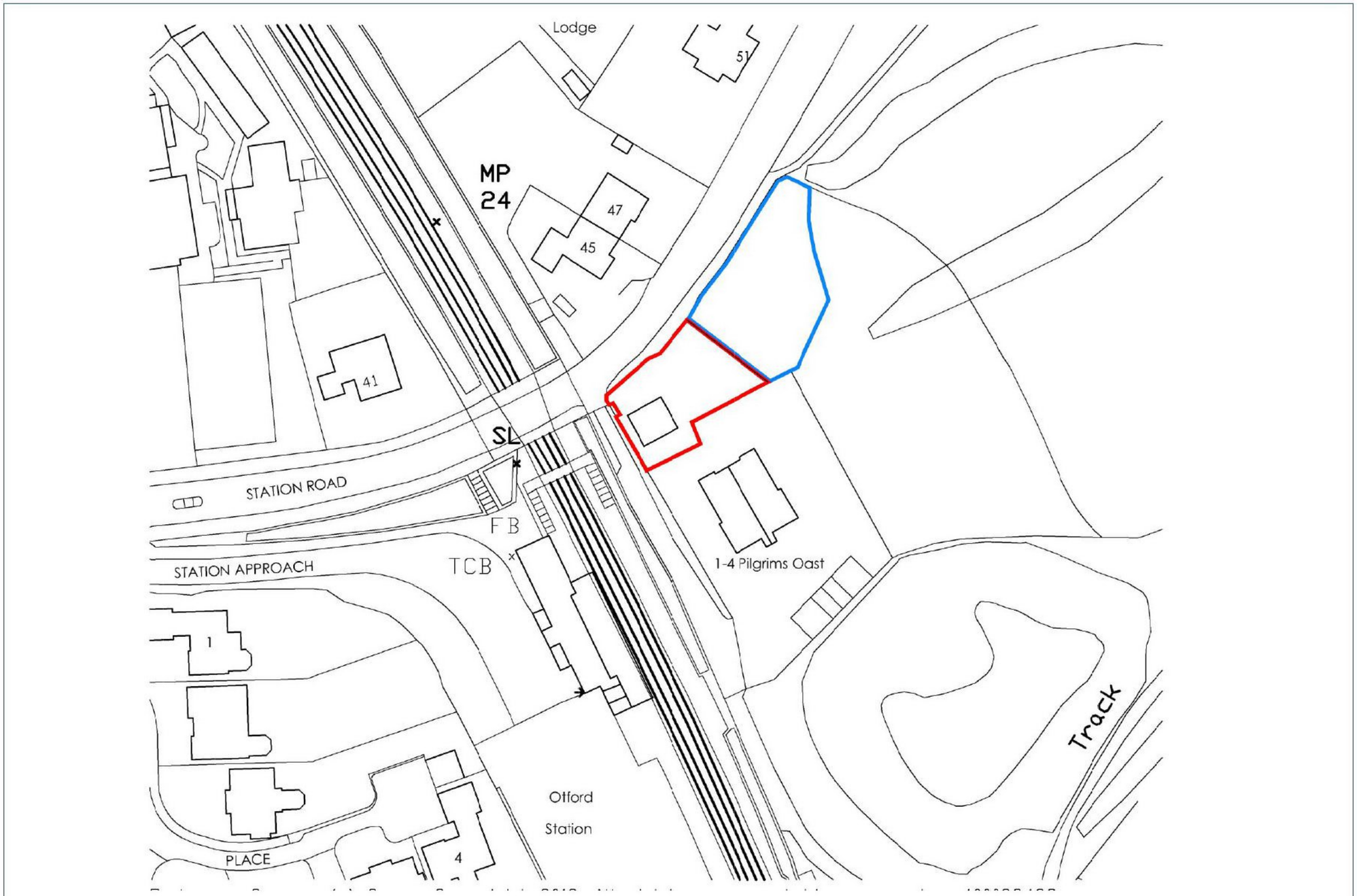

Figure 2. Existing site plan. The PEA survey area is outlined in blue. (adapted from Offset architects, Drawing No.6509-PD-01 Rev B, dated March 2019).

5. PROPOSED SITE LAYOUT

Figure 3. Proposed site layout plan, including adjacent approved application: 20/03662/FUL (Offset architects, Drawing No. 6509-PD02 Rev A, dated April 2021).

6. METHODOLOGY

DESK STUDY

Zone of Influence

6.1 The 'zone of influence' for a project is the area over which ecological features may be subject to significant effects as a result of the proposed project and associated activities (CIEEM, 2017a).

6.2 This report provides an assessment of the effects of a proposed development on protected or ecologically valuable sites, habitats or species where these effects extend beyond the development boundary of the site.

Designated sites

6.3 Potential impacts to designated sites, including Natura sites and SSSIs, have been considered.

6.4 The Multi Agency Geographic Information for the Countryside (MAGIC) website was used to obtain information about statutory designated sites of international importance such as Special Protection Areas (SPA) within 7.2km of the Site.

6.5 Information was obtained about statutory designated sites of national importance such as Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR) within 2km of the Site and ancient woodland within 500m of the Site.

6.6 Kent Landscape Information System (KLIS) was used to identify Local Sites, such as Local Wildlife Sites (LWS), located within 1km of the Site.

Data search

6.7 Reptile and amphibian records were obtained from Kent Reptile and Amphibian Group (KRAG) at a search radius of 1km from the Site.

6.8 Ordnance survey maps, the Multi Agency Geographic Information for the Countryside (MAGIC) website and aerial images were used to identify waterbodies within 250m of the Site boundary. MAGIC Map was also used to obtain information on locations where European Protected Species Mitigation (EPSM) Licences for great crested newt have been issued by Natural England within 1km of the Site.

FIELD STUDY

6.9 A Preliminary Ecological Appraisal site visit was undertaken by Tara Hall BSc(Hons) ACIEEM of Native Ecology on 14th July 2021, survey details are presented in Table 1, overleaf.

Table 1. Survey details

Survey date	14th July 2021.
Surveyor	Tara Hall BSc (Hons) ACIEEM
Time on site	10:30 - 11:15
Weather	17°C, 100% cloud cover, no rain, light breeze, ground dry

UK Habitat Classification

6.10 Habitats within the Site were mapped and classified in accordance with the The Professional Edition of the UK Habitat Classification.

6.11 There are 5 levels of hierarchy, which provide an increasing level of detail. For the purpose of this assessment, habitats have been mapped for Primary Habitats up to Level 4.

6.12 Secondary codes have been assigned, where appropriate. These Secondary Codes allow recording of additional information, linked to the Primary Habitats. In some cases, habitat types are defined by a Secondary Code only, where Primary Habitats do not sufficiently represent the habitat present.

Protected species and habitats

6.13 During the survey the species and habitats identified within the Site were recorded. An assessment was also made as to the presence or potential presence of protected, important or Nationally Rare species.

6.14 Protected species and habitats considered include those listed under the Schedules of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and of the Wildlife and Countryside Act 1981.

6.15 In addition, an assessment has been made as to the possible impacts of the proposed development on nature conservation interests, in accordance with information relevant to the National Planning Policy Framework and Local Planning Policy.

Bats

Preliminary Roost Assessment (bats)

6.16 A preliminary ground level roost assessment of trees within the Site, and/or immediately adjacent to the Site was undertaken to determine whether trees possessed Potential Roost Features (PRFs) for bats. Where possible, trees were assessed as providing either negligible, low, moderate or high suitability for roosting bats.

6.17 The suitability of roosting habitat and foraging and commuting habitat within the site was assessed following recommendations provided within Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd edition, Bat Conservation Trust (Collins, 2016) (see Appendix 2 for suitability assessment and survey effort required for structures and trees).

[redacted]

Reptiles

6.19 The suitability of habitats within the Site to support reptiles was assessed during the Preliminary Ecological Appraisal site visit. Any incidental sightings were recorded.

Great crested newt

6.20 The level of survey effort and data collection required to support a Planning Application or European Protected Species Mitigation (EPSM) Licence for great crested newts is relative to the potential impact. For EPSM Licence applications, typically ponds within 250m of the construction zone are surveyed for the presence (and population assessment) of great crested newts.

6.21 Following the guidance of Natural England (2015) waterbodies located beyond 250m from the development are only surveyed if all of the following conditions are met:

- ponds have potential to support a large great crested newt population;
- the development footprint contains particularly favourable habitat, especially if it constitutes the majority available locally;
- the development would have a substantial negative effect on that habitat; and
- there is an absence of dispersal barriers.

6.22 Based on the listed criteria above, a proportionate survey area for the Site includes the assessment of any ponds within 250m of the construction zone.

Habitats and Species of Principal Importance

6.23 An assessment was made as to the likely presence of Habitats and Species of Principal Importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and birds on the Red and Amber lists of birds of conservation concern.

LIMITATIONS

6.24 This report aims to provide general advice on ecological constraints associated with the development of the site, it does not include detailed information on particular species or species groups but instead makes recommendations for further, species-specific surveys required.

6.25 In accordance with CIEEM guidance, consideration should be given to the validity of survey data after a period of 12 month from the date of the survey. This may require a site visit to assess whether ecological conditions within the site have changed and may require further ecological survey work due to the transient nature of some protected species.

7. CURRENT ECOLOGICAL CONDITIONS

DESIGNATED SITES

Statutory Sites of International Importance

7.1 There are no statutory sites of international importance located within 7.2km of the Site.

Statutory Sites of National Importance

7.2 There are three Sites of Special Scientific Interest (SSSI) located within 2km of the survey area.

Table 2. Details of Statutory Sites of National Importance within 2km of the site boundary.

Designation	Site name	Distance and direction from site	Qualifying features
SSSI	Greatness Brickworks	1.5km south	This is designated for geological interest. The site is a classic Cretaceous ammonite locality and is vitally important for biostratigraphical research on the Gault of the Weald.
SSSI	Otford to Shoreham Downs	0.4km east	This site comprises of species-rich chalk grassland, chalk scrub, and woodlands on a variety of soils. It supports a range of scarce and rare invertebrates and plants including man orchid Acerus anthropophorum, chalk milkwort Polygala calcarea and a scarce hoverfly Cheilosia soror.
SSSI	Magpie Bottom	1.6km northeast	The principal interest of this site is the chalk grassland on the steep slopes which supports a herb-rich plant community, including the nationally rare Kentish milkwort *Polygala amarella*. The site also incorporates neutral grassland, scrub and a variety of woodland. The fauna of this site is not well known. However, two locally distributed butterflies are found here, the chalkhill blue *Lysandra coridon* and the brown argus *Aricia agestis* (Natural England, 2021).

7.3 The Site is within the impact zone for all three SSSI detailed within Table 2. However, the proposed development does not fall within any of the listed development categories considered likely to directly or indirectly impact on the SSSI's or their qualifying criteria.

7.4 Therefore no further survey work or mitigation is proposed.

Non-statutory sites

Local Sites

7.5 There is one local wildlife site within 1km of the Site;

- Woods and Downs above Kemsing - 0.3km east

7.6 Due to the small scale of the development and the distance from the nearest local site, no impacts are anticipated. Therefore no further survey work or mitigation is required.

Ancient Woodland

7.7 There are no ancient woodlands within 500m of the Site.

HABITATS WITHIN THE SITE

Habitats of Principal Importance (HPI)

7.8 A small area (approximately 0.01ha) of deciduous woodland HPI is located within the north-east corner of the Site. This area of HPI forms the edge of the adjacent deciduous woodland located to the east of the Site.

7.9 Historically, aerial images indicate that deciduous woodland HPI was also once present throughout the Site, however on review of aerial imagery, the habitat was cleared between 2007-2008. It is also understood that, historically, there has been a residential dwelling present on-site, which was demolished c.1980.

Other habitats

Buildings

7.10 There are no buildings present within the Site.

7.11 Table 3 below (and continues overleaf) describes the habitats present within the Site in accordance with UK Habitat Classification.

Table 3. Habitat types present within the Site, including level (UKHab), size and description (continued overleaf).

Habitat Type				Description
Level 2 label	Level 3 label	Level 4 label	Level 5 label / Secondary codes	
Urban	Built-up areas and gardens	Artificial unvegetated, unsealed surface	Ruderal/ ephemeral	The majority of the Site comprises gravel/ hardcore aggregate hard-standing. Scattered ephemeral vegetation is present including lesser trefoil *Trifolium dubium,* great willowherb *Epilobium hirsutum,* hogweed *Heracleum sphondylium* and creeping buttercup *Ranunculus repens.*
Heathland and shrub	Hedgerows	Other hedgerows (non-priority)		A short cherry laurel *Prunus laurocerasus* hedgerow is present along the northern boundary, screening the Site from Station Road.
		Dense scrub	Ruderal/ ephemeral Bramble scrub, Recent management	A small area of approximately 0.01ha of bramble *Rubus fruticosus* agg dominated scrub has been recently cleared to ground level. Additional species present include black horehound *Ballota nigra,* great willowherb and common nettle *Urtica dioica.*

Habitat Type				Description
Level 2 label	Level 3 label	Level 4 label	Level 5 label / Secondary codes	
Woodland and forest	Broadleaved mixed and yew woodland	Lowland mixed deciduous woodland	Line of trees	A portion of the boundary of the adjacent deciduous woodland is present in the Site and forms a line of trees. Species present include sycamore *Acer pseudoplatanus,* elder *Sambucus nigra,* ash *Fraxinus excelsior,* bramble, hazel *Corylus avellana,* dogwood *Cornus sanguinea,* ivy *Hedera helix.* Snowberry *Symphoricarpos* is also present.

Target Note

7.12 A raised earth mound with common nettle growth is located in the north-east corner of the Site.

SURROUNDING HABITATS

7.13 The Site is located within the village of Otford, immediately south of Station Road and bound to the east and south by deciduous woodland HPI. More broadly, the Site is located approximately 4.4km northeast of Sevenoaks town centre. The Site is located in a semi-rural location, with a mosaic of residential properties, woodlands and arable fields within the wider landscape.

PROTECTED AND NOTABLE SPECIES

Bats - Roosting habitat

Roosting bats - Trees

7.14 No visible potential roost features were recorded in the trees within the Site. No further survey work or mitigation is required for bat roosts in trees.

Foraging and commuting habitat

7.15 The Site itself offers very limited suitable foraging habitat for bats, however the direct connectivity to deciduous woodland HPI on the eastern and southern boundaries offer suitable commuting corridors for bats within the locality.

7.16 Foraging and commuting bats are considered further in Section 9.

Hazel dormice

7.17 A search on MAGIC map indicates that there have been no recent or historic dormouse mitigation licenses within 1km of the Site.

7.18 The Site itself, which for the majority comprises hard-standing and species-poor hedgerow, offers very limited suitable habitat for dormice.

7.19 However, the direct connectivity to deciduous woodland HPI on the eastern and southern boundaries offers suitable dormouse nesting and foraging habitat.

7.20 The adjacent woodland is reasonably isolated within the wider landscape from any further parcels of suitable dormouse habitat, however there is some limited connectivity between the adjacent woodland and additional habitats via the tree-lined railway corridor to the west.

7.21 Hazel dormice are considered further in Section 9.

Otter

7.22 There is no habitat suitable for otter within, or in close proximity the site. No further survey work or mitigation is required for otter.

[redacted]

Water vole

7.25 There is no habitat suitable for water vole within, or in close proximity to the site. No further survey work or mitigation is required for water vole.

Hedgehog

7.26 Habitats within the Site and surrounding area provide foraging opportunities for hedgehog, which may be present in the locality. Hedgehog are considered further in Section 9.

Birds

7.27 Due to the habitats present and the current and past management of the Site, Schedule 1 birds are not expected to nest within the Site.

7.28 The tree line connecting to woodland HPI and the cherry laurel hedgerow provide suitable nesting habitat for a number of common bird species as well as red and amber listed birds such as song thrush (red) and mistle thrush (red).

7.29 Birds are considered further in Section 9.

Reptiles

7.30 Records obtained through KRAG indicate that there are multiple recordings of slow worm (49), common lizard (22), grass snake (7) and adder (11) present within 1km of the Site. The most recent recordings are as follows;

- Common lizard, 4 recordings - 0.5km northeast in 2010;
- Slow worm, 1 recording - 0.5km east in 2019;
- Grass snake, 1 recording - 0.5km south in 2020; and
- Adder, 10 recordings - 0.8km in 2010

7.31 The habitats present within the Site offer very limited opportunities for reptiles, as the majority of the Site comprises hard-standing. There is some limited suitable habitat at the eastern and southern Site boundaries.

7.32 Reptiles are discussed further within Section 9.

Great crested newt

7.33 Data obtained through KRAG identify a single great crested newt record in 2018 approximately 0.8km south of the Site. A review of MAGIC map indicates there have been no recent or historic great crested newt mitigation or class licence returns within 1km of the Site.

7.34 There are no waterbodies present within the Site or within a 250m radius of the Site.

7.35 The Site offers low-negligible terrestrial habitat suitability for great crested newts, with any suitable habitat confined to the eastern and southern Site boundaries.

7.36 Great crested newt are not considered likely to be present within the Site and therefore no further survey work or mitigation is required.

Invertebrates

7.37 The Site includes a small portion of HPI woodland, which may support rare invertebrates. The conditions created within these habitats, including an abundance of dead and decaying wood, can support rare saproxylic species.

7.38 The adjacent woodland HPI is not part of the development site and will not be impacted by the proposals.

7.39 Providing that the small area of woodland HPI that is present within the Site is retained, no further survey work or assessment for invertebrates is required.

Flora

7.40 Due to the past and present management of the Site, the areas of habitat are unlikely to support protected plant species.

7.41 No evidence of Schedule 9 plants was found during the Site survey, however cherry laurel and snowberry, which are present within the Site, can be highly invasive in woodland and can negatively impact the overall health of the woodland as an ecosystem.

7.42 Flora are considered further in Section 9.

8. PHOTOGRAPHS

Photograph 1. The Site and adjacent woodland HPI to the east.

Photograph 2. Shared access into the Site.

Photograph 3. Southern Site boundary.

Photograph 4. Cherry laurel hedge and adjacent earth mound (TN1).

Photograph 5. The Site facing northwest.

Photograph 6. Adjacent woodland HPI to the south.

9. ECOLOGICAL CONSTRAINTS

9.1 The potential impacts of the proposed development on those Ecological Features that have not been scoped out in Section 7 are considered below.

PROTECTED AND NOTABLE HABITATS

Deciduous Woodland HPI

9.2 It is recommended that the small area of HPI present within the Site is retained and protected within the Site as part of proposals.

9.3 Mitigation to avoid accidental damage to the on-site and adjacent woodland HPI are provided in Section 10.

9.4 Enhancement measures are recommended in Section 11.

PROTECTED AND NOTABLE SPECIES

Foraging and commuting bats

9.5 Proposals will not result in the severance of potential foraging or commuting corridors for bats.

9.6 Habitats within the Site comprising hard-standing and ephemeral vegetation offer low-negligible suitability for foraging and commuting bats. The Site boundaries and adjacent woodland offer moderate foraging and commuting habitat for bats.

9.7 Bats are nocturnal and rely on dark habitat corridors for foraging and commuting, therefore indirect impacts could occur through spillage of artificial lighting associated with parking and new building within the Site post-construction.

9.8 Precautionary mitigation to avoid impacts through the careful design of lighting is recommended within Section 10.

9.9 Enhancement measures, outlined within Section 11, have the potential to improve the value of habitats within the Site for foraging and commuting bats.

[redacted]

Hedgehog

9.12 Development proposals are unlikely to impact on local hedgehog populations and therefore no further survey work is required. However, in the absence of suitable mitigation, individual hedgehogs may be harmed during works.

9.13 Precautionary mitigation to reduce the risk of killing or injuring individual hedgehog and to maintain connectivity between existing and new foraging areas within the site and in the locality is detailed within Section 10.

Nesting birds

9.14 Given the small area of suitable bird nesting habitat that would be removed to facilitate the development, it is unlikely that development proposals will impact bird populations within the locality. No further survey work for nesting birds is recommended.

9.15 Mitigation measures to avoid impacts to nesting birds through the timing of works are outlined within Section 10.

9.16 Enhancement measures, outlined within Section 11, have the potential to improve the value of habitats within the Site for birds.

Reptiles

9.17 Given the small area of potential reptile habitat present in the Site, and that the suitable reptile habitat is confined to the eastern and southern Site boundaries, it is unlikely that the development proposals will impact any reptile population assemblages within the locality and no further survey work is recommended.

9.18 Precautionary mitigation to reduce the risk of killing or injuring individual reptiles is detailed within Section 10.

10. MITIGATION MEASURES

HABITATS OF PRINCIPAL IMPORTANCE (HPI)

10.1 In order to avoid any possible accidental impacts to woodland HPI the following precautionary measures should be adhered to during the construction phase:

- Heras fencing, or similar, should be installed along the eastern and southern boundaries between the HPI and the Site to avoid accidental physical damage to these habitats.
- Consideration should be given to the removal of the existing cherry laurel hedgerow along the northern boundary in order to prevent its spread into the adjacent woodland HPI.
- Planting plans should not include woodland invasive species, including cherry laurel, snowberry and rhododendron.

PROTECTED AND NOTABLE SPECIES

Foraging and commuting bats

Habitat retention and enhancement

10.2 It is recommended that measures are designed into a Landscape Strategy to enhance boundary habitat for foraging and commuting bats and increase connectivity within the surrounding habitat. This could include planting of native species hedgerow, detailed in Section 11.

Careful lighting design

10.3 In order to reduce a low potential, indirect impact on foraging and commuting bats to negligible, mitigation to reduce any effects of artificial lighting should be implemented, as far as possible and where applicable, in accordance with guidance issued by the Bat Conservation Trust and Institute of Lighting Professionals (ILP, 2018).

- The boundary vegetation should not be illuminated so that dark flight corridors for bats are retained.
- Any external lighting should be operated with motion sensors, where health and safety allows.
- Metal halide and fluorescent sources should not be used.
- A warm white spectrum (ideally 2700Kelvin) should be adopted to reduce the blue light component.
- LED luminaries should be used which have a sharp cut off and lower intensity to avoid light trespass.
- Luminaries should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.
- Column heights should be as low as possible to avoid unnecessary light spill.
- Luminaries should be mounted on the horizontal to avoid upward spill.
- Accessories such as baffles, hoods and louvres should be used to further reduce any light spill and direct it to where it is needed.

Hazel Dormouse

10.4 In order to reduce a low potential, indirect impact on foraging and nesting dormice to negligible, mitigation to reduce any effects of artificial lighting on the adjacent woodland should be implemented, as far as possible and where applicable.

10.5 The protection of boundary woodland detailed in 10.1 and sensitive lighting guidance detailed in 10.3 should be adhered to.

[redacted]

Hedgehog

10.7 The following mitigation should be implemented during construction works to avoid harm to individual hedgehog:

- All holes and excavations should be covered over each night to prevent animals from being trapped or injured.
- If this is not possible, a structure/plank should be placed into the hole to enable animals to escape.
- Any removal of building materials or other debris, should be undertaken with care to prevent harm to hedgehog.
- If any hedgehogs are found during the construction phase they should be carefully relocated to an area outside the development site that offers immediate shelter.

Nesting Birds

Habitat retention and enhancement

10.8 It is recommended that measures, such as native tree and shrub planting are designed into the Landscape Strategy to enhance habitat for nesting birds.

Avoid impact to nesting birds

10.9 The following mitigation should be implemented to avoid impact to nesting birds:

- Works to any vegetation should be undertaken outside of the bird nesting season where ever possible.

10.10 Should impacts to vegetation be unavoidable between March and September, then the following mitigation should be undertaken:

- A nesting bird survey should be undertaken by a suitably experienced ecologist within at least 48hours prior to any impacts.
- A watching brief should be carried out by a suitably experienced ecologist during any works that impact suitable vegetation within the site.
- If nesting/nest-building birds are found, no works should commence/continue that are likely to damage or significantly disturb a nest until the young have fully fledged.

10.11 Works undertaken during the bird nesting season may result in significant delays to the development programme should activities need to cease due the presence of an active nest. It should be noted that some bird species, such as blackbirds and robins are multiple brooders and may therefore nest within the Site for a number of months.

Reptiles

10.12 To avoid incidental death or injury to reptiles during construction, the following precautionary mitigation should be adhered to:

- Habitats within the Site should be regularly managed below a height of 10cm to reduce the likelihood of reptiles entering the Site;
- Building materials should be stored on an area of existing hard-standing and on a raised pallet, to avoid reptiles taking refuge within material storage; and
- The eastern and southern boundary habitats should be protected with Heras fencing, ensuring heaving machinery doesn't track through the limited suitable reptile habitat present.

11. SUGGESTED ENHANCEMENT MEASURES

11.1 It is recommended that ecological enhancement measures are included within the proposals. Possible habitat enhancement measures are outlined below.

TREE PLANTING

11.2 Additional native tree planting, particularly along the eastern and southern boundaries would benefit nesting birds, dormice and foraging bats, amongst other species. Trees that produce fruits, such as *Prunus* and *Sorbus* species, would provide additional foraging habitat for birds within the locality.

HEDGEROW CREATION

11.3 Native species-rich hedgerows could be created along Site boundaries and around boundaries of the new property. Species could include hazel, hawthorn, spindle, holly, yew, privet, field rose, dog rose and guelder rose.

11.4 Flowering species, such hawthorn, privet and rose would provide opportunities for nectar feeding invertebrates, such as bumblebees, hover flies and butterflies. Creation of these habitat feature would also benefit bats by providing additional foraging habitat and birds through additional nesting habitat.

NATIVE AND NECTAR RICH PLANTING PLAN

11.5 It is recommended that any planting plans around new building include native, flower rich species, including those that flower in the late and early seasons to enhance the biodiversity value of the site.

11.6 The inclusion of climbing plants would add sheltering opportunities for invertebrates and birds. They can also produce nectar rich flowers for butterflies, bees and hover flies and fruit for birds and small mammals.

11.7 The inclusion of herbs, such as lavender and sage, would provide nectar for an array of invertebrate species, including bees, butterflies and moths. Providing a range of herb plants would ensure flowering throughout the seasons. The inclusion of plants that produce scent at night would attract night flying invertebrates and as such would also provide foraging opportunities for bats.

BAT BOXES

11.8 Development provides an opportunity to enhance the site for bats via provision of roosting opportunities.

11.9 Integrated bat boxes, such as a 1FR Schwegler Bat Tube, or similar, could be installed on the new building within the Site. Integrated bat boxes should be primarily located on the south and west facing aspects located at least 3m above the ground, but can also be installed on different elevations to provide a variety of different environmental roost conditions.

11.10 Alternatively, bat access tiles can be incorporated into roof elevations.

BIRD BOXES

11.11 Bird boxes, including for house sparrow and starlings, could be integrated into the new building. Woodcrete exterior or integrated terrace boxes for house sparrows could be incorporated into the new house. Boxes should be located 2-4m in height and arranged so that loose colonies of house sparrows are encouraged. Bird boxes should be located close to eaves and on the north or east elevations to avoid direct sunlight.

11.12 Bird boxes suitable for house martins, such as Schwegler House Martin nest No. 13 or similar, could be integrated into the external fabric of the new building at ridge height, where possible.

11.13 Bird boxes suitable for hole nesting species, such as Schwegler 1B or similar, could be installed on mature trees within the Site. Bird boxes should be located on north or east elevations to avoid direct sunlight.

BEE BRICKS

11.14 To increase the nesting opportunities for pollinating solitary bees such as red mason bee *Osmia bicornis* and leaf-cutting bees *Megachile* sp., bee bricks (Green&Blue, or similar) could be incorporated into the fabric of the new building.

11.15 The bricks should be positioned on a southern elevation at a minimum height of 1m from ground level. Cavities with failed nests should be cleared out annually (if required) in October after the egg laying season has finished.

PERMEABLE BOUNDARIES

11.16 If fences are proposed between properties, each boundary fence should incorporate a 'hedgehog highway' which will ensure connectivity for small mammals throughout the new gardens. Each boundary line should feature a 13cm x 13cm hole at the base or within the gravel board to allow free movement of animals.

12. REFERENCES

- CIEEM (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
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- Collins, J. (ed.) (2016) Bat surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.
- Institute of Lighting Professionals & Bat Conservation Trust (2018). Bats and artificial lighting in the UK. Bats and the built environment series. Guidance Note 08/18.
- Multi-agency Geographic Information for the Countryside (MAGIC) Interactive Map. Department for Environment, Food and Rural Affairs. http://magic.defra.gov.uk (accessed: 30/07/21).
- UK Biodiversity Action Plan; Priority Habitat Descriptions (2008). BRIG (ed. Ant Maddock).
- UK Habitat Classification Working Group (2018). UK Habitats Classification - Habitat Definitions V1.0 at http://ecountability.co.uk/ukhabitatworkinggroup-ukhab.
- UK Habitat Classification Working Group (2018). UK Habitats Classification User Manual at http://ecountability.co.uk/ukhabitatworkinggroup-ukhab.

13. APPENDIX 1: SUMMARY OF PLANNING POLICY AND LEGISLATION

13.1 Species afforded protection under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 are also known as European Protected Species. European Protected Species include all species of bats, hazel dormice and great crested newt.

13.2 European Protected Species relate to those listed within the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and are afforded the highest level of protection. These species are also protected under the Wildlife and Countryside Act 1981. Taken together this level of protection makes it an offence to:

- deliberately capture, injure or kill any wild animal of a European protected species,
- deliberately disturb wild animals of any such species
- deliberately take or destroy the eggs of such an animal
- damage or destroy a breeding site or resting place of such an animal

13.3 Disturbance of animals includes in particular any disturbance which is likely:

- to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or
- in the case of animals of a hibernating or migratory species, impair their ability to hibernate or migrate
- to affect significantly the local distribution or abundance of the species to which they belong

13.4 The legislation requires that any derogation be dealt with by licencing through an appropriate licencing body (Natural England in England). In determining whether a licence can be granted the licencing body must apply the requirements of Regulation 53, and in particular, the three tests:

1. Regulation 55(2)(e) states: a licence can be granted for the purposes of "preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment".

2. Regulation 55(9) states: The relevant licensing body must not grant a licence under this regulation unless it is satisfied—

(a) that there is no satisfactory alternative; and

(b) that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

PLANTS

13.5 A number of plant species are protected under Schedule 8 of the Wildlife and Countryside Act 1981. This Schedule lists plant species that are protected under Section 13, which protects from picking and sale of plants or parts of plants listed in Schedule 8.

BIRDS

13.6 All nesting birds are protected under the Wildlife and Countryside Act 1981. With certain exceptions, it is an offence to:

- Kill, injure or take wild birds;
- Take, damage or destroy the nest of wild birds while in use or being built;
- Take or destroy the eggs of wild birds;
- Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Birds of Conservation Concern

13.7 After reviewing the status of all bird species in the UK, the leading non-governmental bird conservation organisations agreed priorities for bird conservation. This lead to the publication of a list of Birds of Conservation Concern. Bird species are either listed as red, amber or green, depending on their status and conservation objectives. Birds listed as red require urgent, effective conservation action.

[redacted]

COMMON REPTILES

13.9 All common and widespread reptiles, which include viviparous lizard, slow worm, grass snake and adder are protected under the Wildlife and Countryside Act 1981. This makes it an offence to:

- Intentionally or recklessly kill or injure reptiles
- Sell, offer for sale, possess or transport for the purpose of sale or publish advertisement to buy or sell any reptile.

INVERTEBRATES

13.10 A small number of invertebrates are protected under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, relating to the designation of SACs, including white-clawed crayfish and Desmoulin's whorl snail.

13.11 A number of invertebrate species also protected under the Wildlife and Countryside Act, such as the heath fritillary and fairy shrimp. Species listed under Schedule 5 are protected from one, some or all of the following:

- Intentional killing, injuring, taking
- Possession or control (live or dead animal, part or derivative)
- Damage to, destruction of, obstruction of access to any structure or place used by a scheduled animal for shelter or protection
- Disturbance of animal occupying such a structure or place
- Offering for sale, possessing or transporting for the purpose of sale (live or dead animal, part or derivative)
- Advertising for buying or selling live or dead animal, part or derivative

STATUTORY PROTECTED SITES

13.12 Special Protection Areas and Special Areas of Conservation are protected under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

13.13 Sites of special scientific interest (SSSIs) are protected under the Wildlife and Countryside Act 1981. Natural England is responsible for notifying SSSIs, ensuring they are managed appropriately and assessing and monitoring their condition.

13.14 National Nature reserves are created to protect important wildlife habitats, while also providing a resource for scientific research and recreation. Declared under the National Parks and Access to the Countryside and the Wildlife and Countryside Act 1981.

NON-STATUTORY PROTECTED SITES

Ancient Woodland

13.15 Land with continuous woodland cover since at least 1600AD. Ancient woods are recognised in UK planning policy, but do not have statutory protection.

NATURAL ENVIRONMENT AND RURAL COMMUNITIES (NERC) ACT 2006

13.16 Following consultation with Natural England, the Secretary of State identified species and habitats considered to be of principal importance for the conservation of biological diversity in England. These species and habitats are listed under Section 41 of the Act . The list is to be kept under review and revisions are made as necessary as part of the progress reports on the Biodiversity Strategy for England.

13.17 Following the Biological Diversity in Japan, 2012, a new initiative in England, 'Biodiversity 2020', replaced the former UK Biodiversity Action Plan Species aiming to reinforce the protection of Section 41 habitats and species.

THE NATIONAL PLANNING POLICY FRAMEWORK

13.18 The National Planning Policy Framework was revised in February 2019 and sets out the Government's planning policies for England and how these are expected to be applied. Within this document, Chapter 15 is titled Conserving and Enhancing the Natural Environment.

13.19 Of particular relevance within this chapter are the following statements:

Planning policies and decisions should contribute to and enhance the natural and local environment by:

- *minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.*

To protect and enhance biodiversity and geodiversity, plans should:

- *promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.*

When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

14. APPENDIX 2: SUITABILITY ASSESSMENT OF ROOSTING HABITAT (STRUCTURES AND TREES)

Table 4. Assessing potential suitability of roosting habitat (structures and trees) for bats and survey effort required. Adapted from Bat Surveys for Professional Ecologists, Good Practice Guidelines 3rd Edition (Collins, 2016).

Suitability	Description of roosting habitat	Survey effort* and timing
Negligible	Negligible habitat features on site likely to be used by roosting bats.	None required.
Low	A structure or tree with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).	**Buildings/structures:** One survey visit. One dusk emergence or dawn re-entry survey. Timing: May to August. **Trees:** None required.
Moderate	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).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey. Surveys should be spaced a minimum of two weeks apart. Timing: May to September with at least one survey undertaken between May - August.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn. Surveys should be spaced a minimum of two weeks apart. Timing: May to September with at least two surveys undertaken between May - August.

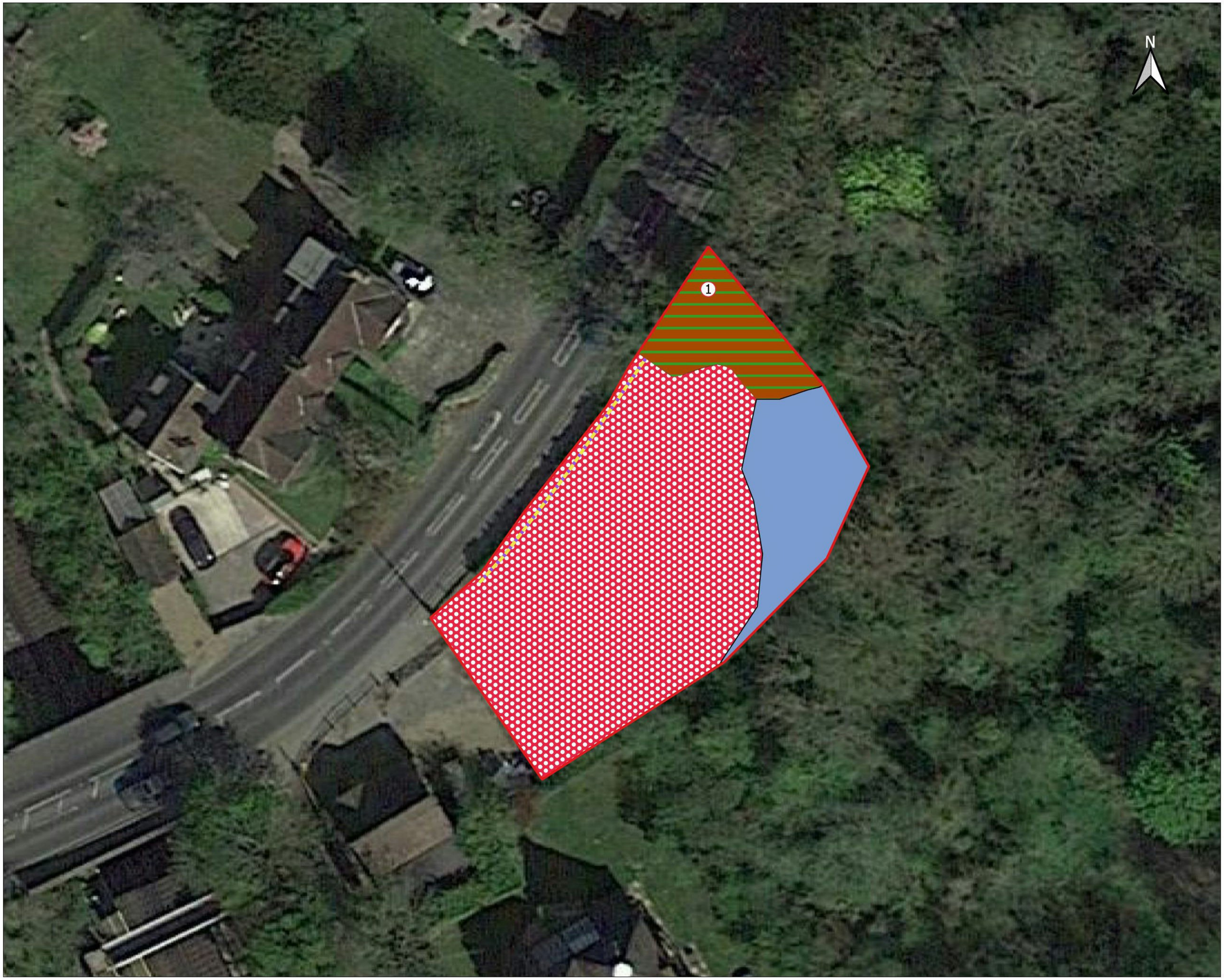
* Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures and trees.

15. APPENDIX 3: HABITAT PLAN

See overleaf

TARGET NOTES

T1 Earth mound.



0 10 20 30 40 50 m

Legend

- w1f - lowland mixed deciduous woodland
- u1c - artificial unvegetated unsealed surface
- h3 - Bramble scrub (cleared)
- Species-poor hedgerow
- Target notes (#ref)
- Site boundary

Note:

Habitats mapped by eye according to UK Habitat Classification based on a site visit undertaken on 14/07/2021

native ecology
PROMOTING BIODIVERSITY INTEGRATION

Habitat Plan

Land adjacent to bank building
Station Road
Otford

Drawing ref:	0802_DR01
Revision:	-
Date:	30/07/2021
Scale:	1:500
Paper size:	A3