KIMBERLY CLARK NORTHFLEET

Preliminary Ecological Appraisal Report

RSK Acoustics

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EXPERTS IN ECOLOGY

General Notes

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK Biocensus.

Switchboard: +44 (0)330 223 6950 Company contact: enquiries@rskbiocensus.com

Executive Summary

1. RSK Biocensus was appointed by RSK Acoustics Ltd on behalf of Kimberly Clark to complete a preliminary ecological appraisal of Northfleet Mill at Northfleet, Gravesend.
2. The survey was undertaken in February 2026. It was required in relation to the demolition of an existing building and the installation of new boilers and associated pipework/cabling.
3. A desk study was undertaken to gather existing ecological data for the Site and surrounding area up to 10km from the Site.
4. A survey was undertaken using UK Habitat survey classification, and the suitability of the Site to support protected or otherwise notable plant and animal species was assessed. A Preliminary Roost Assessment (PRA) for bats was also undertaken.
5. Habitats on-site comprised other neutral grassland, other broadleaved woodland, mixed scrub, and developed land; sealed surface.
6. Potentially suitable habitat for the following protected/priority species was recorded on-site: terrestrial invertebrates, amphibians, reptiles, nesting birds, badger, and hedgehog.
7. A further botanical survey of the on-site grassland would be required to inform any mitigation design and confirm the absence of invasive non-native species on site.
8. Precautionary measures will be required in relation to vegetation removal for amphibians, reptiles, birds and badger. Precautionary measures relating to lighting design are also recommended for bats.
9. Potential enhancement opportunities for the Site include provision of log piles for invertebrates, amphibians, and reptiles; provision of bird/bat boxes to increase nesting/roosting opportunities, and sensitively designed lighting to avoid impacts to bat commuting/foraging resources.

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1 Introduction

1.1 Purpose of this report

1.1.1 RSK Biocensus was appointed by RSK Acoustics Ltd, on behalf of Kimberly Clark, to complete a preliminary ecological appraisal (PEA) and prelimary bat roost assessment (PRA) to inform works at Northfleet Mill, Crete Hall Road, Northfleet, Gravesend, DA11 9AD.

1.1.2 The survey area included the land within the red-line boundary (hereafter referred to as 'the Site'). The Site and survey area are shown on Figure 1.

1.1.3 This report presents the results of a desk study to gather existing ecological information for the Site and surrounding area, the results of the Site survey using UK Habitat (UKHab) survey classification, and an assessment of the potential for protected or notable species and habitats to be present.

1.1.4 It is understood that this report is required in connection with a future planning application and to inform the design for the development. Baseline information has also been collected to inform a Biodiversity Net Gain (BNG) assessment.

1.1.5 The purpose of this report is to identify key ecological constraints to the proposed development and allow the further ecological surveys needed to confirm any mitigation requirements to be identified and appropriately designed.

1.2 Proposed development

1.2.1 It is understood that proposed works will include the installation of new boilers and associated pipework. An existing site office building will also require demolition to facilitate the pipework installation. Timescales for the proposed works are currently unknown.

1.3 Landscape context

1.3.1 The 0.3 hectare (ha) Site (centred on to the Ordnance Survey [OS] grid reference TQ 62588 74366) is located in the town of Northfleet. A review of aerial photographs and OS maps showed that the Site is bordered to the north by Crete Hall Road; to the south by a patch of grassland and industrial infrastructure; to the east by access roads and a car park; and to the west by a steep wooded bank leading up to Granby Road. The surrounding land comprises mainly industrial sites to the north, south, east, and west, with a network of main roads/access tracks connecting them. Some isolated patches of grassland/woodland are present within the locale. The River Thames lies c. 300m north of the Site at its closest point, while Sawyer's Lake lies c. 540m south-east.

1.4 Legislation

1.4.1 Table 1 below provides a summary of the legislation considered in this assessment

Table 1: Legislation considered in this assessment

Legislation/Source	Notes
The Conservation of Habitats and Species Regulations (Habitats Regulations) 2017 (as amended)	Affords protection to certain species and habitats listed on the relevant schedules.
The Wildlife and Countryside Act (WCA) 1981 (as amended)	
The Natural Environment and Rural Communities (NERC) Act 2006	Places a duty on planning authorities to consider habitats and species of principal importance in planning applications
The Protection of Badgers Act 1992 (as amended)	Affords protection to badgers and their setts.

1.5 Planning policy

1.5.1 This PEA will have due regard for the National Planning Policy Framework and the following policies within the Gravesham Local Plan Core Strategy 2014:

- CS12 – Green Infrastructure
- SPG2: Biodiversity Conservation (Kent County Council)

2 Methods

2.1 Overview

2.1.1 The PEA was undertaken in line with Chartered Institute of Ecology and Environmental Management (CIEEM) guidance (CIEEM, 2017), and includes:

- A desk study conducted in February 2026 to obtain existing ecological information for the Site and surrounding area.
- A field survey to inform habitat mapping and an assessment of the likely importance of habitat features. Habitats were also assessed for their suitability to support protected or otherwise notable species of plants and animals, taking into account the geographic location of the Site and its connectivity to other natural habitats in the wider landscape.

2.1.2 The following additional surveys were also undertaken:

- A PRA survey in line with the Bat Conservation Trust Good Practice Guidelines (2023).

2.1.3 The PRA survey was carried out on 4 February 2026 by RSK Biocensus Ecologist CW38/ACIEEM. The PEA survey was carried out simultaneously by RSK Biocensus Ecologist LT38/QCIEEM and assisted by RSK Biocensus Ecologist HE15.

2.2 Desk study

2.2.1 A list of the information obtained for the desk study, data sources and search areas is provided in Table 2.

Table 2: Desk study information

Information obtained	Source	Search area
Locations/ citations of statutory designated sites of European and/or international importance for nature conservation: Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites - hereafter collectively referred to as 'European sites'[1].	Joint Nature Conservation Committee (JNCC) website. MAGIC (the Multi-Agency Geographic Information website) www.magic.gov.uk	10 km
Locations/ citations of statutory designated sites of national importance for nature conservation: Sites of Special Scientific Interest (SSSIs) (including consideration of SSSI risk zones), National Nature Reserves (NNRs), and Local Nature Reserves (LNRs).	Natural England website. MAGIC www.magic.gov.uk	2 km

[1] SACs and SPAs were formerly part of the Natura 2000 network; post-'Brexit', they are now considered part of the UK's 'national site network'. Ramsar sites are sites of international importance. Note that SPAs, SACs and Ramsar sites are also underpinned by SSSI designations which may have slightly different citations/ boundaries.

Information obtained	Source	Search area
Non-statutory designated sites of importance for nature conservation: [make bespoke to area]	Kent and Medway Biological Records Centre Essex Field Club	1 km
Records of protected and notable species of plants and animals (including invasive non-native species [INNS[).	Kent and Medway Biological Records Centre Essex Field Club	1 km
Records of European Protected Species (EPS) mitigation licences granted (in England only). Great crested newt licence return information (in England only).	MAGIC www.magic.gov.uk Last updated 2025	1 km
Priority habitats and ancient woodland.	MAGIC www.magic.gov.uk	1 km
Local planning guidance and policies.	Gravesham Borough Council / Gravesham Local Plan Core Strategy 2014	N/A
Details of species and habitats listed on the Kent Nature Partnership Biodiversity Strategy 2020-2045	https://kentnature.org.uk/strategy/kent-biodiversity-strategy/	N/A
Areas/habitats of strategic Significance	National Habitat Networks (https://www.data.gov.uk/dataset/0ef2ed26-2f04-4e0f-9493-ffbdbfaeb159/habitat-networks-england) National Priority Focus Areas (https://www.data.gov.uk/dataset/c20a40c5-c975-43e1-9abd-d1257aa58432/natural-england-national-priority-focus-areas)	1 km

2.2.2 The search areas used have taken into account the potential distance/ area over which an impact could occur as a result of the proposed works.

2.3 Habitat survey

2.3.1 A survey of the Site was undertaken to identify and map all habitats present using the UK Habitats (UKHab) survey methodology (Version 2.01) (UKHab Ltd, 2023). The UKHab system is the habitat classification that underpins the Statutory Metric and is therefore the favoured habitat classification to use when surveys need to inform a biodiversity net gain (BNG) calculation. Secondary codes were allocated to help describe habitats, such as management and land use. Where possible, all habitats were mapped to a minimum of Level 5 within the classification hierarchy. The quality of habitats on Site were assessed following the Statutory Metric condition assessment sheets. Plant names follow Stace (2019) for native and naturalised species of vascular plant.

Habitats of principal importance

2.3.2 An assessment of the likelihood of the Site to support habitats of principal importance was carried out.

2.4 Protected and priority species survey

2.4.1 The suitability of the Site to support protected or otherwise notable plant and animal species was assessed. Ecological observation points (see Figure 2, and Appendix A) were used to record suitable habitats, as well as any sightings or evidence of such species, where found.

Plants

2.4.2 Vascular plant species were recorded during the survey, although no attempt was made to produce an exhaustive species list, additional species are likely to be found during more detailed surveys or repeat surveys at different times of the year.

Terrestrial Invertebrates

2.4.3 The Site was assessed to identify areas of potential value to terrestrial invertebrates, based on the extent and quality of the microhabitats present.

Amphibians

2.4.4 The Site was assessed for its suitability to support both terrestrial and breeding amphibians, including great crested newts (*Triturus cristatus*) (GCN).

2.4.5 Aerial imagery and OS maps were reviewed to identify any ponds within 500 metres (m) of the Site boundary. The proximity of ponds and connectivity/ suitability of terrestrial habitats are an important factor in determining the likelihood of this species being present on Site.

Reptiles

2.4.6 Terrestrial habitats were assessed for their potential to support reptiles, based on factors such as vegetation structure and composition, and the availability of shelter and foraging resources.

Birds

2.4.7 The Site was assessed for its suitability to support breeding and wintering birds, with an emphasis on those species listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended), the Red and Amber lists of the Royal Society for the Protection of Bird's Birds of Conservation Concern 5 (Stanbury *et.al*, 2021) and other important species identified in the desk study. Any nests or signs of nest building were recorded if found.

Bats

Preliminary roost assessment of built structures

2.4.8 The building within the Site was assessed externally and internally to ascertain suitability for roosting bats, taking account of the following factors that influence the likelihood of bats roosting:

- Surrounding habitat and land use.
- Construction detail.
- Structure condition.

- Internal conditions.
- Potential bat-access points.
- Number and quality of potential roosting features (PRF).

2.4.9 Visual, systematic inspections were also made for bats and evidence of bats.

2.4.10 The potential of the building to support roosting bats was then categorised as defined in Table 3, based on guidance from the bat conservation trust (Collins, 2023).

Table 3: Categorisation of the suitability of structures for roosting bats and suitability of habitats for foraging and commuting bats (Collins, 2023)

Potential suitability	Description - Roosting habitats in structures
None	No habitat features on Site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/ suitable shelter at all ground/ underground levels).
Negligible suitability	No obvious habitat features on Site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
Low suitability	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. 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 and not a classic cool/stable hibernation site but could be used by individual hibernating bats).
Moderate suitability	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely for a roost of high conservation status (with respect to roost type only – the categorisation in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High suitability	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. These structures have the potential to support high conservation status roosts e.g. maternity or classic cool/stable hibernation site.
Confirmed roost	Bats or evidence of bats recorded during the surveys. A confirmed record (supplied by records centre/local bat group) would also apply.

Hazel dormouse

2.4.11 The Site was assessed for its suitability to support Hazel dormouse (*Muscardinus avellanarius*), based on vegetation structure, species composition and connectivity within the Site and with suitable habitats in the wider landscape.

Badger

2.4.12 Habitats were assessed for their suitability for use by badger (*Meles meles*) for foraging and sett-building. Any incidental signs, such as setts, latrines, foraging signs, or footprints were recorded if they were encountered.

Other species of principal importance

2.4.13 An assessment of the likelihood of the Site to support priority species identified in the Kent Nature Partnership Biodiversity Strategy 2020-2045 and other species of principal importance was carried out; for example, hedgehog (*Erinaceus europaeus*).

2.5 Invasive non-native species

2.5.1 Any incidental records of invasive non-native species (INNS) were noted and mapped during the survey.

2.6 Survey assumptions and limitations

2.6.1 The assessment as to whether protected and/or priority species might occur on the Site is based on the known distribution of species in the local area (from online sources and desk study), the suitability of the habitats, and any evidence of the species recorded during the survey.

2.6.2 As the survey was undertaken outside the optimal botanical survey period (April to October), less conspicuous plant species (including INNS) may have been missed. However, the survey was sufficient to make a broad assessment of the habitats present.

2.6.3 The steep wooded bank to the west of the Site was covered by ivy at ground level, meaning a badger sett (or other evidence of protected or notable species) beyond the Site boundary could have been missed.

2.7 Validity of data

2.7.1 In accordance with industry guidelines (CIEEM, 2019), unless the Site changes significantly, the desk study and surveys carried out to inform this report should remain valid for at least 18 months. After 18 months, an ecologist would need to reassess the Site to determine if the results remained valid. After three years, the report is unlikely to still be valid and most, if not all, of the surveys are likely to need to be updated (subject to an assessment by an ecologist).

3 Results

3.1 Designated sites

Statutory designated sites - European sites of importance for nature conservation

3.1.1 There are two European sites of importance for nature conservation within 10 km of the Site boundary. These sites are listed in Table 4.

Table 4: European sites of importance for nature conservation within 10 km of the Site boundary

Site name	Reasons for designation	Approximate distance/direction from Site
Thames Estuary and Marshes SPA	Supports a wintering bird assemblage including avocet (*Recurvirostra avosetta*), black-tailed godwit (*Limosa limosa islandica),* dunlin (*Calidris alpina alpina),* grey plover (*Pluvialis squatarola),* hen harrier (*Circus cyaneus),* knot (*Calidris canutus),* redshank (*Tringa tetanus*). Also supports migratory birds on passage including ringed plover (*Charadrius hiaticula*).	5.4km E
North Downs Woodlands SAC	Hosts a number of designated habitats including *Taxus baccata* woods of the British Isles (Yew-dominated woodland), *Asperulo-Fagetum* beech forests (Beech forests on neutral to rich soils), Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia)* (Dry grasslands and scrublands on chalk or limestone).	9.8km SE

Statutory designated sites - National importance for nature conservation

3.1.2 There is one designated site of national importance for nature conservation within 2km of the Site boundary, as listed in Table 5.

3.1.3 The Site intersects two SSSI Impact Risk Zone buffers. The constraint criteria potentially relevant to the proposed works associated with these buffers are:

- **Infrastructure**: Pipelines and underground cables, pylons and overhead cables (excluding upgrades and refurbishment of existing network). Any transport proposal including new or extended footways, cycleways, roads/car parks, railways and waterways (excluding routine maintenance). Airports, helipads and other aviation proposals.

Table 5: Statutory sites of national importance for nature conservation within 2 km of the Site boundary

Site name	Reasons for designation	Approximate distance/direction from Site
Swanscombe Peninsula SSSI	Designated for hosting nationally important features including: •Quaternary geology at Bakers Hole, a key Pleistocene site with a complex sequence of periglacial and temperate climate deposits and Middle Palaeolithic archaeology; • populations of the plants *Carex divisa* (divided sedge), *Lathyrus aphaca* (yellow vetchling), *Bupleurum tenuissimum* (slender hare's-ear), *Vicia bithynica* (Bithynian vetch) and *Pyrola rotundifolia* subsp. *maritima* (round-leaved wintergreen); • assemblages of invertebrates associated with bare sand and chalk, open short swards, open water on disturbed mineral sediments and saltmarsh and transitional brackish marsh; and • two diverse assemblages of breeding birds, one associated with lowland open waters and their margins, lowland fen and lowland damp grassland, the other with lowland scrub.	1.1km W

Non-statutory designated sites of importance for nature conservation

3.1.4 There is one non-statutory designated site of local importance for nature conservation within 1 km of the Site boundary. This site is listed in Table 6.

3.1.5 The Thames-side Green Corridor Biodiversity Opportunity Area (BOA), a landscape scale initiative, lies c. 263m northwest of the Site. The Thames-side Green Corridors are zones along the River Thames which host a number of wildlife sites including Darenth Woods SSSI, Shorne Wood Country Park SSSI, several Local Wildlife Sites (LWS) such as Dartford Marshes, Ebbsfleet Marshes, Sutton at Hone Lakes and Dartford Heath, and a number of brownfield sites of known importance for invertebrates. It includes part of the Thames Estuary recommended Marine Conservation Zone, which provides critical spawning and nursery grounds for fish.

Table 6: Non-statutory sites of importance for nature conservation within 1 km of the Site boundary

Site name	Reasons for designation	Approximate distance/direction from Site
Ebbsfleet Marshes LWS	Designated for hosting reedbed and a matrix of adjacent habitats including the calcareous Ebbsfleet stream, a lake, damp scrub woodland, and calcareous and neutral grasslands supporting a range of species.	500m SW

3.2 Habitats

3.2.1 The desk study did not return any records of ancient woodland within 1 km of the Site.

3.2.2 Four habitats of principal importance were identified within 1 km of the Site. These comprised mudflats, deciduous woodland, reedbeds and chalk rivers.

3.2.3 Two waterbodies were identified within 500m of the Site (Figure 5). These comprised a nearby pond and the River Thames. The pond lies 24m north of the Site, while the River Thames lies 256m north.

3.2.4 The UKHab map is provided as Figure 2 and photographs are provided in Appendix B.

3.2.5 The Site comprised mainly other neutral grassland and developed land; sealed surface. An area of mixed scrub is present to the east of the Site, and a section of other broadleaved woodland is present to the west. No Habitats of Principal Importance were identified within the Site.

3.2.6 Further information on the habitat condition assessments will be provided separately within the BNG Report for the proposed development.

g3c – Other neutral grassland – in moderate condition

3.2.7 A 0.1ha frequently mown strip of grassland with *Erodium moschatum* cover. (see Plate 1; Plate 2; Plate 3 in Appendix B). Categorised as moderate condition for being a good example of its habitat type, an absence of bracken and scrub cover, a lack of species present indicative of poor condition or physical damage, and more than 10 species per m^2. The grassland did not reach good condition due to lack of sward height variety and bare ground.

3.2.8 A 0.01ha section of grassland was also present towards the north of the Site (Figure 2; Plate 4). This was categorised as moderate condition for similar reasons to the other grassland, with the addition of a varied sward height and between 1% and 5% bare ground, but with less than 10 plants per m^2.

3.2.9 The plant species list for the grassland can be found in Appendix D.

h3h – Mixed scrub – in poor condition

3.2.10 A small (<0.01ha) section of mixed scrub. This area had been cleared prior to the survey, so a full condition assessment and species list was not possible. Classification was based on surrounding habitat and remaining pieces of vegetation. Condition was listed as poor

due to not being a good representation of the habitat type, an absence of seedlings and saplings, and the lack of a well-developed edge with scattered scrub or tall grassland. (Figure 2; Plate 5).

w1g – Other broadleaved woodland – in moderate condition

3.2.11 A 0.02ha strip of ivy-covered woodland along the western boundary of the Site, consisting of *acer pseudoplanatus* (Sycamore) and *Taxus baccata* (Yew) (Figure 2; Plate 6, Plate 7). The woodland was classed as moderate condition as there was no evidence of grazing damage, no invasive species present, 0-20% of open space, no evidence of nutrient enrichment or damage, and no evidence of tree mortality/disease. The woodland did not achieve good condition as it was lacking in ground flora diversity, age class variety, deadwood, and presence of native species and veteran trees.

Individual tree – in poor condition

3.2.12 A *Prunus sp.* (Cherry tree) is located to the west side of the larger area of other neutral grassland. The tree has been heavily pruned (Plate 8Plate 5).

u1b – Developed land; sealed surface

3.2.13 Three areas of developed land, totalling 0.19ha, were present, comprising roads around the Site, a tarmac storage area, and paved areas hosting pipework/infrastructure.

3.3 Protected and priority species

Plants

3.3.1 The desk study returned records of 31 notable plant species within 1 km of the Site (Table 13 in Appendix C). These records were largely associated with habitats not present within the Site, and therefore the species are unlikely to be present. However, the road sides and pavements along the Site boundary could provide suitable habitat for *Camelina sativa* (Gold-of-pleasure), *Centaurea cyanus* (Cornflower), *Cichorium intybus* (Chicory), *Muscari neglectum* (Grape-hyacinth), *Sedum forsterianum* (Rock Stonecrop), *Spergula arvensis* (Corn Spurrey), and *Verbascum lychnitis* (White Mullein).

3.3.2 No protected or otherwise notable plant species were recorded within the Site during the survey.

3.3.3 A list of the plant species identified within the Site during the survey can be found in Appendix D.

Terrestrial invertebrates

3.3.4 The desk study returned records of 55 notable terrestrial invertebrate species within 1 km of the Site (Table 13).

3.3.5 The habitats within the Site are considered likely to support only an assemblage of common invertebrate species, with additional features such as a mature *Robinia pseudoacacia* (Black Locust) beyond the Site boundary showing evidence of invertebrate usage (Plate 9, Plate 10).

Amphibians

3.3.6 The desk study returned one GCN record within 1 km of the Site boundary, although this was from 2000. The desk study did not identify any GCN mitigation licence records within 2 km.

3.3.7 There were four desk study records of other amphibian species within 1 km of the Site, comprising common frog (*Rana temporaria)*, common toad *(Bufo bufo)*, smooth newt *(Lissoriton vulgaris)*, and palmate newt *(Lissotriton helveticus)*.

3.3.8 There was one pond within 500 m of the Site that could provide potential breeding habitat for GCN in the wider landscape. This was located 24 m north of the Site. However, the pond is separated from the Site by a road, and there is a general lack of suitable GCN habitat within the wider area. Therefore, presence of GCN within the Site is considered unlikely.

3.3.9 There were no ponds or wet ditches present on Site which could provide suitable breeding habitat for amphibians. Features such as log piles and brash were identified (Plate 10) which could provide suitable refuges and hibernation sites.

Reptiles

3.3.10 The desk study returned three records of reptiles within 1 km of the Site, these comprised grass snake *(Natrix helvetica),* common lizard *(Zootoca vivipara)*, and leatherback turtle *(Dermochelys coriaceaea)*. The closest of these was approximately 900 m [northwest] of the Site and was for leatherback turtle.

3.3.11 The Site was assessed as unlikely to support reptiles due to the lack of a suitable mosaic of habitats, and its isolation from suitable habitat in the surrounding area by adjacent industrial sites and road networks.

3.3.12 While the Site lacks a suitable mosaic of grassland, scrub, and bare ground for providing basking and foraging opportunities for reptiles; some features were noted including log piles that could serve as suitable shelter or hibernation sites.

Birds

3.3.13 The desk study returned records of 37 bird species protected under Schedule 1 of the Wildlife and Countryside Act 1981 and 112 species listed as Red or Amber in the Birds of Conservation Concern (Stanbury *et a*l., 2021) (Table 12; Table 13 in Appendix C).

3.3.14 The woodland, grassland, and scrub within the Site provide suitable nesting and foraging opportunities for breeding birds. The short grassland and bare ground provide potential opportunities for ground-nesting bird species, although given the limited extent of this habitat and likely high levels of background disturbance, this is considered unlikely. The Site was considered suitable to support a range of common and widespread species typical of urban habitats.

Bats

3.3.15 The desk study returned records of 10 bat species as summarised in Table 7.

Table 7: Summary of bat desk study records

Species	Records
Noctule (*Nyctalus noctule*)	11 records, the closest located 1.2 km southwest, the most recent in 2021
Common pipistrelle (*Pipistrellus pipistrellus*)	66 records, the closest located 950 m southwest, the most recent in 2021
Soprano pipistrelle (*Pipistrellus pygmaeus*)	18 records, the closest located 1.2 km southwest, the most recent in 2021
Nathusius' pipistrelle (*Pipistrellus nathusii*)	4 records, the closest located 1.2 km southwest, the most recent in 2021
Serotine (*Eptesicus serotinus*)	3 records, the closest located 3.4 km west, the most recent in 2011
Daubenton's bat (*Myotis daubentonii*)	62 records, the closest located 1.2 km southwest, the most recent in 2021
Brown long-eared bat (*Plecotus auratus*)	30 records, the closest located 2.8 km southeast, the most recent in 2017
Whiskered bat (*Myotis mystacinus*)	3 records, the closest located 5.3 km southwest, the most recent in 1986
Natterer's bat (*Myotis nattereri*)	35 records, the closest located 1.9 km southeast, the most recent in 2019
Leisler's bat (*Nyctalus leisleri*)	9 records, the closest located 1.6 km southwest, the most recent in 2015

3.3.16 Records of three bat roosts were identified within 2 km of the Site.

3.3.17 The desk study identified one granted EPS licence relating to bats located within 2 km of the Site. This licence was for the destruction of a common pipistrelle resting place that was valid between 2016 and 2021, and was located 580m W (2016-21327-EPS-MIT).

3.3.18 The woodland and trees on Site were considered to have some suitability for use by foraging and/or commuting bats, although this was limited due to a lack of connectivity with wider suitable habitats.

Preliminary roost assessment of built structures

3.3.19 The results of the PRA are provided in Table 8 and shown in Figure 4.

Table 8: Results of PRA

Building number	Structure category (Potential to support roosting bats)	Description
1	Negligible	Part single storey part double storey brick built (solid walls) with flat concrete roof (Plate 14). Building is in an industrial area with little foraging habitat and no clear commuting lines. Externally, a couple of pipework holes were observed on the south-east and western aspects of the building. However, these were deemed to be either too small for bat use, or unlikely to lead further into the building. Some slight lifting roof felt was seen on the eastern side of the building (Plate 15); lifting is marginal and suitable for a single bat at most. A small gap was also observed on the

Building number	Structure category (Potential to support roosting bats)	Description
		western side of the building, but this was deemed unlikely to lead anywhere. Internally, the building has a false ceiling which would create a cavity bats could use (Plate 16). However, as the building is well sealed externally with a solid concrete roof and no gaps present, the likelihood of use by bats is negligible.

Ground-level tree assessment

3.3.20 There were no trees within the survey area that were assessed as suitable for roosting bats. The cherry tree within the site was deemed unsuitable as it had been heavily pruned and did not contain observable PRFs.

Hazel dormouse

3.3.21 The desk study did not return any records of dormice within 1 km of the Site.

3.3.22 The desk study identified two granted EPS licences relating to dormice within 2 km of the Site. The closest of these was 570m SW of the Site, from 2020-2021, and was for damaging a hazel dormouse resting/breeding place (2020-49586-EPS-MIT).

3.3.23 The woodland within the Site could provide suitable habitat for dormice due to the presence of bramble and good ground coverage. However, this area is limited in size, isolated in the wider landscape, and lacks species preferred by dormice including hazel and honeysuckle.

3.3.24 The Site is not well-connected to areas of suitable Hazel dormouse habitat in the surrounding area, as it is surrounded by other industrial sites and road networks. The presence of dormice on Site is therefore considered unlikely.

Badger

3.3.25 The desk study returned one record of badgers within 1 km of the Site, being a record of a sighting 905 m southwest of the Site in 2003.

3.3.26 A single mammal hole was recorded c. 11m from the Site boundary within the chalk slope to the west (Plate 11). This hole was judged to be potentially suitable for badger, with old spoil noted outside of the entrance.

3.3.27 No other conclusive evidence of badgers was recorded within the Site; however, a hole in a concrete wall in the north of the Site could provide access for badgers from the woodland area into part of the Site (Plate 12). An unidentified animal hair was also found in this location.

3.3.28 The grassland and scrub were considered suitable foraging habitat for badgers within the Site/surrounding area. The woodland and associated steep slope in the western part of the Site provide suitable sett building habitat.

3.3.29 Access to adjacent land to the west of the Site boundary was limited due to the steep slope and uneven ground. While it is considered unlikely that a large sett would have

been missed due to the limited other evidence of mammal presence within and around the Site, the thick ground cover of *Hedera helix* (English ivy) in this area could have obscured sett entrances/mammal paths.

Other priority species or species of principal importance

3.3.30 The desk study returned records of hedgehog (a species of principal importance) within 1 km of the Site. The grassland, scrub and woodland provide suitable foraging habitat for hedgehogs. Log piles and other vegetation within the woodland provide suitable hibernation refugia for hedgehogs.

3.4 Invasive non-native species

3.4.1 The desk study did not return any records of INNS within 1 km of the Site.

3.4.2 No INNS were recorded during the survey; however, the survey was undertaken in a month when some species may not be readily visible or identifiable. Therefore, the presence of INNS cannot be conclusively ruled out.

4 Ecological Constraints and Opportunities

4.1 Overview

4.1.1 This section of the report identifies ecological constraints to the proposed development and provides details of how potential adverse effects could be avoided, minimised or otherwise mitigated. It describes details of additional surveys which may be required to inform an ecological impact assessment as part of a planning application, and/or detailed mitigation design/licensing requirements. Opportunities for ecological enhancement have also been identified.

4.1.2 All recommendations for further surveys follow best practice guidance for the species/species' group concerned.

4.2 Designated sites

Statutory designated sites - European sites of importance for nature conservation

4.2.1 Thames Estuary and Marshes SPA is located 5.4km from the Site boundary, and North Downs Woods SAC is located 9.8km from the Site boundary. Due to the distance from the Site, the small-scale nature of the proposed works, and lack of suitable habitats within the Site that could support the species for which these sites are designated, adverse effects on these designated sites are considered highly unlikely. No further surveys or assessments for European sites are therefore considered necessary.

Statutory designated sites - National importance for nature conservation

4.2.2 Swanscombe Peninsula SSSI is located 1.1km from the Site boundary. Due to the distance from the Site, the small-scale nature of the proposed works, and lack of suitable habitats within the Site that could support the species for which this SSSI is designated, adverse effects as a result of the proposed development on the SSSI are considered highly unlikely. No further surveys or assessments for the Swanscombe Peninsula SSSI are therefore considered necessary.

4.2.3 Although the Site falls within the Impact Risk Zone buffers of two other SSSIs, the nature of the proposed works does not meet the constraint criteria for which impacts on these SSSIs would be likely, and consultation with Natural England regarding this matter is therefore not considered necessary.

Non-statutory designated sites of importance for nature conservation

4.2.4 Ebbsfleet Marshes LWS is located 500m from the Site boundary. Due to the distance from the Site, the small-scale nature of the proposed works, and lack of suitable habitats within the Site that could support the species for which this LWS is noted as being of importance for, adverse effects as a result of the proposed development on this LWS are considered unlikely.

4.2.5 The Thames-side Green Corridor BOA is located c. 263m from the Site boundary. Due to the small-scale of the proposed works, it is considered unlikely that the proposed works would undermine the objectives for habitat creation and restoration within the BOA.

4.3 Habitats

4.3.1 The habitats on-site are generally considered to be common and widespread, with little intrinsic botanical value. However, as the PEA survey was undertaken outside of the optimal botanical survey period, it was not possible to categorically assess the on-site grassland. As a result, a further botanical survey (during the optimal survey period of April to October) is recommended to ensure the current categorisation of the grassland habitat is correct and any assumptions made within a BNG assessment are accurate. This would comprise a description of the habitats present, an assessment of their current condition, and a species-list for the grassland, as per the standard field survey and data analysis methodology.

4.3.2 The Environment Act 2021 mandates a statutory requirement for all new development schemes in England that submit planning applications under the Town and Country Planning Act 1990 (as amended) from 12 February 2024 to deliver a minimum of 10% net gain in biodiversity. Some types of developments are exempt from mandatory BNG (Biodiversity net gain: exempt developments - GOV.UK).

4.3.3 A BNG Design Stage Report will therefore be required for a full planning application.

4.3.4 A Biodiversity Gain Plan (BGP) and Habitat Management and Monitoring Plan (HMMP) must be produced following determination of the planning application. These documents are required to provide details on how the land will be managed over a minimum of a 30-year period to meet the BNG requirements of the proposed development.

4.4 Protected and priority species

Plants

4.4.1 There are no habitats on-site considered suitable for plant species protected by Section 41 of the NERC Act (2006). However, the road sides and pavements along the Site boundary could provide suitable habitat for nationally rare and scarce plants recorded within 1km of the Site.

4.4.2 Given the lack of evidence of protected or priority plant species recorded during the survey, the lack of connectivity from the Site to other areas of suitable habitat, and the unlikelihood of relevant on-site habitats being affected by the development; further protected/priority plant surveys are not considered necessary. Species lists will be made during the recommended additional habitat survey, such that any protected/priority species identified could inform further recommendations.

Terrestrial invertebrates

4.4.3 The desk study identified records for notable species within 1 km, and the Site is roughly 1 km from Swanscombe Peninsula SSSI and Thames-side Green Corridor BOA, which are both partly designated for their invertebrate assemblages.

4.4.4 The habitats within the Site are considered likely to support only an assemblage of common and widespread invertebrate species. Given the distance and isolation of the Site from areas designated for rare/notable invertebrate assemblages, and the lack of

habitat on-site suitable for such invertebrates identified in the data search; further surveys are not considered necessary.

Amphibians

4.4.5 Great crested newts, their eggs, breeding sites and resting places are protected by law.

4.4.6 One potential breeding pond was located within 250m of the Site (24m north). However, it is separated from the Site by a road and other hardstanding, and there is a general lack of suitable GCN habitat on-site and within the wider area. Therefore, presence of GCN within the Site is considered unlikely. Further surveys are therefore not considered necessary.

4.4.7 Precautionary methods of works should be undertaken during any site clearance to safeguard any amphibians, in the unlikely event that they are present on Site. Any log/brash piles requiring removal should be dismantled by hand between the months of March and October, when amphibians are usually active. Furthermore, any excavations created during the proposed works should be covered overnight or have an egress ramp provided, so that any amphibians that could become trapped can escape.

Reptiles

4.4.8 Adders, grass snakes, common lizards and slow worms are protected by law.

4.4.9 The Site contains some features that could serve as suitable shelter or hibernation sites for reptiles, including log piles. However, there was a lack of suitable habitat mosaics favoured by reptiles, and the Site is isolated from suitable habitat in the surrounding area by adjacent industrial sites and road networks. Reptiles are therefore likely to be absent from the Site and further reptile surveys are not considered necessary.

4.4.10 Precautionary methods of works should be undertaken during any site clearance to safeguard any reptiles, in the unlikely event that they are present on Site. Any log/brash piles requiring removal should be dismantled by hand between the months of March and October, when reptiles are usually active. Furthermore, any excavations created during the proposed works should be covered when not being worked on or have an egress ramp provided, so that any reptiles that could become trapped can escape.

Birds

4.4.11 All wild birds, their eggs and nests are protected by law. Some species, their nests and dependant young are afforded additional protection.

4.4.12 The Site has the potential to support breeding birds due to the presence of suitable nesting habitat. However, opportunities for breeding birds are limited by the small extent of the habitats present and lack of connectivity to wider areas of suitable habitats. For this reason, the Site is also unlikely to support notable populations or assemblages of non-breeding birds. Further surveys for birds are therefore not considered necessary.

4.4.13 It is considered unlikely that the habitats on Site would constitute a significant resource for bird species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) or support an important assemblage of wintering or breeding birds. The Site is small and suitable habitats present are common and widespread within the wider landscape, so the loss of habitats within the Site is unlikely to have significant effects, if

at all, on the local bird populations. However, nesting birds may be present within the Site.

4.4.14 To avoid disturbance of nesting birds, vegetation management/clearance should be timed to avoid the main nesting bird season (nesting bird season is affected by climactic conditions but is generally taken as March to August inclusive). If this is not possible, a nesting bird check must be undertaken by an ecologist no more than 24 hours before the start of the works. If nests are found, they must be retained (with a suitable, species-specific buffer) and protected from damage or abandonment until the young have fledged.

Bats

4.4.15 All bat species, their breeding sites and resting places are protected by law.

4.4.16 Based on the desk study results, and the presence of a small area of suitable woodland to the west of the Site, it is possible that bats could use the Site for commuting and foraging. However, the Site is unlikely to comprise an important resource for bats, given the limited extent of habitats present and the lack of connectivity to wider areas of suitable habitat.

4.4.17 One building is proposed for removal as part of the development. An internal and external assessment of the structure categorised it as having negligible suitability for roosting bats. The trees on-site were deemed unsuitable for roosting bats due to a lack of PRFs and their heavily pruned nature.

4.4.18 Further bat surveys are not considered necessary. If additional lighting is required as part of the proposed development, this should be designed with bats in mind and should be directed away from potentially sensitive features like the western woodland, wherever possible.

Hazel dormouse

4.4.19 Hazel dormouse, their breeding sites and resting places are protected by law.

4.4.20 The area of woodland within the western part of the Site and beyond the Site boundary contains some suitable dormouse habitat. However, this area is small in scale, does not contain species preferred by dormice such as *Corylus avellana* (hazel) and *Lonicera periclymenum* (honeysuckle), and isolated from other suitable habitat in the surrounding area by other industrial sites and road networks. These features also separate the Site from confirmed EPS licence records in the locality.

4.4.21 Further surveys or mitigation for Hazel dormouse are not considered necessary.

Badger

4.4.22 Badgers and their setts are protected by law.

4.4.23 Some field signs suggestive of badger presence were recorded on-site, and a suitable mammal hole was noted c. 11m from the Site boundary. The sloping bank within the on-site woodland was also considered to be suitable sett building habitat. This area is isolated from other suitable habitat by surrounding industrial sites and road networks, but badgers could be commuting through the Site and foraging on occasion.

4.4.24 Given the absence of confirmed evidence of badgers using the Site, further badger surveys are not considered necessary at this stage. As a precautionary measure, and

given badgers are a mobile species, it is however recommended that a pre-construction badger survey be undertaken to confirm the absence of any badger setts within the proposed works area prior to the commencement of works. Furthermore, to prevent harm to badgers potentially using/passing through the Site, any excavations created during the proposed works should be covered overnight, or have an egress ramp installed to prevent any animals from becoming trapped.

Other species of principal importance

4.4.25 Hedgehogs are potentially present based on the desk study results, and suitable habitat present within the Site.

4.4.26 Further surveys not considered necessary. Precautionary measures recommended for badger will also prevent harm to hedgehogs.

4.5 Invasive non-native species

4.5.1 It is an offence in law to cause INNS to spread.

4.5.2 No INNS were recorded during the survey. However, given the survey was not undertaken during the optimum period, a further survey is recommended between the months of April and October to confirm the absence of INNS. This could be undertaken as part of a further botanical survey of the grassland on Site, as discussed in Section 4.3, or as a pre-construction survey as a condition of planning. Should INNS be found to be present on Site, then additional mitigation implemented as part of an Invasive Species Management Plan may be required.

4.6 Opportunities for enhancement

4.6.1 Opportunities to enhance the biodiversity value of the Site could include:

- Provision of a sensitive lighting scheme if required as part of development, with a focus on directing light away from potentially sensitive features such as the woodland to the west.
- Provision of bird/bat boxes to increase nesting/roosting opportunities.
- Provision of log piles/hibernacula for amphibians/reptiles and invertebrates.

5 Conclusion

5.1.1 Table 9 lists the ecological receptors identified above and summarises any further actions, such as surveys, potential mitigation measures and/or opportunities for enhancement.

5.1.2 The results of the PEA and recommended further surveys can be used to inform the design of any future development/as part of options appraisals etc for the proposed development.

5.1.3 Note that all recommendations are based on the red-line boundary provided. If the plans or Site boundary change, an ecologist must be consulted, and further surveys may be required.

Table 9: Summary of recommendations

Ecological receptor	Further surveys/timings	Potential mitigation / enhancement measures
Habitats	An additional botanical / habitat condition survey of on-site grassland should be undertaken during the optimal botanical surveying period (April to October) to ensure the categorisation of the grassland on site is accurate.	Offset any required habitat losses through measures proposed as part of a BNG assessment.
Plants	Not required	N/A
Terrestrial invertebrates	Not required	Provision of log piles.
Amphibians	Not required	Provision of log piles. Covering of on-site excavations or provision of egress ramps to prevent animals becoming trapped or injured.
Reptiles	Not required	Provision of log piles. Covering of on-site excavations or provision of egress ramps to prevent animals becoming trapped or injured.
Birds	Not required	Timing of vegetation management/clearance to avoid the main nesting bird season (March to August inclusive). If not possible, a nesting bird check must be undertaken by an ecologist no more than 24 hours before the start of the works. Provision of bird boxes to increase nesting opportunities.
Bats	Not required	Any required lighting to be sensitively designed with bats in mind, including directional lighting to avoid sensitive features being lit such as the woodland to the west. Provision of bat boxes to increase roosting opportunities.
Hazel dormouse	Not required	N/A
Badger	Pre-construction survey to confirm an absence of badger setts within the proposed works area.	Covering of on-site excavations overnight or provision of an egress ramp to prevent animals becoming trapped or injured. Additional mitigation may be required depending on the results of pre-construction surveys.

Ecological receptor	Further surveys/timings	Potential mitigation / enhancement measures
INNS	Further survey between April and October to confirm the absence of INNS.	Implementation of an invasive species management plan if further surveys confirm the presence of INNS on site.
Species of principal importance	Not required	Covering of on-site excavations overnight or provision of an egress ramp to prevent animals becoming trapped or injured.

6 References

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Figures

Figure 1. Site Location Plan

Figure 2. Habitat Map

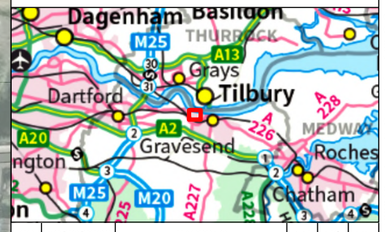
Figure 3. Designated Sites within 1km

Figure 4. Preliminary Roost Assessment Results

Figure 5. Waterbodies within 500m

Legend:

Site boundary



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PEA BNG Northfleet

RSK biocensus EXPERTS IN ECOLOGY

TITLE: Figure 1:

Site Location Plan

0 50 100 150

Metres

SCALE: 1:4,000 @ A3

N W E S

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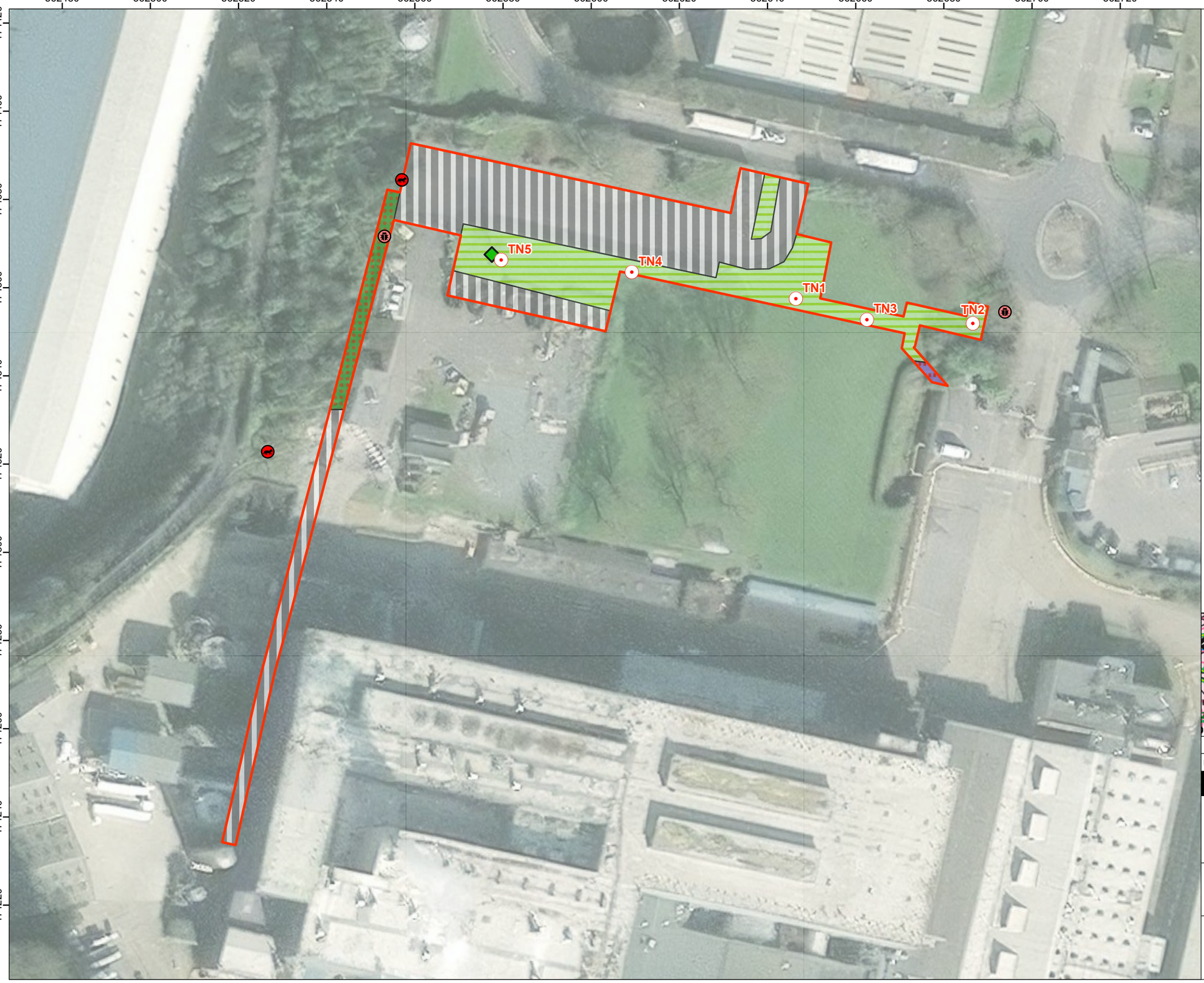


Legend:

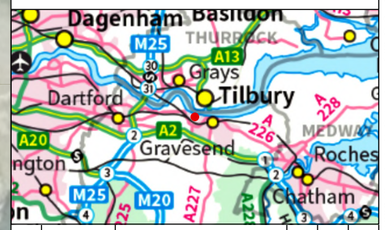
- Site boundary

UKHab Classification

- Other neutral grassland
- Mixed scrub
- Developed land; sealed surface
- Other broadleaved woodland
- Scattered tree

Ecological Observation

- Deadwood
- Other mammal
- Target note



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TITLE: Figure 2:

Habitat Map

0 10 20 30
Metres
SCALE: 1:800 @ A3

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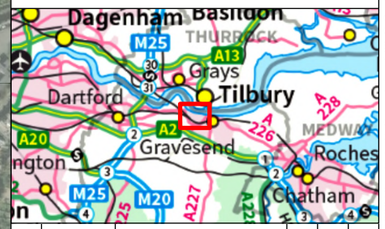
Legend:

- Site boundary
- 1km buffer
- Site of Special Scientific Interest (SSSI)
- Local Wildlife Site (LWS)



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TITLE: Figure 3:

Designated Sites within 1km

0 120 240 360
Metres

SCALE: 1:10,000 @ A3

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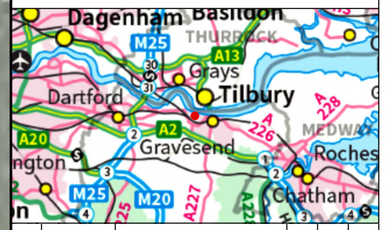
Legend:

- Site boundary
- Potential roost feature



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PEA BNG Northfleet

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EXPERTS IN ECOLOGY

TITLE: Figure 4:

Preliminary Roost Assessment Results

0 10 20 30
Metres

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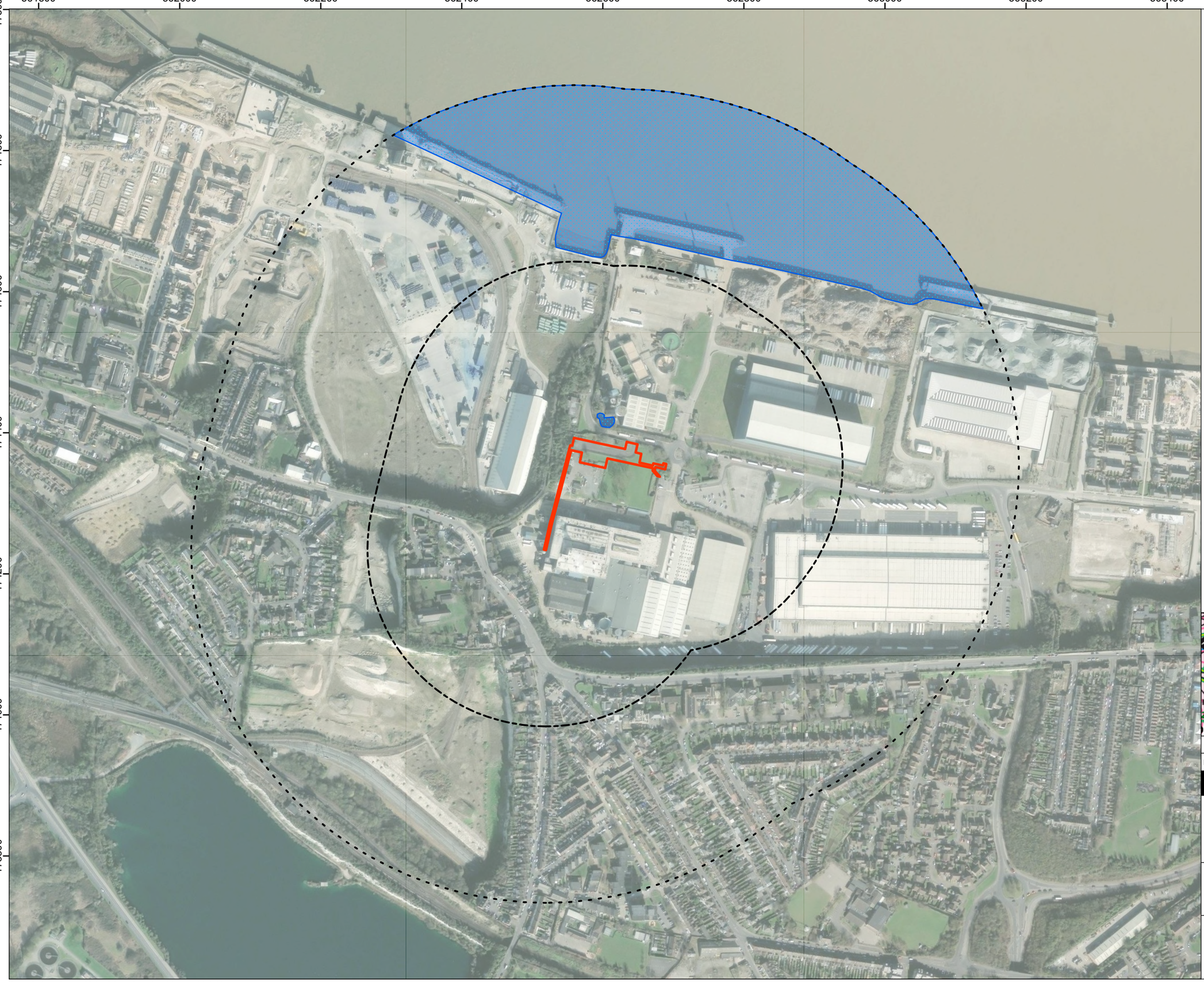
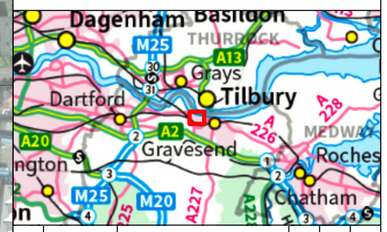


Legend:

- Site boundary
- 250m buffer
- 500m buffer
- Waterbodies



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PEA BNG Northfleet

RSK biocensus
EXPERTS IN ECOLOGY

TITLE: Figure 5:

Waterbodies within 500m

0 60 120 180
Metres
SCALE: 1:5,000 @ A3

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Appendix A – Ecological Observation Points

Table 10: Summary of ecological observation points

Ecological Observation Point	Description
Other mammal 1	Hole in concrete wall creating access from woodland to other area of site.
Other mammal 2	Mammal hole suitable for badger
Other amphibian	Log pile suitable as hibernacula for reptile/amphibian and food source for invertebrates
Q1-Q5	Grassland quadrat locations
Other	Cleared section of scrub

Appendix B - Site Photographs

Plate 1. Other neutral grassland towards the western end of the strip

Plate 2. Other neutral grassland towards the eastern end of the strip

Plate 3. Other neutral grassland with dense cover of *Erodium moschatum* (Musk Stork's-bill)

Plate 4. Smaller section of other neutral grassland towards north of the Site

Plate 5. Mixed scrub at the eastern end of the Site with section appearing to have been recently removed

Plate 6. Other broadleaved woodland with dense ground cover of ivy

Plate 7. Other broadleaved woodland along the edge of the Site

Plate 8. Cherry tree standing in other neutral grassland with heavy pruning

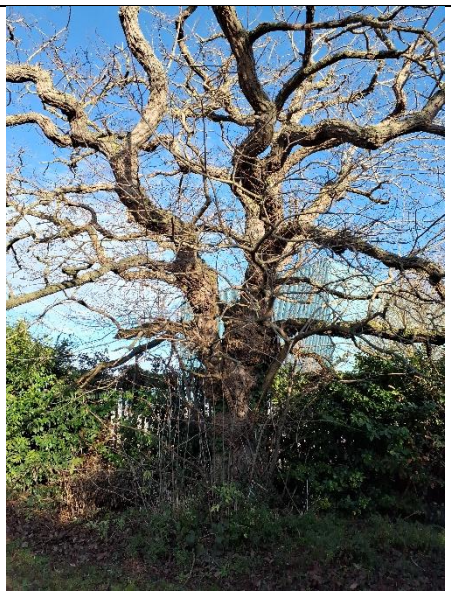

Plate 9. *Robinia pseudoacacia* (black locust) tree outside of site

Plate 10. Damp areas of black locust tree suitable for invertebrates. Exit holes were also present.

Plate 11. Log pile suitable as hibernacula for reptiles/amphibians and food source for invertebrates.

Plate 12. Mammal hole suitable for badger (off-site).

Plate 13. Hole in concrete wall giving access between woodland in west of site and other areas of the site.

Plate 14. Exterior of building proposed for removal.

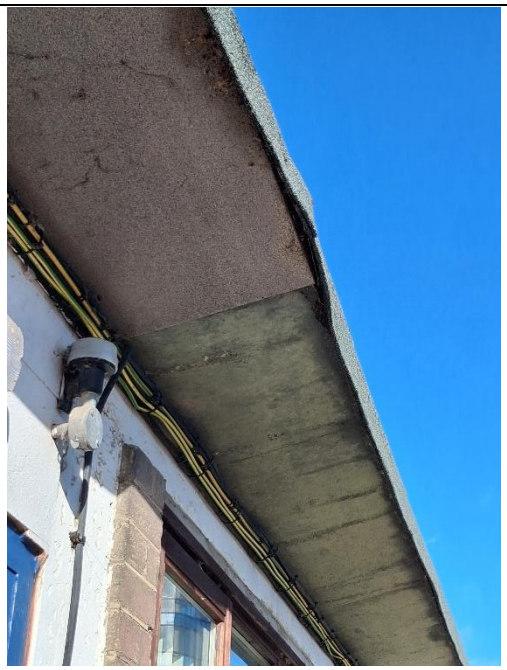

Plate 15. Lifted felt roofing on eastern side of building.

Plate 16. False ceiling leading to cavity from inside building.

Appendix C - Desk Study Records

The following tables present records of protected and notable species within 1 km of the Site boundary. These species records were obtained from Kent and Medway Biological Records Centre and Essex Field Club.The scientific and common names for species are given, as well as their level of designation. Where a species is not listed, this does not indicate absence, but that the Record Centre does not currently hold records from the search area.

Table 11: Protected species records within 1 km of the site boundary

Scientific name	Common name	Designation	Most Recent	Any records within 100m
Amphibians				
Triturus cristatus	Great Crested Newt	EPS(Sch2), WCA5, S41	2000	
Birds				
Alcedo atthis	Kingfisher	WCA1.1	2023	
Anser anser	Greylag Goose	WCA1.2, Amber	2023	
Aythya marila	Scaup	WCA1.1, S41, Red, GB RDB(EN)	2018	
Cettia cetti	Cetti's Warbler	WCA1.1	2022	
Charadrius dubius	Little Ringed Plover	WCA1.1	2020	
Chlidonias niger	Black Tern	WCA1.1	2016	
Circus aeruginosus	Marsh Harrier	WCA1.1, Amber	2023	
Circus cyaneus	Hen Harrier	WCA1.1, S41, Red, GB RDB(VU)	2024	
Circus pygargus	Montagu's Harrier	WCA1.1, Red, GB RDB(CR)	2016	
Cygnus cygnus	Whooper Swan	WCA1.1, Amber, GB RDB(EN)	1970	
Falco columbarius	Merlin	WCA1.1, Red, GB RDB(EN)	2003	
Falco peregrinus	Peregrine	WCA1.1	2023	
Falco subbuteo	Hobby	WCA1.1	2023	
Fringilla montifringilla	Brambling	WCA1.1	2013	
Gavia immer	Great Northern Diver	WCA1.1, Amber	1985	
Gavia stellata	Red-throated Diver	WCA1.1	2002	
Hydrocoloeus minutus	Little Gull	WCA1.1	2016	
Larus melanocephalus	Mediterranean Gull	WCA1.1, Amber	2022	
Larus minutus	Little Gull	WCA1.1	2020	

Scientific name	Common name	Designation	Most Recent	Any records within 100m
Limosa limosa	Black-tailed Godwit	WCA1.1, S41, Red, GB RDB(EN)	2022	
Melanitta nigra	Common Scoter	WCA1.1, S41, Red, GB RDB(CR)	2003	
Milvus milvus	Red Kite	WCA1.1	2020	
Numenius phaeopus	Whimbrel	WCA1.1, Red, GB RDB(CR)	2023	
Oceanodroma leucorhoa	Leach's Petrel	WCA1.1, Red	2003	
Panurus biarmicus	Bearded Tit	WCA1.1	2023	
Phoenicurus ochruros	Black Redstart	WCA1.1, Amber, GB RDB(EN)	2014	
Podiceps auritus	Slavonian Grebe	WCA1.1, Red, GB RDB(CR)	2004	
Recurvirostra avosetta	Avocet	WCA1.1, Amber	2022	
Regulus ignicapillus	Firecrest	WCA1.1	2022	
Sterna dougallii	Roseate Tern	WCA1.1, S41, Red, GB RDB(EN), OSPAR	2016	
Sternula albifrons	Little Tern	WCA1.1, Amber, GB RDB(VU)	2016	
Sylvia undata	Dartford Warbler	WCA1.1, Amber, GB RDB(VU)	2023	
Tringa nebularia	Greenshank	WCA1.1, Amber	2020	
Tringa ochropus	Green Sandpiper	WCA1.1, Amber, GB RDB(EN)	2020	
Turdus iliacus	Redwing	WCA1.1, Amber, GB RDB(CR)	2023	
Turdus pilaris	Fieldfare	WCA1.1, Red, GB RDB(CR)	2023	
Tyto alba	Barn Owl	WCA1.1	2023	
Mammals				
Arvicola amphibius	Water Vole	WCA5, S41, GB RDB(EN)	2001	
Eptesicus serotinus	Serotine Bat	EPS(Sch2), WCA5, GB RDB(VU)	2011	
Myotis daubentonii	Daubenton's Bat	EPS(Sch2), WCA5	2021	
Myotis mystacinus	Whiskered Bat	EPS(Sch2), WCA5	1986	
Myotis nattereri	Natterer's Bat	EPS(Sch2), WCA5	2019	
Nyctalus leisleri	Leisler's Bat	EPS(Sch2), WCA5	2015	
Nyctalus noctula	Noctule Bat	EPS(Sch2), WCA5, S41	2021	
Phocoena phocoena	Common Porpoise	EPS(Sch2), WCA5, S41, OSPAR	2004	
Pipistrellus nathusii	Nathusius'	EPS(Sch2), WCA5	2021	

Scientific name	Common name	Designation	Most Recent	Any records within 100m
Pipistrellus pipistrellus	Common Pipistrelle	EPS(Sch2), WCA5	2021	
Pipistrellus pygmaeus	Soprano Pipistrelle	EPS(Sch2), WCA5, S41	2021	
Plecotus auritus	Long-eared Bat Brown	EPS(Sch2), WCA5, S41	2017	
Reptiles				
Dermochelys coriacea	Leatherback Turtle	EPS(Sch2), WCA5, S41, OSPAR	1998	
Natrix helvetica	Grass Snake	WCA5, S41	2016	
Zootoca vivipara	Common Lizard	WCA5, S41	2020	

Table 12: Notable species records within 1 km of the site boundary

Scientific name	Common name	Designation
Amphibians		
Bufo bufo	Common Toad	WCA5, S41
Lissotriton helveticus	Palmate Newt	WCA5
Lissotriton vulgaris	Smooth Newt	WCA5
Rana temporaria	Common Frog	WCA5
Birds		
Accipiter nisus	Sparrowhawk	Amber
Actitis hypoleucos	Common Sandpiper	Amber, GB RDB(VU)
Alauda arvensis	Skylark	S41, Red
Alca torda	Razorbill	Amber
Anas clypeata	Shoveler	Amber
Anas crecca	Teal	Amber
Anas penelope	Eurasian Wigeon	Amber
Anas penelope	Wigeon	Amber
Anas platyrhynchos	Mallard	Amber
Anas strepera	Gadwall	Amber
Anser brachyrhynchus	Pink-footed Goose	Amber
Anthus pratensis	Meadow Pipit	Amber
Anthus spinoletta	Water Pipit	Amber, GB RDB(VU)
Anthus trivialis	Tree Pipit	S41, Red
Apus apus	Swift	Red, GB RDB(EN)
Arenaria interpres	Turnstone	Amber, GB RDB(VU)

Scientific name	Common name	Designation
Asio flammeus	Short-eared Owl	Amber, GB RDB(EN)
Aythya ferina	Pochard	Red, GB RDB(EN)
Branta bernicla	Brent Goose	S41, Amber
Bubulcus ibis	Cattle Egret	Amber
Calidris alpina	Dunlin	Red, GB RDB(EN)
Calidris ferruginea	Curlew Sandpiper	Amber
Caprimulgus europaeus	Nightjar	S41, Amber
Carduelis cabaret	Lesser Redpoll	S41, Red
Carduelis cannabina	Linnet	S41, Red
Carduelis chloris	Greenfinch	Red, GB RDB(EN)
Charadrius hiaticula	Ringed Plover	Red, GB RDB(VU)
Chroicocephalus ridibundus	Black-headed Gull	Amber, GB RDB(VU)
Columba oenas	Stock Dove	Amber
Columba palumbus	Woodpigeon	Amber
Corvus frugilegus	Rook	Amber
Cuculus canorus	Cuckoo	S41, Red, GB RDB(VU)
Delichon urbicum	House Martin	Red, GB RDB(VU)
Emberiza citrinella	Yellowhammer	S41, Red
Emberiza schoeniclus	Reed Bunting	S41, Amber
Falco tinnunculus	Kestrel	Amber, GB RDB(VU)
Fulmarus glacialis	Fulmar	Amber
Gallinago gallinago	Snipe	Amber
Gallinula chloropus	Moorhen	Amber, GB RDB(VU)
Haematopus ostralegus	Oystercatcher	Amber
Larus argentatus	Herring Gull	S41, Red, GB RDB(EN)
Larus cachinnans	Caspian Gull	Amber, GB RDB(VU)
Larus canus	Common Gull	Amber
Larus fuscus	Lesser Black-backed Gull	Amber
Larus glaucoides	Iceland Gull	Amber, GB RDB(VU)
Larus marinus	Great Black-backed Gull	Red, GB RDB(EN)
Larus michahellis	Yellow-legged Gull	Amber, GB RDB(EN)
Larus ridibundus	Black-headed Gull	Amber, GB RDB(VU)
Limosa lapponica	Bar-tailed Godwit	Amber
Linaria cannabina	Linnet	S41, Red
Locustella naevia	Grasshopper Warbler	S41, Red
Luscinia megarhynchos	Nightingale	Red, GB RDB(VU)
Mergus albellus	Smew	Red, GB RDB(CR)

Scientific name	Common name	Designation
Mergus serrator	Red-breasted Merganser	Amber, GB RDB(VU)
Miliaria calandra	Corn Bunting	S41, Red
Morus bassanus	Gannet	Amber
Motacilla cinerea	Grey Wagtail	Amber
Motacilla flava	Yellow Wagtail	S41, Red
Muscicapa striata	Spotted Flycatcher	S41, Red
Numenius arquata	Curlew	S41, Red, GB RDB(EN)
Oenanthe oenanthe	Wheatear	Amber
Parus montanus	Willow Tit	S41, Red, GB RDB(EN)
Passer domesticus	House Sparrow	S41, Red
Passer montanus	Tree Sparrow	S41, Red, GB RDB(VU)
Perdix perdix	Grey Partridge	S41, Red, GB RDB(VU)
Phylloscopus trochilus	Willow Warbler	Amber
Pluvialis squatarola	Grey Plover	Amber, GB RDB(VU)
Podiceps cristatus	Great Crested Grebe	GB RDB(VU)
Prunella modularis	Dunnock	S41, Amber
Puffinus puffinus	Manx Shearwater	Amber
Pyrrhula pyrrhula	Bullfinch	S41, Amber
Rissa tridactyla	Kittiwake	Red, GB RDB(CR), OSPAR
Saxicola rubetra	Whinchat	Red
Scolopax rusticola	Woodcock	Red, GB RDB(VU)
Somateria mollissima	Eider	Amber, GB RDB(VU)
Stercorarius parasiticus	Arctic Skua	Red, GB RDB(CR)
Sterna hirundo	Common Tern	Amber
Sterna paradisaea	Arctic Tern	Red, GB RDB(VU)
Sterna sandvicensis	Sandwich Tern	Amber
Streptopelia turtur	Turtle Dove	S41, Red, GB RDB(CR)
Strix aluco	Tawny Owl	Amber
Sturnus vulgaris	Starling	S41, Red, GB RDB(VU)
Sylvia communis	Whitethroat	Amber
Tadorna tadorna	Shelduck	Amber, GB RDB(EN)
Tringa totanus	Redshank	Amber, GB RDB(VU)
Troglodytes troglodytes	Wren	Amber
Turdus philomelos	Song Thrush	S41, Amber
Turdus viscivorus	Mistle Thrush	Red, GB RDB(VU)
Uria aalge	Guillemot	Amber
Vanellus vanellus	Lapwing	S41, Red, GB RDB(EN)
Fish		

Scientific name	Common name	Designation
Anguilla anguilla	European Eel	S41, OSPAR
Invertebrates		
Acronicta psi	Grey Dagger	S41
Acronicta rumicis	Knot Grass	S41
Andrena humilis	Buff-tailed Mining Bee	Notable:B
Apamea anceps	Large Nutmeg	S41
Apamea remissa	Dusky Brocade	S41
Apterygida media	Short-winged Earwig	NS
Arctia caja	Garden Tiger	S41
Blaesoxipha plumicornis	Blaesoxipha plumicornis	Notable
Bombus humilis	Brown-Banded Carder Bee	S41
Bombus ruderarius	Red-shanked Carder Bee	S41
Bombus rupestris	Red-tailed (Hill) Cuckoo Bee	Notable:B
Caradrina morpheus	Mottled Rustic	S41
Cerceris quinquefasciata	Five-banded Weevil-wasp	S41
Coenonympha pamphilus	Small Heath	S41
Colletes halophilus	Sea Aster Bee	S41, Notable:A
Dasypoda hirtipes	Pantaloon Bee	Notable:B
Diarsia rubi	Small Square-spot	S41
Dorycera graminum	Picture-winged Fly	S41
Erynnis tages	Dingy Skipper	S41, GB RDB(VU)
Evergestis extimalis	Marbled Yellow Pearl	Notable:B
Hippodamia variegata	Adonis' Ladybird	Notable:B
Hoplodrina blanda	Rustic	S41
Hylaeus cornutus	Spined Hylaeus	Notable:A
Hylaeus signatus	Large Yellow-face Bee	Notable:B
Kalcapion semivittatum	Kalcapion semivittatum	Notable:A
Lasioglossum malachurum	Sharp-collared Furrow Bee	Notable:B
Lasioglossum pauxillum	Lobe-spurred Furrow Bee	Notable:A
Lasioglossum puncticolle	Ridge-cheeked Furrow Bee	Notable:B
Lasioglossum xanthopus	Orange-footed Furrow Bee	Notable:B
Lasiommata megera	Wall	S41
Lipara rufitarsis	Lipara rufitarsis	Notable
Malacosoma neustria	Lackey	S41
Melanchra persicariae	Dot Moth	S41

Scientific name	Common name	Designation
Melitta tricincta	Red Bartsia Blunthorn Bee	Notable:B
Merzomyia westermanni	Merzomyia westermanni	Notable
Mimesa bruxellensis	Mimesa bruxellensis	Notable:A
Nemophora fasciella	Horehound Long-horn	S41
Neoascia interrupta	Neoascia interrupta	NS, Notable
Nomada flavopicta	Blunthorn Nomad Bee	Notable:B
Nomada fucata	Painted Nomad Bee	Notable:A
Nysson trimaculatus	Nysson trimaculatus	Notable:B
Oegoconia caradjai	Straw Yellowneck	Notable:B
Oncocera semirubella	Rosy Knot-horn	Notable:B
Panagaeus bipustulatus	Panagaeus bipustulatus	NS, Notable:B
Platyedra subcinerea	Mallow Seed Moth	Notable
Priocnemis confusor	Priocnemis confusor	Notable:B
Sciapus laetus	Sciapus laetus	NS
Scymnus limbatus	Scymnus limbatus	Notable:B
Sitochroa palealis	Sulphur Pearl	Notable
Sphecodes crassus	Swollen-thighed Blood Bee	Notable:B
Sphecodes longulus	Little Sickle-jawed Blood Bee	Notable:A
Sphecodes miniatus	False Margined Blood Bee	Notable:B
Spilosoma lubricipeda	White Ermine	S41
Spilosoma lutea	Buff Ermine	S41
Tyria jacobaeae	Cinnabar	S41
Mammals		
Erinaceus europaeus	Hedgehog	S41, GB RDB(VU)
Meles meles	Badger	BA
Plants		
Bupleurum tenuissimum	Slender Hare's-ear	S41, GB RDB(VU), ENG BSBI RDB(VU), NS
Buxus sempervirens	Box	NR
Camelina sativa	Gold-of-pleasure	NS
Carex divisa	Divided Sedge	S41, GB RDB(VU), NS
Centaurea cyanus	Cornflower	S41
Cichorium intybus	Chicory	GB RDB(VU), ENG BSBI RDB(VU)
Clinopodium acinos	Basil Thyme	S41, GB RDB(VU), ENG BSBI RDB(VU)
Epipactis phyllanthes	Green-flowered Helleborine	NS
Festuca longifolia	Blue Fescue	NR
Hippophae rhamnoides	Sea-buckthorn	NS

Scientific name	Common name	Designation
Hyacinthoides non-scripta	Bluebell	WCA8
Lathyrus aphaca	Yellow Vetchling	GB RDB(VU), ENG BSBI RDB(VU), NS
Lathyrus hirsutus	Hairy Vetchling	GB RDB(VU), NR
Medicago minima	Bur Medick	GB RDB(VU), ENG BSBI RDB(VU), NS
Medicago polymorpha	Toothed Medick	NS
Medicago sativa subsp. falcata	Sickle Medick	NS
Muscari neglectum	Grape-hyacinth	S41, NR
Nepeta cataria	Cat-mint	GB RDB(VU), ENG BSBI RDB(VU)
Onobrychis viciifolia	Sainfoin	GB RDB(VU), ENG BSBI RDB(VU)
Parapholis incurva	Curved Hard-grass	NS
Pinus sylvestris	Scots Pine	NS
Polypogon monspeliensis	Annual Beard-grass	NS
Puccinellia fasciculata	Borrer's Saltmarsh-grass	S41, NS
Puccinellia rupestris	Stiff Saltmarsh-grass	NS
Sedum forsterianum	Rock Stonecrop	NS
Spergula arvensis	Corn Spurrey	GB RDB(VU), ENG BSBI RDB(VU)
Torilis arvensis	Spreading Hedge-parsley	S41, GB RDB(EN), ENG BSBI RDB(EN), NS
Trifolium fragiferum	Strawberry Clover	GB RDB(VU), ENG BSBI RDB(VU)
Verbascum lychnitis	White Mullein	NS
Vicia bithynica	Bithynian Vetch	GB RDB(VU), NS
Vicia lutea	Yellow-vetch	GB RDB(VU), ENG BSBI RDB(VU), NS

Appendix D – Plant Species List

Table 13: Plant species recorded within the site boundary

Species	Abundance by habitat		
	Other neutral grassland	**Mixed scrub**	**Other broadleaved woodland**
a) Trees, shrubs and woody climbers			
Acer pseudoplatanus (Sycamore)			X
Buddleja davidii (Butterfly-bush)			X
Cotoneaster (Cotoneaster sp.)		X	
Hedera helix (Ivy)		X	X
Prunus avium (Wild Cherry)	X		
Prunus laurocerasus (Cherry Laurel)		X	
Pyracantha crenulata (Himalayan firethorn)		X	
Rosa (Rose sp.)		X	
Rubus fruticosus agg. (Bramble)			X
Taxus baccata (Yew)			X
b) Herbaceous species - grasses, sedges and rushes			
Agrostis stolonifera (Creeping Bent)	X		
Arrhenatherum elatius (False Oat-grass)	X		
Dactylis glomerata (Cock's-foot)	X		
Festuca rubra (Red Fescue)	X		
Holcus lanatus (Yorkshire-fog)	X		
Lolium perenne (Perennial Rye-grass)	X		
Triticum aestivum (Bread Wheat)	X		
c) Herbaceous species - other			
Achillea millefolium (Yarrow)	X		
Anthriscus sylvestris (Cow Parsley)	X		

Species	Abundance by habitat		
Arum maculatum (Lords-and-Ladies)			X
Bellis perennis (Daisy)	X		
Beta vulgaris subsp. martima (Sea Beet)	X		
Cardamine hirsuta (Hairy bittercress)	X		
Centranthus ruber (Red Valerian)			X
Cerastium	X		
Cirsium vulgare (Spear Thistle)	X		
Crepis (Hawk's-beard sp.)	X		
Erodium moschatum (Musk Stork's-bill)	X		
Galium aparine (Cleavers)	X		X
Geranium molle (Dove's-foot Crane's-bill)	X		X
Helminthotheca echioides (Bristly Oxtongue)	X		
Hirschfeldia incana (Hoary Mustard)	X		
Jacobaea vulgaris (Common Ragwort)	X		
Lamium purpureum (Red Dead-nettle)	X		
Lotus corniculatus (Common Bird's-foot-trefoil)	X		
Lotus corniculatus (Common Bird's-foot-trefoil)	X		
Malva sylvestris (Common Mallow)	X		
Medicago arabica (Spotted Medick)	X		
Medicago lupulina (Black Medick)	X		
Mercurialis annua (Annual Mercury)	X		X
Parietaria judaica (Pellitory-of-the-wall)	X		
Plantago lanceolata (Ribwort Plantain)	X		
Potentilla reptans (Creeping Cinquefoil)	X		

Species	Abundance by habitat		
Prunella vulgaris (Selfheal)	X		
Ranunculus repens (Creeping Buttercup)	X		
Rumex obtusifolius (Broad-leaved Dock)	X		
Senecio vulgaris (Groundsel)	X		
Sisymbrium officinale (Hedge Mustard)			
Sonchus (Sow-thistle sp.)	X		
Taraxacum (Dandelion sp.)	X		
Trifolium pratense (Red Clover)	X		
Urtica dioica (Common Nettle)			X
Verbascum densiflorum (Dense-flowered Mullein)			X
Veronica chamaedrys (Germander Speedwell)	X		
Veronica persica (Common Field-speedwell)	X		
Viola (Violet sp.)	X		

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