



**PRELIMINARY ECOLOGICAL APPRAISAL
AND BAT BUILDING REPORT**

FOR

DUNKIRK TOWER, KENT

Date of report	27 th October 2022
Date of survey	22 nd September 2022
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SUMMARY

- A Preliminary Ecological Appraisal was undertaken at Dunkirk Tower, Kent, on 22nd September 2022. The survey area measures 0.9 Ha and the Site is dominated by a Grade II listed Second World War radio mast at the centre. The proposals are understood to include the development of an office building with associated landscaping and parking in the southern part of the Site. No buildings are to be directly affected by the scheme.
- There are no rare plants or habitats present, although the Site borders an area of semi-improved grassland which is a priority habitat. To maintain the biodiversity interest of the grassland onsite, it is recommended that there is re-use of topsoil within the Site and use of a species-rich meadow grass mix in the proposed development.
- There is a small amount of the invasive species cotoneaster on the corner of the eastern boundary.
- None of the buildings are suitable for bats. There is suitable habitat for foraging bats. However, due to the small size of the Site no further activity surveys are recommended however generous native planting and a sensitive lighting strategy are recommended.
- Suitable habitat for reptiles has been identified within a small area of scrub in the northern corner of the Site. However, this area is not being directly affected by the scheme and no therefore no further surveys are recommended. Precautionary mitigation in the form of continued routine management of the grassland habitats has been recommended.
- No further surveys for protected species have been recommended.
- Regarding breeding birds, recommendations have been made in relation to the timing of any clearance work; this should be undertaken outside of the breeding bird season, limiting this work to between 1st September and 1st March.
- Recommendations for enhancing the ecological value of the proposed Site under the National Planning Policy Framework have been suggested. These include native planting of trees, hedgerows, herbaceous plants and species-specific.
- Guidance for the age of survey data has been provided in Appendix 4.

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1.0 INTRODUCTION

- 1.1 Corylus Ecology has been requested to undertake a Preliminary Ecological Appraisal at Dunkirk Control Tower in the village of Dunkirk in Kent, hereinafter referred to as the 'Site'. The Site had an initial Phase 1 and bat building survey (now referred to as a PEA) in September 2011 by Corylus Ecology and this report includes an update assessment for the submission of a planning application for the development of an office building with associated parking and access.
- 1.2 The Site lies in a rural environment near to the centre of the village of Dunkirk between Faversham and Canterbury at OS grid reference TR07813 59070. The Site is dominated by a Grade II listed Second World War radio mast at the centre of the Site. The proposals are understood to involve the development of a new office building in the southwest corner of the Site, with associated parking and access.
- 1.3 The PEA included a desk study and Phase 1 habitat survey and protected species assessment, including an assessment of the Site's suitability for roosting and foraging/commuting bats. The Phase 1 survey and protected species assessment provide information relating to the habitats within the Site and identify potential for and, if apparent, evidence of use by protected species. The assessment in relation to bats provides information on the potential of the buildings, trees and other habitats to support bats, and includes a search for visible evidence of use by bats.

Scope of Survey

- 1.4 The aims of the Extended Phase I Habitat, Bat Building surveys were to:
- classify the habitats within the site according to those within the Phase 1 manual;
 - identify habitats of ecological interest suitable for further surveys, and the potential to encounter protected species;
 - assess all buildings internally and externally that are to be affected by the development and identify evidence of and potential for use by bats;
 - assess any significant changes to the on-site habitats since the initial assessment in 2011, and to
 - suggest appropriate recommendations and mitigation where necessary.
- 1.5 This report has been prepared for the exclusive use of Origin Power. No part of this report should be considered as legal advice.

2.0 METHODOLOGY

2.1 Desk Study

2.1.1 A preliminary desk study was carried out in order to identify the types of habitats within the surrounding area and any statutory or non-statutory sites within 2km of the Site. A search of the Multi-Agency Geographic Information for the Countryside (MAGIC) interactive mapping service (Defra, 2021) provided information on habitats and species of importance within 2km of the Site. This included: the Natural Environment and Rural Communities (NERC) Act (2006) Section 41 'habitats of principal importance' (Priority Habitat Inventory), land-based designations (statutory and non-statutory), data from the European protected species mitigation licences (EPSML), GCN class survey licence returns and GCN eDNA habitat suitability index (HSI) pond surveys for District Level Licensing (2017-2019).

2.1.2 Records of protected and notable species were not sought from the Kent and Medway Biological Records Centre due to the small size of the scheme and the limited diversity of on-site habitats.

2.2 Extended Phase I Survey

2.2.1 The Site was subject to an extended Phase I Habitat Survey on 22nd September 2022 following an initial assessment in March 2011. The habitats present on the Site were mapped in accordance with the '*Handbook for Phase I Habitat Survey – a Technique for Environmental Audit*' (Joint Nature Conservation Committee, 2003). Habitat areas and features of topographical and/or ecological interest were described in the form of target notes (TN). These were later used to create botanical species lists by target note area and also to create a colour coded Phase I Habitat map. All nomenclature follows Stace (2019). Non-native or invasive species were also identified and mapped where appropriate.

2.3 Protected Species Assessment

2.3.1 The PEA included an assessment of the potential for the Site to support protected species. This type of survey aims to assess the potential for protected species to occur due to the habitats present but does not include any species-specific survey methods designed to demonstrate whether the Site is used by such species. The exception is badger *Meles meles* as field signs associated with this species can be searched for, including sett entrance holes, foraging 'snuffle holes', latrines, pushes and hairs.

Bats

2.3.2 Included as part of the PEA was a preliminary assessment of the suitability of features within the Site for bats. This included an assessment of buildings and trees within the Site boundary, as well as an assessment of the likely value the Site has for commuting and foraging bats. Buildings, trees and habitat were then placed into one of four categories of potential suitability for bats according to the Bat

Conservation Trust's guidelines: negligible, low, moderate, and high (Collins, 2016), as shown in Table 1. The results of this assessment were then used to inform the need for further bat surveys.

Category	Assessment Criteria
Negligible	Habitat, tree or building with negligible features likely to be used by roosting, foraging or commuting bats.
Low	<p>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 for 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 roost).</p> <p>A habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated i.e. not very well connected to the surrounding landscape by other habitat.</p>
Moderate	<p>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 with high conservation status.</p> <p>Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.</p>
High	<p>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 the longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.</p> <p>Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, hedgerows, line of trees and woodland edge.</p>

Preliminary Roost (Buildings) Assessment

- 2.3.3 An external survey of the buildings was undertaken by Jenny Passmore (licence number 2015-15012-CLS-CLS) and Melissa Randall of Corylus Ecology 22nd September 2022. The external survey included an assessment of areas for potential for bats to roost such as timber soffits, gable ends and roof tiles and a search for evidence, such as droppings and staining immediately below potential roost areas, and for droppings around the base of the building for example on window sills. Access into the building was restricted on the day of survey. However, the interior of the buildings was surveyed in 2014 for evidence of bats including droppings, staining and bats themselves. Bat droppings were searched for on the top of beams (where they are less likely to have been disturbed/damaged) as well as on the ground below. A high powered Clulite torch was used in the search.

Barn Owl

- 2.3.4 In relation to barn owls, signs searched for included droppings/splashes, regurgitated pellets, moulted feathers, suitable nest sites, chick fluff, prey remains and individual birds themselves. The screeching of young, if present, is also a useful indicator. The building was also assessed for any external features that may allow barn owls to enter the building. The assessment for barn owls utilised the surveyors experience but also followed guidance within, "Barn owls on site: a guide for developers and planners" (Natural England, 2002) and the Barn Owl Trust's Survey Techniques (leaflet number eight, 2010).

3.0 RESULTS

3.1 Preliminary desk study

Statutory and Non-statutory Nature Conservation Sites

- 3.1.1 The Site falls within the Impact Risk Zone (IRZ) of Blean Woods Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC) and National Nature Reserve (NNR). Blean Woods NNR covers 509 hectares are a priority ancient woodland and deciduous woodland. The nearest part of the woodlands to the Site is approximately 350m to the East.

Non- statutory Priority Habitat

- 3.1.2 The Site neighbours an area of 'good quality semi-improved grassland' which is a priority habitat under Section 41 of NERC Act. This area was under a Higher Level Stewardship in 2013. Some suggestions are made in the evaluation to help prevent works having negative impacts on this habitat.

European protected Species (EPS) Licences

- 3.1.3 Within the 2km search of the Site, the following EPS licences in Table 2 have been recorded. In addition, there are five GCN licence returns with the nearest being 270m to the west in 2014 and 350m to the south-west in 2015. The other three records are just under 2km to the west.

Table 2 – Summary of European Protected Species Mitigation Licences

Licence number	Direction	Distance	Species	Valid from and to		Licensable activity
2018-34992-EPS-MIT	290m	South-west	Great crested newts	19/07/2018	31/12/2019	Damage and destruction of resting place
2014-5694-EPS-MIT	350m	South-west	Hazel dormouse	07/12/2015	31/10/2017	Damage and destruction of resting place
EPSM-2010-2175	855m	West	Hazel dormouse	17/02/2011	31/10/2013	Destruction of breeding site

3.1 Extended Phase I Habitat Survey

- 3.1.1 The Site is a square parcel of land dominated by a large radio mast located in the centre of the Site. Around the mast there are three permanent buildings, a portacabin and two storage containers. In terms of habitat diversity, the Site is generally poor dominated by a large area of species poor, semi-improved grassland that covers most of the Site and an area of scrub that spreads from the north western corner. The Site perimeter is fenced off with 3m high palisade fencing on the south and eastern boundaries and chain link fencing on the north and west. These boundaries have become vegetated to a certain degree but most of the bramble and self-sown tree species lie outside the Site boundary. The Site conditions have changed a little since the Phase 1 Habitat survey conducted in 2014.

- 3.1.2 The habitats present are shown within Figure 1 with further details provided by way of specific Target Notes, denoted by the letters TN.

Scattered Trees

- 3.1.3 Within the Site there are only two mature deciduous trees, both silver birch *Betula pendula* located in the southern corner of the Site (TN2). A small line of Leyland cypress *X Cupressocyparis leylandii* is also present toward the centre of the Site (TN3), some hawthorn *Crataegus monogyna*, dogrose *Rosa canina*, ground ivy *Glechoma hederacea* and bramble *Rubus fruticosus* spp. agg are found surrounding these trees. Self-sown hawthorn and willow *Salix* sp. About 4.5m high are also located along the northern boundary but outside the Site boundary (TN6). Along the eastern boundary but outside the Site ownership is a line of aspen *Populus tremulus* (TN5) with several trees on the southern end being recently felled. A 7m tall grey willow *Salix cinerea*, and ash *Fraxinus excelsior* are on the boundary to the west just before the scrub.

Scattered Scrub

- 3.1.4 Areas of scattered scrub around the Site are localised and infrequent and can be found in areas where routine maintenance is more difficult. Patches of low dense bramble are located beneath one of the mast pillars and next to Building 1 (TN4), privet *Ligustrum ovalifolium*, dogwood *Cornus* spp and dogrose are also found here as well as a silver birch nearby. A small patch of scrub near Building 3 (TN7) which is made up of bramble, hawthorn, dogrose, ground ivy, privet and elder *Sambucus* spp. Another dense patch is located adjacent to Buildings 2. Bramble scrub can be seen encroaching through the boundary fence in the east of the Site (TN5) but as the areas are well maintained the scrub has not been able to establish, also found within this scrub is oxeye daisy *Leucanthemum vulgare*, ground ivy, carrot *Daucus carota* at ground level. Within this scrub near the northern corner (TN9) is an invasive species cotoneaster *Cotoneaster* spp, this is found among common nettle *Urtica dioica*, cow parsley *Anthriscus sylvestris*, Old Man's beard *Clematis vitalba* and some oak saplings and dog rose *Rosa canina*.

Scrub

- 3.1.5 A larger, dense patch of scrub dominated by bramble about 1m high (TN10) has established spreading from the north western corner. Within this area are scattered saplings of oak *Quercus robur* and blackthorn *Prunus spinosa*, and hawthorn on the boundary. The grass within the scrub is dominated by false oat grass *Arrhenatherum elatius*, sweet vernal *Anthoxanthum odoratum*, Timothy grass *Phleum pratense* and rough meadowgrass *Poa trivialis*. Other species spread through this area of scrub include creeping cinquefoil *Potentilla reptans*, common sorrel *Rumex acetosa*, common fleabane *Pulicaria dysenterica*, common knapweed *Centaurea nigra*, agrimony *Agrimonia eupatoria*, common ragwort *Senecio jacobaea*, dogrose,

cock's-foot *Dactylis glomerata*, dogwood, hedge bedstraw *Galium mollugo* and some holly *Ilex aquifolium* coming through from outside of the boundary.

Semi-improved grassland

- 3.1.6 By far the largest habitat type within the Site is an area of semi-improved grassland that covers approximately 60% of the Site. The buildings and areas of hardstanding are generally found in the south and centre of the Site but do not fragment the grassland and as such it is described as one complete habitat in this report (TN1). The grassland had recently been cut prior to the survey being undertaken but has a dense, springy thatch dominated by coarser grass species such as cock's-foot, Yorkshire-fog *Holcus lanatus* as well as rough meadow-grass, creeping bent *Agrostis stolonifera* and red fescue *Festuca rubra*. The herbaceous species were relatively diverse with common sorrel abundant along with creeping cinquefoil, yarrow *Achillea millefolium*, creeping buttercup *Ranunculus reptans*, ribwort plantain *Plantago lanceolata*, broad-leaved dock *Rumex obtusifolius*, common nettle, dove's-foot crane's-bill *Geranium molle*, oxeye daisy, ground ivy, common ragwort, common mouse-ear *Cerastium fontanum*, meadow buttercup *Ranunculus acris*, cat's-ear *Hypochaeris radicata*, white clover *Trifolium repens*, bristly oxtongue *Helminthotheca echioides*, Bird's-foot trefoil *Lotus corniculatus* and creeping thistle *Cirsium arvense*, carrot, and some mushrooms *Bolete spp.* Some additional species were found around the edges of the grassland by the buildings and under the tower such as prickly lettuce *Lactuca serriola*, buddleia *buddleia spp.*, scarlet pimpernel *Anagallis arvensis*, common mallow *Malva sylvestris*, bittersweet *Solanum dulcamara* and swinecress *Coronopus spp.*

Ephemeral

- 3.1.7 There is a strip of ephemeral vegetation with bare ground on the northern boundary (TN8). This was dominated by bristly oxtongue, also within this area was scarlet pimpernel, creeping thistle, oxeye daisy, hoary willowherb *Epilobium parviflorum*, curly dock *Rumex crispus* and nipplewort *Lapsana communis*.

Spoil

- 3.1.8 There are a couple of concrete plinths (S1 and S2) in the scrub to the north and west respectively.

Hardstanding

- 3.1.9 Areas of hardstanding (TN11) including the access road and area beneath the mast were confined mainly to the southern end of the Site. Some species such as scarlet pimpernel, buddleia and round leaved cranesbill *Geranium rotundifolium* were found just on the edge of the hardstanding.
- 3.1.10 It should be noted that there is another building to the east of the Site and the area around this has not been maintained. The area is completely fenced off from the main Site and is understood to be owned by a mobile phone company and is not included in the proposals for the Site.

3.2 Protected Species Assessment

Reptiles

- 3.2.1 The grassland appears to be mown from time to time and is very open with very little natural or artificial refugia. The areas of scattered bramble scrub are too isolated to be considered as suitable habitat for reptiles and there are no areas suitable for egg laying such as compost heaps or mounds of cut vegetation. The area of dense scrub to the North and Western boundary (TN10) holds potential for reptiles. Although areas of the grassland have a dense thatch, overall, the Site is considered to be generally poor for reptiles.

Breeding Birds

- 3.2.2 It is considered that the two silver birch to the south of the Site have good potential for breeding birds, also low nesting species are likely to be found within the patches of dense bramble scrub in the centre and the North West corner of the Site.

Great crested newts

- 3.2.3 No water bodies are located within the Site boundary and the terrestrial habitats within the Site are considered to be too isolated and do not provide suitable features for rest or shelter for this species. Ordnance survey shows no ponds within 250m of the Site. The nearest water body is located approximately 236m west of the Site. The website also shows a drain located some 219m to the west. Open habitat, with no major barriers such as main roads, lie between the Site and these habitats.

Mammals

- 3.2.5 Mammal paths were found in the dense scrub to the north western corner of the Site. It is most likely that this was made by a fox as there were other signs of fox on site. There were no obvious signs of a den being on Site and the path seemed to lead to the boundary fencing. There were no signs of badger on the Site.

Bats

- 3.2.5 The potential for the buildings to support bats is discussed in section 3.3 below. No trees were noted to have any potential for roosting bats. The two silver birch trees are both in good condition with no cracks, rot holes or splits that would otherwise be suitable for bats.

3.3 Bat Survey

Building 1

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- 3.3.1 This is a single storey flat roof building with concrete walls with no windows. No gaps into the building suitable for bats were noted and no evidence was found internally in 2014. The building is not considered suitable for bats.

Building 2

- 3.3.2 This is a single storey brick building with a flat roof. The roof is made of roofing felt although no gaps in the felt suitable for bats were noted. There is a small timber barge board that is located at the wall/roof joint on all elevations of the building but no suitable gaps in the boards were noted. There is a slattered vent on the north-east elevation but this is not considered suitable for bats to access the internal space of the building. No evidence of bats was found within the building in 2014 and although no internal access was possible in 2022, it is still considered unsuitable for bats.

Building 3

- 3.3.3 This is a small toilet block constructed of brick and has a flat corrugated metal roof. The roof has partially collapsed allowing large amounts of water inside. No evidence of bats or suitable features was noted and the building is not considered suitable for bats.
- 3.3.4 There are two temporary portacabins within the Site and these are not considered suitable for bats. The building owned by an outside communication firm to the east of the Site is similar in design to Building 1 and is not considered suitable for bats.

4.0 EVALUATION AND RECOMMENDATIONS

Habitat Assessment

4.1 The Dunkirk Tower Site has a relatively poor diversity of habitats. The largest and most significant habitat is a large area of managed semi-improved grassland that makes up most of the Site. It is understood that the proposals for the Site include the development of a new office building with associated parking and access. The development will focus on the southern half of the Site and grassland habitats to the north east and north west will be left largely unaffected. None of the buildings within the Site will be directly affected by the scheme.

4.2 Care should be taken when removing cotoneaster to prevent it spreading to other parts of the Site and neighbouring lands.

Reptiles

4.3 Limited potential for common reptile species has been identified in the areas of grassland. As a result, the overall suitability of the Site for reptiles is considered to be low but a small patch of scrub in the north-east corner could be used for reptiles. However, the impacts from the proposals also appear to be limited and focused on areas in the southern half of the Site. Accordingly, it is considered that reasonable precautions to prevent killing or injury to reptiles should consist of habitat management measures.

1. Grassland within the proposed development (and around the rest of the Site) should continue to be managed on a routine basis until works on-site commence. This is to ensure that the grassland habitats do not improve for reptiles during the planning and pre-construction works.
2. The area of scrub in the northern corner of the Site should be left. Should this area be required to be removed (the proposal plans suggest this is not to be the case) then further surveys to determine presence/likely absence of reptiles may be required.

Bats

4.4 No evidence or features suitable for bats were recorded during the building survey. The trees within the Site do not have any features suitable for bats, therefore, no further surveys or time constraints are required in relation to bats. Recommendations for any external lighting has been provided to minimise any lighting on bats.

Breeding Birds

- 4.5 No evidence of breeding birds was found within the Site, however, the two silver birch trees in the southern corner and areas of low dense bramble scrub may provide suitable nesting sites. The Site is not considered suitable for ground nesting birds due to the small size and location to residential housing.
- 4.6 It is understood that the trees and bramble scrub will be removed as part of the development. As all breeding birds are protected under the Wildlife and Countryside Act 1981 (as amended) these features should be cleared between November and 1st March avoiding the main bird nesting season. If these dates do not fall in with the timescales for the project then it is recommended that these habitats are checked before any clearance work by a suitably experience ecologist. If that check identifies breeding birds all work would need to cease until the chicks have fledged and left the nest(s).

Great crested newts

- 4.7 The nearest water body from the Site lies approximately 236m of the Site. It is considered, however, that there are no suitable aquatic habitat within the Site and the terrestrial habitats (either natural or manmade) do not provide great crested newts with adequate shelter. However, it is recommended that the site will remain unsuitable for GCN should the grassland within the Site be continued to be managed as set out in paragraph 4.2. For this reason, it is not recommended that any further surveys for this particular species is required.

Recommendations with regard to NPPF

- 4.8 The National Planning Policy Framework (Ministry of Housing, Communities and Local Government, 2019) sets out planning policies on the protection of biodiversity and geological conservation through the planning system. Section 15 of the NPPF states that planning policies and decisions should contribute to and enhance the natural and local environment by:
- safeguarding local wildlife-rich habitats and wider ecological networks including the hierarchy of international, national and locally designated sites, wildlife corridors and stepping stones and areas identified by national and local partnerships for enhancement;
 - promoting the conservation, restoration and enhancement of priority habitats and ecological networks;
 - minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

4.9 With regard to providing a net gain for biodiversity it is proposed that the following measures are employed within the development.

- In the event that any new planting is proposed, the planting should be generous and use locally sourced, native species. Planting of fruit trees which are of value to both humans and wildlife, is recommended. Other suitable native species for tree planting would include oak *Quercus robur*, beech *Fagus sylvatica*, wild cherry *Prunus avium*, wild service-tree *Sorbus torminalis* and rowan *Sorbus aucuparia*. Any hedges planted should aim to be species-rich, meaning that at least five woody species should be included. Beech, hazel *Corylus avellana* and hornbeam *Carpinus betulus* alongside berry-bearing species such as spindle *Euonymus europaeus*, hawthorn, blackthorn and holly would be ideal. Dog rose and honeysuckle *Lonicera periclymenum* can be planted at regular intervals to help thicken the vegetation and provide additional nest building opportunities and food sources for small mammals, birds and invertebrates.
- To enhance the biodiversity of the grassland and with consideration to the neighbouring semi-improved grassland, it is suggested that planting of a species-rich meadow or wildflower mix on the northern end of the Site would provide feeding opportunities for bees and butterflies. For example, Special General Purpose Wild Flowers EM3F, or Standard General Purpose Meadow Mixture EM2, from Emorsgate Seeds would provide a greater diversity of wildflowers for the grassland.

Recommendations to protect priority semi-improved grassland

4.10 To help prevent any adverse effects during development stage on the neighbouring priority habitat of semi-improved grassland it is suggested that:

- Herbicides should not be used on the Site to prevent the occurrence of herbicide drift into the neighbouring site.
- Standard construction industry mitigation measures to be put in place to ensure surface water drainage to stop accidental flooding of the Site and the neighbouring grassland.
- Industry standard pollution prevention measures to be adopted.

5.0 CONCLUSIONS

- 5.1 No rare and/or protected plants or habitats were found within the survey area.
- 5.2 The most significant habitat feature within the Site boundary was a large area of semi-improved grassland. The proposals for the Site focus on the southern sections which will result in small areas of grassland being affected. A precautionary approach to reduce potential impacts on reptiles has been recommended by ensuring the grassland habitats continue to be managed to prevent the areas improving for reptiles. Failure to manage the grassland frequently may result further surveys to determine the presence/likely absence for reptiles.
- 5.3 No evidence of bats was found within the buildings and no further survey relating to bats has been recommended.
- 5.4 No evidence of breeding bird was recorded during the survey; however, suitable habitats were identified and precautions have been recommended to reduce the impact on nesting birds during the development.
- 5.5 Care should be taken when removing the cotoneaster from the eastern boundary to prevent its spread as this is an invasive species.

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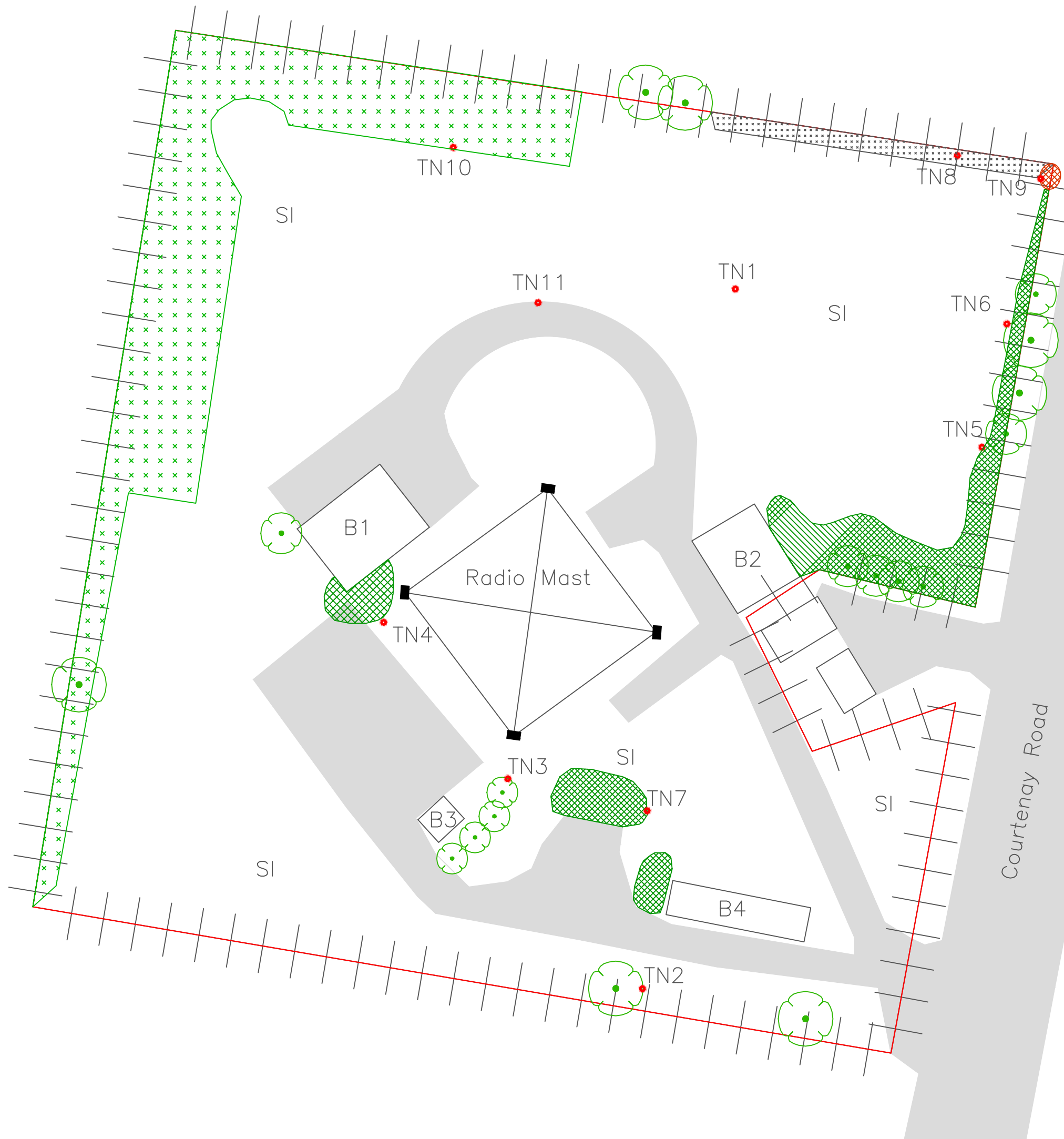
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FIGURES



Key

- Survey Area
- Tree
- Dense Scrub
- Scattered Scrub
- SI Semi-Improved Grassland
- S Spoil
- Ephemeral
- Introduced Shrub
- Fence
- Hardstanding
- Mammal Path
- TN1 Target Note 1
- B1 Building 1

revision	description	date	checked by

Corylus Ecology Ltd, Unit A3, Speldhurst Business Park, Went Farm, Langton Road, Speldhurst, Kent TN3 0NR
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Project:
 22109 Dunkirk Tower

Title:
 Phase 1 Habitat Plan

status drawing no. **Figure 1**

scale	size	date	drawn	checked
NTS	A3	29.09.2022	JP	MR

CAD filename: Figure_1.dwg

Figure 2 - Annotated Photographs



Semi-improved grassland TN1



Semi-improved grassland TN1



Self sown vegetation along fencelines



Tree lined boundary TN5



Southern boundary with silver birch trees



Building 1



Internal view of Building 1



Building 2



Building 3

APPENDICES

Appendix 1 – Bat Legislation

All bat species and their roosts receive legal protection in the United Kingdom, through both domestic and international legislation. The Wildlife and Countryside Act 1981 (WCA) (as amended) transposes into UK law the Convention on the Conservation of European Wildlife and Natural Habitats (referred to as the Bern Convention). The 1981 Act has been amended by several more recent acts including the Countryside and Rights of Way (CRoW) Act 2000 and the Natural Environment and Rural Communities (NERC) Act 2006. All British bat species are listed under Schedule 5 of the 1981 Act and are subject to the provisions of Section 9 which make it an offence to:

- Intentionally kill, injure or take a bat [Section 9(1)];
- Possess or control any live or dead specimen or anything derived from a bat [Section 9(2)];
- Intentionally or recklessly damage or destroy any structure or place which a bat uses for shelter or protection [Section 9(4)(a)];
- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection [Section 9(4)(b)];
- Intentionally or recklessly obstruct access to any structure or place which a bat uses for shelter or protection [Section 9(4)(c)];
- Sell, offer for sale, possess or transport for the purpose of sale or publish advertisements to buy or sell a bat [section 9(5)].

Bats are also included on Annex IV of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (known as the Habitats Directive) which is the means by which the European Union meets its obligations under the Bern Convention. This was transposed into national law through the Conservation (Natural Habitats, &c.) Regulations 1994, and later through the Conservation of Habitats and Species Regulations 2010 (known as either the Conservation Regulations or Habitats Regulations), which consolidate all the various amendments to the 1994 Regulations. The Conservation Regulations have recently been updated again (Conservation of Habitats and Species Regulations 2017), to consolidate all the amendments to the 2010 Regulations. Annex IV of the Habitats Directive requires Member States to construct a robust system of protection for species of European importance, including all species of bat found in the UK, in order to ensure the favourable conservation status of these species. This is outlined in Article 12 of the Habitats Directive and achieved through Part 3 of the Conservation Regulations, whereby Regulation 41 makes it an offence to:

- Deliberately capture, injure or kill a bat [Regulation 41(1)(a)];

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- Deliberately disturb a bat in such a way as to be likely to i) impair their ability to survive, breed, rear or nurture their young, hibernate or migrate, OR ii) affect significantly the local distribution or abundance of that species [Regulations 41(1)(b), 41(2)(a) and 41(2)(b)];
 - Damage or destroy a breeding site or resting place of a bat [Regulation 41(1)(d)].

Under the law, a roost is any structure or place used for shelter or protection. This could be any structure, for example, any building or mature tree. Bats use many roost sites and feeding areas throughout the year. These vary according to bat age, condition, gender and species, as well as season and weather. Since bats tend to re-use the same roosts for generations, the roost is protected whether the bats are present or not.

In addition four species of bat - greater and lesser horseshoe, barbastelle and Bechstein's - are included within Annex II of the Habitats Directive. Article 3 of the Directive requires Member States to develop a coherent ecological network of important and high quality designated Special Areas of Conservation (SACs) for the protection of these species, forming part of the Natura 2000 network.

The UK is also a signatory to the Agreement on the Conservation of Bats in Europe, which came into force in the UK in 1994. This Agreement was set up under the Convention on the Conservation of Migratory Species of Wild Animals (referred to as either the Bonn Convention or CMS), which recognises that endangered migratory species can only be properly protected if activities are carried out over the entire migratory range of the species. The Agreement aims to address threats to bat species, such as those arising from habitat degradation and disturbance of roosting sites. The Fundamental Obligations of Article III of this Agreement require the protection of all bats and their habitats, including the identification and protection from damage or disturbance of important feeding areas for bats as well as places used for shelter or protection.

Appendix 2 – Reptile Legislation

All British reptiles are afforded legal protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) largely as a consequence of a national decline in numbers due to habitat loss. Under the terms of the Act, it is an offence to intentionally kill or injure a reptile and accordingly in order to avoid committing an offence under the Act, appropriate mitigation techniques need to be incorporated for reptiles occurring within development sites. Mitigation methods for reptiles may include trapping and relocation of animals to a suitable receptor site, combined with the exclusion of the development site through the use of reptile fencing. Measures to enhance habitats for reptiles include the provision of hibernacula and appropriate management to improve foraging areas may also be required.

Mitigation for the more common British reptiles and amphibians does not require a licence from Natural England but would typically be agreed in consultation with the local planning authority.

Despite the range of their distribution and the diversity of habitats in which they may be found, the national status of the slow worm is not considered favourable. The slow worm is considered to have undergone a long term decline since the 1930's. Currently the largest threat has been identified as loss of habitat, in particular, due to a shift in planning policy towards the development of brown field sites (English Nature, 2004).

Appendix 3 – General Guidance for Lighting and Bats

- There should be no increase in artificial light around the tress and boundary habitats where possible to maintain 'dark corridors' for foraging and commuting bats;
- Minimise illumination of newly created habitats which may be used by bats once established;
- Avoid excessive lighting: use only the minimum amount of light needed for safety. Use passive infra-red lights wherever possible within the developed area;
- Avoid the use of lighting columns adjacent to the light sensitive areas: light at a low level reduces impact. Where used, undertake measures to minimise light spill by eliminating any bare bulbs and upward pointing light; higher mounting enables lower main beam angles, reducing glare. The spread of light should be kept near to or below the horizontal, flat cut-off lanterns are best.
- Use low impact lighting methods such as low bollard lighting with downward facing shields to prevent light spill upwards;
- For pedestrian lighting, use low level lighting that is as directional as possible with a maximum of 3 Lux at ground level, but preferably below 1 Lux;
- Avoid using reflective surfaces under lights;
- Where possible, limit the times that lights are on, providing some dark periods for bat activity. Use passive infrared motion sensor lights on the outside of houses to minimise the duration of the lit period from security lights; these can also be used wherever lighting is located adjacent to light sensitive areas (on footpaths or in parking areas etc.), to reduce disturbance of foraging/commuting bats by light spillage;
- Lighting schemes can result in a reduction of insects in nearby areas of bat foraging habitat. Use narrow spectrum bulbs to lower the range of bat and invertebrate species affected by lighting, preferably use light sources that emit minimal ultra-violet light and avoid the white and blue wavelengths of the light spectrum to avoid attracting lots of insects. Lights should peak higher than 550nm or glass lantern covers should be used to filter UV light. White LED lights do not emit UV but have still been shown to disturb slow-flying bat species;

Appendix 4 - CIEEM Advice Note on the Lifespan of Ecological Reports and Surveys (April 2019)

Age of Survey Data	Report/Survey Validity
Less than 12 months	Likely to be valid in most cases.
12-18 months	<p>Likely to be valid in most cases with the following exceptions:</p> <ul style="list-style-type: none"> • Where a site may offer existing or new features which could be utilised by a mobile species within a short timeframe (see scenario 1 example); • Where a mobile species is present on site or in the wider area, and can create new features of relevance to the assessment (see scenario 2 example); • Where country-specific or species-specific guidance dictates otherwise. Report authors should highlight where they consider it likely to be necessary to update surveys within a timeframe of less than 18 months.
18 months to 3 years	<p>A professional ecologist will need to undertake a site visit and may also need to update desk study information (effectively updating the Preliminary Ecological Appraisal) and then review the validity of the report, based on the factors listed below. Some or all of the other ecological surveys may need to be updated. The professional ecologist will need to issue a clear statement, with appropriate justification, on:</p> <ul style="list-style-type: none"> • The validity of the report; • Which, if any, of the surveys need to be updated; and • The appropriate scope, timing and methods for the update survey(s). The likelihood of surveys needing to be updated increases with time, and is greater for mobile species or in circumstances where the habitat or its management has changed significantly since the surveys were undertaken. Factors to be considered include (but are not limited to): • Whether the site supports, or may support, a mobile species which could have moved on to site, or changed its distribution within a site (see scenario 1&2 examples); • Whether there have been significant changes to the habitats present (and/or the ecological conditions/functions/ecosystem functioning upon which they are dependent) since the surveys were undertaken, including through changes to site management (see scenario 3 example); • Whether the local distribution of a species in the wider area around a site has changed (or knowledge of it increased), increasing the likelihood of its presence (see scenario 4 example).
More than 3 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 a professional ecologist, as described above).