



Ecological Mitigation Strategy

Land at Church Field, East Preston

TQ065026

for



Fieldwork by:
Dr Patrick Roper, Consultant Ecologist

Report prepared by:
Owen Seward, Senior Partner

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t: 01424 205 375 f: 01424 205 401

e: enquiries@canopytlp.co.uk w www.canopytlp.co.uk

creative media centre, robertson street, hastings, east sussex TN34 1HL

Contents

- 1.0 Summary
- 2.0 Introduction
- 3.0 Reptile Mitigation
- 4.0 Bat Mitigation
- 5.0 Compensation Measures
- 6.0 General Precautions, Enhancement Measures and Phasing

References

Appendix 1 - Preliminary Ecological Appraisal

Appendix 2 – Bat Roost Illustrations

1.0 Summary

- 1.1 The proposed development site may support populations of protected species – **canopy** Preliminary Ecological Survey report CCFEP.0207.ECO.2, attached here at Appendix 1, refers.
- 1.3 Mitigation proposed here is based on the information available at the time of writing. Consequently, it has been necessary to propose broad measures, to which suitably worded planning conditions may refer in order to elicit detail prior to development.

2.0 Introduction

- 2.1 Broadly speaking, protected species mitigation will include:
- Avoidance of deliberate killing, injury or disturbance. All reasonable steps will be taken to ensure works do not harm individuals by altering working methods and timing where necessary and appropriate.
 - Habitat creation, restoration or enhancement, providing appropriate replacement habitat for any that is lost.
 - Longer-term habitat management and maintenance, to ensure populations persist.
 - Post development monitoring, to assess the success of mitigation measures and inform management or remedial operations.
- 2.2 It is understood that, at this stage, comments and recommendations contained in this report will be considered and incorporated as appropriate into the wider development strategy of the site.

3.0 Reptile Mitigation

- 3.1 A reptile survey is currently being carried out at the site and it is anticipated that the results of this survey will be available prior to determination of the planning application. In the event a population of protected reptile species is found at the site, a capture and translocation exercise will be necessary to avoid possible killing or injuring of protected species during development. Reptile capture and translocation will be carried out in accordance with ARGUK (previously Herpetofauna Groups of Britain and Ireland) guidelines.

Translocation Methodology

- 3.2 Immediately prior to commencement of the translocation search, vegetation on the site will be managed, using strimmers and brushcutters as appropriate, to reduce the amount of suitable vegetation cover, thus rendering reptiles easier to catch. Up to five islands of rank vegetation, approximately 5 metres square, will be left intact, around which it is hoped reptiles will be concentrated during the

translocation search. Cutting operations will be supervised by the reptile handler, working outwards from the centre of the site, providing fauna the opportunity to escape from the area of disturbance.

- 3.3 Refuges, comprising 500mm square tiles of roofing felt, will be laid out and concentrated around the remaining islands of vegetation. Each refuge will be numbered and its location plotted on a site plan.
- 3.4 Refuges will be positioned one week prior to commencement of the capture and translocation exercise to allow a reasonable time for them to settle.
- 3.5 A search for reptiles will be made for 30 consecutive days, under suitable conditions (as defined by ARGUK), between May and September, using the roofing felt refuges. In addition, a predefined transect will be walked during each survey visit and binoculars used to watch carefully for basking animals in suitable areas, prior to inspection under refuges.
- 3.6 Any reptiles or amphibians found will be collected in plastic buckets lined with vegetation from the site. Immediately following a search episode revealing reptiles, animals will be transferred to the receptor area, where the entire contents of the bucket will be removed and placed in suitable locations. All captures will be recorded with refuge number, location, species, sex and life stage.

Destructive Search

- 3.7 Following on from the translocation exercise, a destructive search for protected reptile and amphibian species will be carried out within the exclusion area under the supervision of a suitably qualified and experienced reptile handler.
- 3.8 Vegetation will be cleared from the site in late summer/ early autumn, following the slow-worm breeding season, using hand tools such as brush cutters and strimmers. This clearance will be carried out systematically to ensure no animals become trapped in the centre of the site.
- 3.9 Cutting operations will be supervised by the reptile handler, working outwards from the centre of the site, providing fauna the opportunity to escape from the area of disturbance.
- 3.10 Following removal of vegetation, any piles of surface debris, such as fly tipped rubbish, will be dismantled by hand and removed from site.
- 3.11 Surface ground will then be stripped using an excavator with a toothed bucket, the top 30mm of ground being carefully removed first to expose any reptiles sheltering in crevices just below the surface.

- 3.12 Following the surface strip, larger and deeper excavations may be made, with particular care being taken in areas which may afford shelter to reptiles, such as tree stumps and buried rubble or debris.
- 3.13 Deposition of spoil from the excavator bucket will be carried out carefully, supervised by the reptile handler and in such a way as to minimise the risk of trapping any reptiles dug up with the spoil.
- 3.14 Any reptiles observed during the destructive search will be caught by the reptile handler and translocated to the receptor area following the method outlined in the previous section.

Reptile Exclusion and Receptor Area

- 3.15 The exclusion area and receptor area will be created by erecting herpetile exclusion fencing around the perimeter of the site to the specification at Figure 1.
- 3.16 In this instance, it is not considered necessary or desirable to translocate reptiles off-site, *unless* a 'high' population is observed during the current survey. Rather, it is preferred simply to remove and exclude reptiles from the development area, prior to and during construction, to avoid deliberate killing or injury.
- 3.17 It is anticipated that reptiles may disperse into the wider habitat during the construction and exclusion phase and maintain the population in these areas, as well as returning to the development area as associated landscape and compensation features mature.
- 3.18 This arrangement is considered appropriate on this occasion due to the relatively small area of habitat being lost to development when set against the extensive surrounding habitat, including the recreation ground to the east and church yard to the south. It is also considered preferable to give reptiles the opportunity to return to the site post-development, rather than be translocated to an entirely different location.
- 3.19 Two hibernacula will be created within the development, to the specification shown in Figure 3.
- 3.20 An annual population survey of reptiles will be carried out in accordance with current best practice guidance, to monitor the success of reptile mitigation at the site and inform any necessary habitat management.
- 3.21 A rolling programme of annual vegetation and habitat management, as recommended by the consultant herpetologist or ecologist.

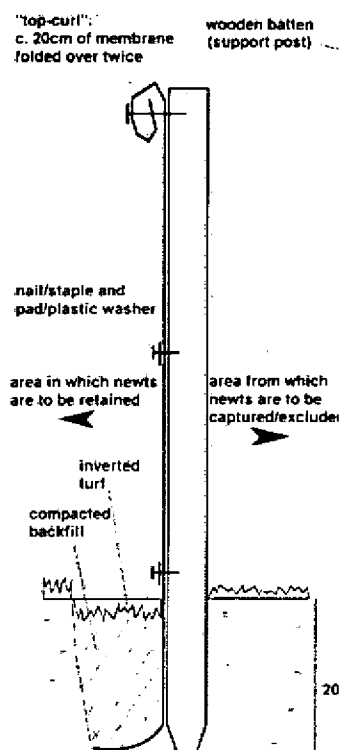


Figure 1
Reptile exclusion fencing
construction specification

4.0 Bat Mitigation

- 4.1 A bat survey is currently being carried out at the site and it is anticipated that the results of this survey will be available prior to determination of the planning application. In the event a population of protected bat species is found in any of the buildings proposed for demolition, procedures recommended in Natural England's Bat Mitigation Guidelines (2004) will be adopted.
- 4.2 In this regard, the primary constraint is one of timing – mid September to mid November being the optimum time to carry out demolition work – before bats enter hibernation roosts and after young bats are mobile.
- 4.3 There is considerable scope to provide new roost opportunities in new buildings, as well as mature trees at the site. Details of new roost and habitat creation may be made the subject of a planning condition attached to any consent, but illustrations of some building roost options are included here at Appendix 2.

- 4.4 Successful bat mitigation in relation to demolition will rely on close supervision by a licenced bat worker. It is therefore suggested that a suitable planning condition be attached to any consent requiring that a licenced bat worker submit a detailed method statement - incorporating the principles outlined in this report - for approval prior to any development, including demolition. Such a method statement should subsequently form the basis of a DEFRA licence application.

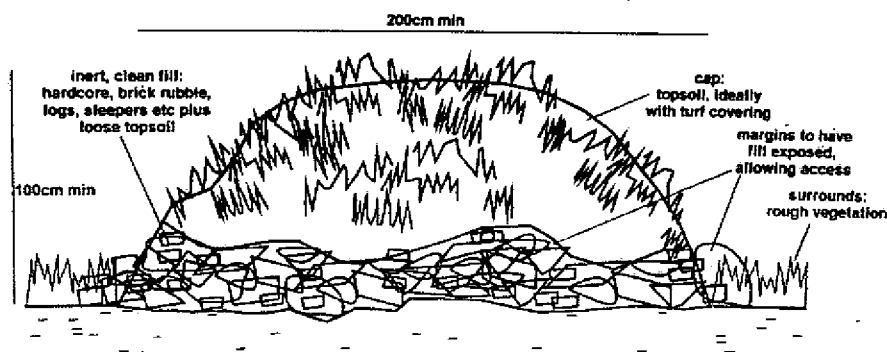
5.0 Compensation Measures

Reptiles

- 5.1 Development of the site will result in a net loss of a small area of terrestrial reptile habitat. As compensation for this loss, the site will be managed to provide optimum habitat for reptiles and amphibians for a minimum period of 6 years following construction. This will include the following management actions included here in paragraphs 3.19 - 3.21.
- 5.2 Reptile hibernacula will be constructed to the specification illustrated in Figure 2 () in suitable positions to be agreed.
- 5.3 Large piles of rubble, rock, log piles and earth banks (with plenty of mammal burrows and ground fissures present) make good hibernation and refuge sites. On free draining soils, these may be located below ground level by excavating a pit or trench, then infilling with a mixture of topsoil and rubble, sleepers, logs, etc.

Figure 2

Reptile and amphibian hibernaculum specification (from Great Crested Newt Mitigation Guidelines published by English Nature, 2001)



- 5.4 This design mimics artificial and natural conditions in which newts have frequently been found overwintering. Dimensions should not be below 2m length x 1m width x 1m height. The illustrated design would be suitable for locating on an impermeable substrate. On free-draining substrates, the design is largely similar but the bulk of the fill is sited in an excavated depression in the ground.

Bats

- 5.4 An appropriate number of bat bricks, roof voids, soffit voids and bat boxes in trees will be installed in the new buildings, subject to detailed design and building regulations. Appendix 2 includes illustrations of possible roof and soffit void bat roost design. All bat compensation measures will be considered and proposed by a licenced bat worker and will form part of a DEFRA licence application.

6.0 General Precautions, Enhancement Measures and Phasing

- 6.1 General protective measures to avoid impacts on wildlife during construction will include:

- the covering of trenches and manholes during construction to prevent animals falling in and becoming trapped.
- installation of herpetile exclusion fence to prevent amphibians and reptiles moving into the construction area while allowing them access to their wider habitat.
- positioning of temporary refugia throughout the development site so that any reptiles or amphibians discovered under them can be removed to a place of safety beyond the fence. This will occur following briefing of the site foreman and construction team by a herpetologist.
- A comprehensive briefing of all site operatives (including tree surgeons) will be undertaken prior to any works on site and a suitably qualified ecologist will be retained for the duration of the development to periodically monitor construction work and advise on any necessary remedial action.

- 6.2 In order to avoid undue disturbance on the site during the bird's-nesting season (February to July, inclusive) main construction works should be avoided during this period wherever possible. Similarly, no scrub clearance, tree removal or tree surgery should take place during this period.

- 6.3 If birds are nesting in the area, they should come to no harm if they are well away from the main construction works and have no disturbance taking place immediately adjacent to their nesting sites. If intrusive activities have to take place during the nesting season, care should be taken to ensure that they are done in a sensitive way by, for example, avoiding the use of noisy machinery near nesting sites.

- 6.4 Piles of rubble, logs and other material that have been lying on the ground for some time should be moved in April and May, i.e. to give

any reptiles an opportunity to make their way elsewhere in the area (or to be moved elsewhere on the site) during their active period when they are not in hibernation. Slow-worms give birth to their young in September.

- 6.5 When moving wood piles and other material of this kind, care should be taken to ensure that birds are not using them as nesting sites. If they are they should be left in situ until early October, after both the bird's nesting season and the herpetile breeding season.
- 6.6 April and May are also good months in which to construct the hibernacula for reptiles, to allow a period for any species in the area to get accustomed to them (they will use them throughout the year) before they settle down for the winter.
- 6.7 Planting of trees and shrubs prescribed should take place between November and January. Tree protection fencing and herpetile exclusion fencing is also best done during this period.
- 6.8 Activities related to trees, landscape and wildlife will be carried out in accordance with the following sequence:
 1. Brief construction team on the biodiversity of the site, their legal position vis a vis wildlife and action that should be taken to avoid harming legally protected species.
 2. Carry out necessary tree surgery and removal.
 3. Retain standing dead wood and create log piles to maintain and enhance the saproxylic habitat.
 4. Carry out necessary ground preparation in landscape planting areas.
 5. Carry out specimen tree planting around perimeters of construction site activity, excluding planting on the interior of the site.
 6. Erect tree protection barriers as specified in the Arboricultural Method Statement.
 7. Ensure any fencing incorporates necessary openings to allow free movement of badgers and other wildlife.
 8. Conduct ongoing monitoring for reptiles and remove any that are found to a place of safety.
 9. Incorporate bat compensation measures in new buildings

10. Following completion of construction phase of development, dismantle protective fencing.
11. Carry out remaining landscape planting.
12. Install boxes for birds and bats.

6.9 The above prescriptions are simply summarized in this table:

DESCRIPTION	MONTH	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
Landscape planting, tree surgery													
Erect tree protection / herpetile fencing													
Bird's nesting season													
Demolition of buildings with bats													
Reptile and amphibian translocation													

References

- *Town and Country Planning Act*, 1990
- *Wildlife and Countryside Act*, 1981
- *Countryside and Rights of Way (CROW) Act*, 2000
- *Protection of Badgers Act*, 1992
- *Council Directive 92/43/EEC, Conservation of Natural Habitats and of Wild Fauna and Flora* (the 'Habitats Directive'), 1992
- *Conservation (Natural Habitats &c.) Regulations*, 1994
- *PPS1 Delivering Sustainable Development*, The Stationary Office, 2005
- *PPS9 Biodiversity and Geological Conservation*, The Stationary Office, 2005
- *Circular 11/95, The Use of Conditions in Planning Permissions*, DoE, 1995
- *By Design, Urban Design in the Planning System*, DETR, 2000
- *Urban Design Compendium*, English Partnerships & Housing Corporation, 2000
- *Developing Naturally – A Handbook for Incorporating the Natural Environment into Planning and Development*, Michael Oxford, 2000
- *Biodiversity By Design – A Guide for Sustainable Communities*, Town and Country Planning Association, 2004
- *Bat Mitigation Guidelines*, English Nature, 2004
- *Reptiles: Guidelines for Developers*, English Nature, 2004
- *Herpetofauna Groups of Britain and Ireland*, Advisory Notes for Amphibian and Reptile Groups, 1998
- *British Standard 5837 – Trees in Relation to Construction*, 2005
- *Trees of Britain and Northern Europe*, A Mitchell, 1992
- *Trees in Towns*, Land Use Consultants / DoE, 1993

Appendix 1

Preliminary Ecological Survey

Appendix 2

Bat Roost Illustrations

