ECUS

environmental • consultancy

Compton Grove, Buxton
Ecological Assessment

Report to:

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August 2010

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Report Title: **Compton Grove, Buxton – Ecological Assessment**

Revision: **FINAL**

Date: August 2010

Report Ref: HL/2812

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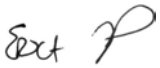

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1. Introduction

1.0.1 ECUS Ltd was commissioned by Ben Bailey Homes to undertake an ecological assessment of the buildings and grounds comprising Buxton Fire Station at Compton Grove, Buxton (Ordnance Survey Grid Reference: SK 057 726). Planning application proposals for the site involve redevelopment of the application area to comprise new residential housing. Ecological assessment was required to assess the impacts of these proposed works.

1.0.2 An ecological walkover survey and assessment has been undertaken to review the potential for the site to contain or be used by species protected under both UK and European nature conservation legislation, namely The Wildlife & Countryside Act (1981) (as amended) and the Habitat Regulations (2010). Trees and buildings on site were inspected for features with potential to be of interest to roosting bats.

1.0.3 The site was also assessed for its suitability to support key species and habitat that have recognition of importance through UK and local planning policy, in particular UK and local Biodiversity Action Plans (BAP) and Planning Policy Statement 9 (PPS9).

1.0.4 This report details the findings of the survey work and subsequent assessment. Methodologies employed are described including site surveys and evaluation. The impacts of the proposals on any features of interest to nature conservation are assessed and mitigation measures and the need for any further survey work are included where appropriate.

2. Methodology

2.0 Desk Study and Data Consultation

2.0.1 Data consultation was undertaken by ECUS Ltd with Derbyshire Wildlife Trust (DWT) as part of the ecological assessment process, to determine whether any ecological features of note had previously been recorded within 1 km of the site. Data requested included:

- records of protected species;
- records of national or local Biodiversity Action Plan (BAP) species;
- details of any statutory sites of ecological interest e.g. Sites of Special Scientific Interest (SSSI), Special Protection Area (SPA) etc., and
- details of any non-statutory sites of ecological interest e.g. Sites of Importance for Nature Conservation (SINC), Local Wildlife Sites (LWS) etc.

2.0.2 The MAGIC website (www.magic.gov.uk) was also consulted for information on statutory and non-statutory designated wildlife sites.

2.0.3 Information returned from MAGIC and DWT with relevant assessments will be incorporated into the report as appropriate.

2.1 Ecological Walkover Survey

2.1.1 An ecological walkover survey was undertaken 24th August 2010 by an experienced ECUS ecologist using extended Phase 1 habitat survey methodology (JNCC, 2007). The habitats and vegetation types present were recorded, together with an indication of their relative abundance. This survey method aims to characterise habitats and communities present and is not intended to provide a complete list of all species occurring across the site.

2.1.2 Plant species recorded were classified according to the subjective method of DAFOR abundance ratings. The standardised terms are as follows:

- D Dominant
- A Abundant
- F Frequent
- O Occasional
- R Rare

2.1.3 Notable, rare or scarce plant species were highlighted if present. Evidence of protected species or species of nature conservation importance was recorded where present at the time of survey. The information is presented using

target notes (TN), locations of which are shown on Figure 1 (Appendix 1) where applicable.

2.1.4 Invasive plant or animal species listed on Schedule 9 of the Wildlife and Countryside Act (1981) (as amended) were recorded as seen.

2.2 Protected and Key Species Survey

2.2.1 All signs of protected species or groups encountered during the survey visit were recorded. This included observations of tracks or other signs of species such as badger, which may be visible at the time of survey. The structure and quality of the habitats present were assessed for their suitability to support animal groups, paying particular attention to detecting signs of occupation by, or suitability for, protected species. In addition, a note was made of any animals or flora of conservation interest not protected by UK or European legislation.

Bat assessment

Bat roost potential survey

2.2.2 The exterior of the buildings, along with the trees on site, were inspected on 24th August 2010 for any features likely to be of interest to roosting bats.

2.2.3 Particular attention was paid to the areas that are normally favoured by bats including the gable ends, roof tiles and soffits and fascias, to identify features (cracks, crevices, slipped tiles etc.) with potential to be of interest to roosting bats.

2.2.4 An individual building or tree may have several features of potential interest to roosting bats associated with it. It is not always possible to confirm usage of a feature by bats as often the animals may be present on one day and no evidence of occupation may be found on the next. Consequently it is customary when undertaking such surveys to assign each feature to a defined category of roosting potential as follows:

2.2.5 **Negligible:** This category is usually used where a feature appears initially to have significant bat roost potential, but is considered on closer inspection to have low or negligible potential to support roosting bats. It is usually used during surveys to confirm that inspection of a feature has been carried out and has found that the feature is not considered to comprise suitable habitat for roosting bats.

2.2.6 **Low:** This category is used to describe a feature that may have some superficial interest to roosting bats, but is considered suboptimal to the extent that bats are not considered likely to use the feature for shelter. A cavity that is open at the top allowing access to wind and rain may be considered to be of low bat roost potential.

2.2.7 **Moderate:** This category is used to describe a feature that has some potential to support roosting bats, but is considered to be less than ideal in some way. For example the feature may be occupied by other animals, such as birds or squirrel, it may be subject to disturbance or have sub-optimal connectivity with navigational features. A surveyor would be neither surprised

nor expect to find a bat using such a feature. Features considered to be of moderate roosting potential would not automatically be subject to an activity survey unless otherwise highlighted.

2.2.8 **High:** This category is used to describe an optimal feature considered to be ideally suitable for use by roosting bats where no evidence of occupation by bats has been found. Features considered to be of high bat roost potential (BRP) may include upwards-leading cavities of appropriate dimensions and height from the ground, with no obstructions below the cavity entrance. The tree may be particularly prominent within the landscape and is likely to have good connectivity with navigational features and sufficient suitable foraging habitat in the vicinity. Features with high BRP are likely to be subject to activity surveys to assist confirmation of their status, and may be subject to a watching brief during works that may disturb them.

2.2.9 **Confirmed:** This category is used where positive evidence of bats usage has been recorded from a feature. For example, bats or bat droppings may be present, or existing bat records may be associated with the feature. A licence from Natural England is likely to be required if the bat roost is to be disturbed by the development.

2.2.10 Any evidence of bat occupation was also recorded, such as droppings, staining by urine and fur oils or feeding remains.

3. Survey Findings and Evaluation

3.1 General Site Description

3.1.1 The site is located at the end of Compton Grove in Buxton, Derbyshire. Buildings on site comprise an active two-storey fire station with a training tower, two single-storey garages, a portacabin and a petrol pump to the rear.

3.1.2 Habitats on site include amenity grassland, introduced shrub and scattered broad-leaved trees, ranging in age from semi-mature to mature. Hard standing is present around the buildings on site.

3.1.3 The site is situated on the southern edge of the town of Buxton and is bound by residential housing with gardens on the western, northern and eastern aspects. A stone wall denotes the southern boundary of the site with a strip of mature trees directly behind. The wider area to the west, north and east of the site is dominated by the infrastructure of Buxton town. A junior school with sports fields occurs to the south beyond the woodland strip before opening out into grass fields and woodland. Further grassland and woodland radiates out from the outer edges of the town to dominate on all aspects.

3.2 Sites of Nature Conservation Importance

3.2.1 Two statutory sites of nature conservation importance were identified on the MAGIC website as occurring within 1 km of the application area.

3.2.2 Poole's Cavern and Grin Low Wood Site of Special Scientific Interest (SSSI) was identified approximately 0.5 km south west of the site. Ferneydale Grassland Local Nature Reserve (LNR), designated for its unimproved calcareous grassland, was identified approximately 1 km to the south east of the site.

3.2.3 Derbyshire Wildlife Trust supplied information which identified the above SSSI and LNR along with three additional non-statutory sites of Buxton Youth Hostel Grassland, Grin Low Grassland and Dale Road Grassland. Five records of potential local wildlife sites and five records of other recorded sites of interest were also supplied.

3.3 Habitats

3.3.1 The habitat types recorded on site are listed below in order of dominance:

Amenity grassland

3.3.2 The dominant habitat on site is amenity grassland, comprising intensively managed grassland e.g. typical of lawns. The largest area occurs to the east of the main station building. A narrower strip is present along two thirds of the western boundary. The grassland is of short sward and comprises species including dominant perennial rye grass *(Lolium perenne)* with a low diversity of herb species, including dandelion *(Taraxacum officinale* agg*.)*, creeping buttercup *(Ranunculus repens)*, common daisy *(Bellis perennis)* and white clover *(Trifoliums repens).*

3.3.3 All grassland on site comprises species that are common both locally and throughout the UK and exhibits a low degree of naturalness. There is an abundance of similar habitat within the local and wider area and this habitat is considered to be of importance to nature conservation within the immediate zone of influence only.

Scattered trees

3.3.4 A total of seven scattered trees ranging in age from semi mature to mature are present around the boundary edges of the site. The largest tree on site is a mature purple beech *(Fagus purpurea)* directly east of the main station building. Other species on site include ash *(Fraxinus excelsior),* wych elm *(Ulmus glabra),* horse chestnut *(Aesculus hippocastanum),* goat willow *(Salix caprea)* and cherry *(Prunus sp.).*

3.3.5 The trees within the site boundary are of limited species diversity and are common both locally and throughout the UK. This habitat is considered to be of value to nature conservation within its zone of immediate influence only.

Introduced shrub

3.3.6 A total of three sections of introduced shrub, including native and non native species, are present on site. A crescent-shaped section has been planted infront of the north-western and the north-eastern corner of the main fire station building, with narrow strips extending down the length of the west and east aspects. The cresent-shaped areas are less managed (with some self-set species present) whilst the strips on either side have been recently cut. Species within the crescent areas include rose of Sharon *(Hypericum calycinum)*, holly *(Ilex aquifolium),* dog rose *(Rosa canina)*, privet *(Ligustrum ovalifolium)* and hebe *(Hebe* sp.*)*. The more managed sections comprise common mallow *(Malva sylvestris),* cotoneaster *(Cotoneaster* sp.*)* and dogwood *(Cornus sanguinea).*

3.3.7 The third section of introduced shrub comprises a strip starting in the north eastern corner of site and running approximately one third the length of the eastern boundary. The shrubs range from large bushes to ground level or climbing species and include conifer *(Coniferae* sp.*)*, lilac *(Syringa vulgaris),* pyracantha *(Pyracantha* sp.*),* honeysuckle *(Lonicera* sp.*)* and a patch of ivy *(Hedera helix).*

3.3.8 All of the planted introduced species are common throughout the UK and the majority are non-native. There is an abundance of this habitat within the local and wider area and this habitat is considered to be of importance to nature conservation within the immediate zone of influence only.

Buildings and hardstanding

3.3.9 The active fire station building dominates the entrance area onto the site, with a tower, two garages, a portacabin and a petrol pump loosely clustered towards the south western corner of site. The buildings are described in more detail in sections 3.4.2 – 3.4.5 below. An expanse of hard standing surrounds the buildings on site.

3.3.10 A large stone wall denotes the southern boundary, whilst wooden and metal fencing is present along the east and west boundary edges.

3.4 Species

Birds

3.4.1 A total of seven records for UK BAP bird species within 1km of the site, including starling *(Sturnus vulgaris),* song thrush *(Turdus philomelos)* and house sparrow *(Passer domesticus)* were supplied by Derbyshire Wildlife Trust.

3.4.2 Habitats suitable for nesting birds on site are very limited. The scattered trees and patches of introduced shrub offer limited opportunity for common bird species for nesting and foraging and there is extensive alternative nesting and foraging habitat in the immediate and wider area. The habitats on site are not considered to be of importance to nesting or foraging bird species outwith the zone of immediate influence.

Bats

3.4.3 A total of nine records of bats within 1km of the site were supplied by Derbyshire Wildlife Trust, although six of these are prior to 2000 and considered to be historic records. The remaining three include two pipistrelle *(Pipistrellus pipistrellus)* records from 2000 and 2003 and one for Brown Long-Eared *(Plecotus auritas)* from 2005.

Internal/external inspection

Active main fire station

3.4.4 The active fire station building is two-storeys high, of brick construction with stone facing in sections and is flat roofed with no soffits or facias. The northern aspect is dominated by five fire engine garage doors and a concrete balcony with four French window-type access doors above. The flat roof edge has stone slabs laid horizontally on top of lead flashing. No gaps between the slabs or cracks in the cement or concrete were recorded. The eastern and western aspects also have stone facing and edging stones directly on top of lead flashing. The lower half of the southern aspect of the building is dominated by five fire engine rear entrance doors. Above these there are thirteen windows surrounded by tiles. The edging slabs are again present, although the lead flashing is fringed. Potential for roosting bats is considered to be negligible overall considering the lack of roof void space, lack of soffits and fascias and minimal cracks and gaps in the brickwork.

Training tower

3.4.5 A three storey, flat topped training tower with three window spaces stands to the rear of the main building. No cracks in the brickwork were present and the tower is open to the elements at the top and in all three window spaces making it unsuitable for roosting bats.

Garages

3.4.6 An old brick, flat-roofed garage with an old fire engine and a 4x4 vehicle inside is present directly behind the training tower. There is no roof void space and the doors to the garage are open to the elements. Another brick garage with five doors is present to the west of this. This garage is also flat-roofed, and a section in the south-west corner has fallen through making conditions damp and cold. The garage is currently used as a store room with one out of the five doors left open. Conditions are considered to be suboptimal for roosting bats.

Portacabin and petrol pump

3.4.7 A portacabin with old gym equipment inside stands next to the eastern end of single garage. It appears disused but is still intact. A small metal box petrol pump stands to the north of the portacabin. Neither of these structures offer any potential for roosting bats.

3.4.8 All of the buildings on site are flat roofed so offer no roof void space for roosting bats. Any features such as lifted lead flashing or small cracks between bricks are considered to be suboptimal. No direct evidence of bats e.g. staining or droppings, was recorded. The buildings are considered to hold low to negligible potential for roosting bats.

3.4.9 No features with the potential to be of interest to roosting bats were recorded in association with the trees and shrub around the site boundary edges. There is a larger amount of tree cover in the immediate vicinity of the site (including a minimum of eight bat boxes erected on the mature trees just outside of the southern boundary) to offer alternative opportunity. Roosting bats are not considered to be receptor with respect to this development.

3.4.10 Whilst trees and shrubs on site offer a small amount of foraging opportunity, resources are present across the wider surroundings of the peak district. Habitats on site are considered to be of importance to foraging bats within the immediate zone of influence only.

Badgers

3.4.11 A total of three records of badger setts within 1 km of the site were supplied by Derbyshire Wildlife Trust. Of the three setts, two are located to the south-east and one is located to the south-west. All three have connectivity links with the site *via* fields, roads and residential gardens.

3.4.12 No setts were recorded on site during the survey, though signs of foraging activity were recorded. These included two footprints within a patch of bare mud (see Plate 1, Appendix 3), several snuffle holes, a faint track through slightly longer grass at the base of a small slope and a faint track leading up and over a small, ivy covered earth mound. All of these signs were located along the eastern boundary edge of the site. A small amount of possible scratching marks were present beneath the large purple beech.

3.4.13 Badgers are not resident within the application area but the site may be utilised from time to time as an occasional foraging resource. However, suitable foraging habitat on site is limited in extent and quality and there is an abundance of similar and more suitable habitat in the local area. The absence of a sett or any latrines indicate that the site does not form a significant part of a badger territory and the application area is not considered to be of interest to foraging badgers outwith its immediate zone of influence.

Other Protected and Key Species

3.4.14 During the survey, the site was checked for suitability for and signs of use by other protected species. No signs of other protected species were recorded on the day of survey.

Invasive Plant Species

3.4.15 No invasive plant or animal species listed on Schedule 9 of the Wildlife and Countryside Act (1981) (as amended) were recorded on the day of the survey.

4. Ecological Assessment & Mitigation

4.0 It is understood that the existing buildings on site are to be demolished to accommodate new housing and associated access roads. The current proposals indicate retention of the large beech tree and overhanging canopy from the tall trees behind the south boundary wall.

4.1 Habitats

Amenity grassland

4.1.1 Total landtake of the amenity grassland will be required to accommodate the development as proposed. This habitat comprises species that are common and widespread throughout the UK and any grassland removed can be rapidly recolonised once works on site are completed. The landtake is not considered to represent a significant adverse impact to nature conservation outwith the immediate zone of effects.

Scattered trees

4.1.2 The large purple beech is to be retained and the overhanging canopy from the mature trees to the south of the site will remain. Landtake of the majority of young trees/ saplings closer to the boundary edges is proposed to accommodate boundary fencing, however these trees are of low ecological value overall and landtake of scattered trees is not considered to represent a significant adverse impact to nature conservation outwith the immediate zone of effects.

4.1.3 Replacement tree planting within the development is encouraged, where practicable, using native species typical of the local area and of UK provenance. Species recommendations include English oak (*Quercus robur*), ash (*Fraxinus excelsior*), beech (*Fagus sylvatica*), rowan (*Sorbus aucuparia*), wild cherry (*Prunus avium*), bird cherry (*Prunus padus*), crab apple (*Malus sylvestris*) and field maple (*Acer campestre*).

4.1.4 Replacement and additional planting of native species will help the scheme to comply with Planning Policy Statement 9 (PPS9), which states that planning decisions should aim to maintain and enhance, restore or add to biodiversity interests.

4.1.5 In reference to the British Standard “Trees in relation to Construction - Recommendation” (B.S.5837, 2005) a fenced Root Protection Zone (RPZ) should be implemented for trees to be retained, prior to commencement of site works. This will apply to the purple beech and ideally to the mature trees adjacent to the southern boundary to protect their root zone if works are likely to impact upon them.

Introduced shrub

4.1.6 Landtake of the introduced shrub within (and along) the site boundary will be required to accommodate the development as proposed. This habitat is limited in extent and contains species that are common and widespread

throughout the UK. Removal of the shrub is not considered to represent a significant adverse impact to nature conservation outwith the immediate zone of effects.

4.1.7 It is recommended that areas of native shrub planting are included within the landscape plan, as this habitat can provide a valuable contribution to the nature conservation value of a site and will help comply with PPS9. Species to be planted should be selected to maximise food and nectar sources for birds, invertebrates and small mammal species, such as hedgehogs (*Erinaceus europaeus*).

4.1.8 Appropriate shrub species include hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), hazel (*Corylus avellana*), field rose (*Rosa arvense*), dog rose (*Rosa canina*), holly (*Ilex aquifolium*), spindle (*Euonymus europaeus*),

4.1.9 Other native wildflowers may be included in borders and areas of public open space, including bluebell *(Hyacinthoides non-scripta*), foxglove *(Digitalis purpurea*), agrimony *(Agrimonia eupatoria*), common mallow *(Malva sylvestris)* and golden rod *(Solidago virgaurea*).

4.2 Species

Birds

4.2.1 The habitats on site have low potential to provide a nesting and foraging resource for bird species resident in the local area.

4.2.2 Whilst tree works are planned on site, the loss of suitable bird nesting and breeding habitat on site will be minimal due to the majority of trees to be lost being of semi mature age which offer unsuitable branch widths and canopy cover for nest building. Retention of the largest tree on site (the purple beech) is planned. There is an abundance of similar and more optimal habitat in the immediate and surrounding area. Proposed works on site are not expected to result in a significant adverse impact to nesting or foraging bird species outwith the immediate zone of effects.

4.2.3 All nesting birds are protected under the Wildlife and Countryside Act (1981) (as amended) and to avoid disturbing nesting birds and causing an offence under the current legislation, any tree works should be undertaken between September/October and February to avoid the bird nesting season (March – August inclusive). Should tree works or scrub/ shrub removal within the breeding season be unavoidable, no such works should be undertaken until the vegetation has been inspected by an appropriately trained, qualified and experienced ecologist to ensure that no bird's nests are present.

Bats

4.2.4 The trees within the site boundary contribute minimally to the overall bat foraging resource around the application area e.g. the mature trees adjacent to the south boundary are more dense, more mature and of slightly higher diversity and are therefore more valuable. Landtake of the habitats on site does not represent a significant impact to foraging bats outwith the immediate zone of effect.

Badgers

4.2.5 No active sett was recorded within the site itself or within 30m of the site boundary and therefore a licence to disturb badgers will not be required and there are no constraints to machinery usage.

4.2.6 Landtake of the amenity grassland and introduced shrub on site is required to accommodate the proposed development. This will remove an occasional foraging resource for any badgers resident in the wider area. As the habitats on site are considered to provide a sub-optimal foraging resource, comprised largely of amenity grassland, with some introduced shrub that is lacking abundant fruiting species, such as bramble or fruit trees, it is considered that the habitats on site do not comprise a significant foraging resource for badgers in the wider area.

4.2.7 Foraging activity appears to be mostly restricted to the eastern boundary edge and the lack of a sett or any latrines indicates that the site does not form a significant part of a badger territory. There is an abundance of alternative and better habitat within the local and wider area that the mobile badger will readily be able to utilise. The proposed works are not expected to result in a significant adverse impact to foraging badgers outwith the immediate zone of effects.

4.2.8 Taking a best practice approach, it is recommended as a precautionary measure that the area of works, particularly any excavations, is fenced off during the night to avoid harm to any foraging badgers in the area.

5. References

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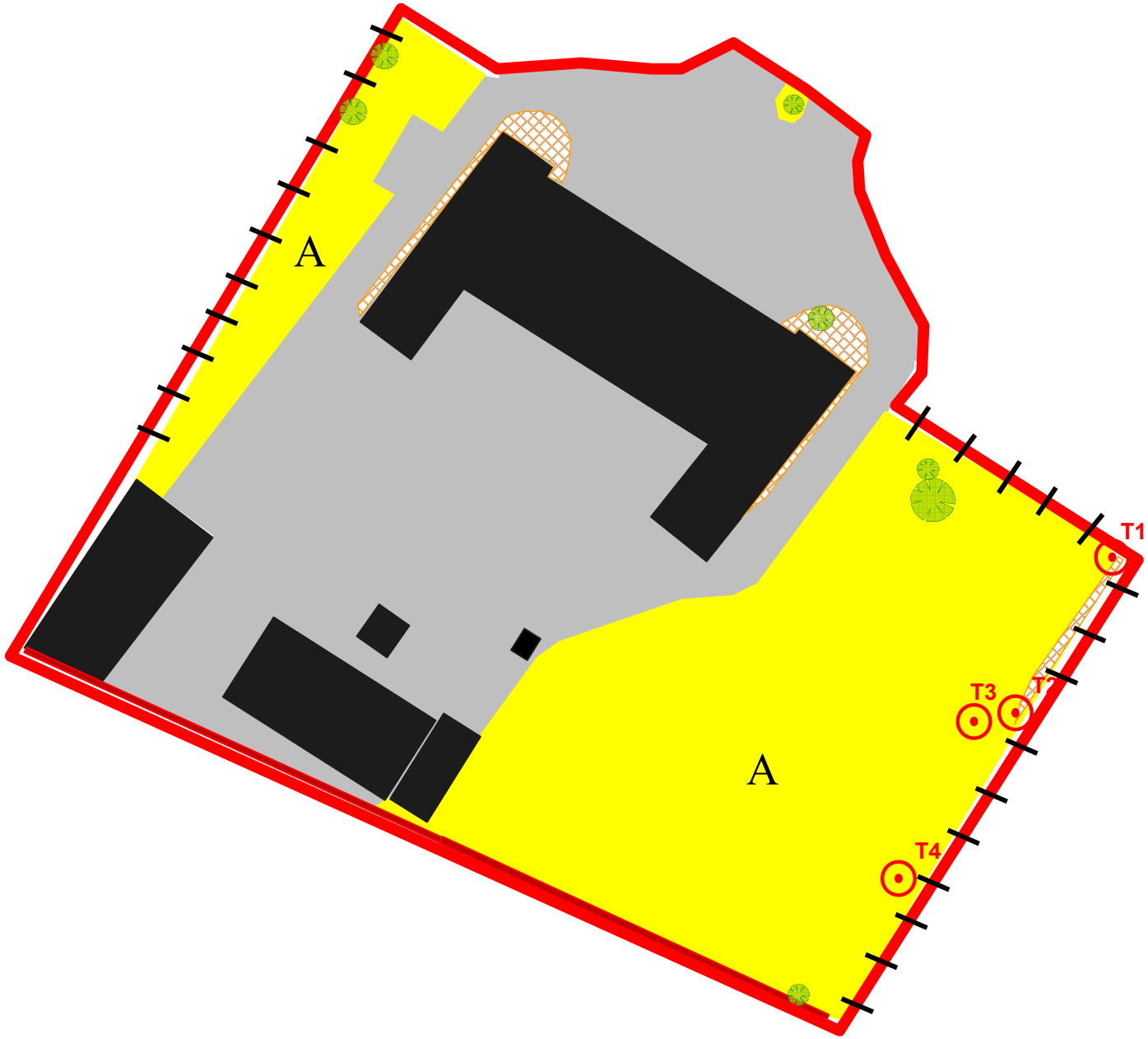
Appendix 1 – Site Map



Legend:

- Site boundary
- A — Amenity grassland
- Hard standing
- Introduced shrub
- Building
- Wall
- Fence
- Tree
- T1 — Target note

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Figure 1:
Phase 1 habitat map

Date:
August 2010

ECUS Ref:
2812

Appendix 2 - Target notes

TN1 – Large gap at base of wire fencing, large twig propped across indicating not in use.
TN2 - Faint track up and over a small earth mound – ivy disturbed
TN3 - Two badger footprints in bare patch of mud with snuffle hole nearby
TN4 – Faint track through slightly longer grass (grass flattened).

Appendix 3 – Site Photographs

Plate 1. One distinct badger footprint (overlying the faint outline of a second above).

Plate 2 – Amenity grassland to the east of the main building and the southern boundary wall with mature tree strip behind

Plate 3 – Facing the introduced shrub strip along the eastern boundary with the purple beech in the foreground

Plate 4 – Facing the rear of the main station building (southern aspect)