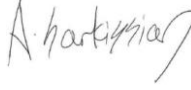


Belle Vue Extended Phase 1 Habitat Report and building inspection

Barnsley College
June 2014



Quality Management

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1. Summary

Capita Ecologists were commissioned by Barnsley College in June 2014 to undertake an Extended Phase 1 Habitat Survey at the Belle Vue on Cockerham Lane in Barnsley. The survey has been carried out to inform the client of any protected species or habitat issues that may be associated with the proposed development plans. These are to refurbish the Belle Vue House and demolish the maintenance block on site. A number of dwellings and a mini-pitch are proposed for the site.

The Extended Phase 1 Habitat Survey was undertaken on Wednesday 4th June 2014. The habitats within the proposed development site comprise of buildings, amenity grassland, semi-improved neutral grassland, scattered, broad-leaved trees, introduced shrub, and semi-natural woodland. The scattered trees and amenity grassland on site are Local Biodiversity Action Plan (BAP) habitats.

No protected species were found on site, but the site does have potential to support nesting birds and foraging and roosting bats. Building 4 of Belle Vue House has high potential to support roosting bats and a possible bat dropping was recorded on the east face window frame, the other areas of Belle Vue have moderate potential. Any works affecting this building may require further bat survey work depending upon the scale of works.

Three invasive non-native flora species were recorded on site. These were Japanese knotweed *Fallopia japonica*, *Montbretia* and *Cotoneaster*, which will require site-specific management methods in order to prevent potential spread if impacted from the scheme.

A series of recommendations are provided in *Section 6* of this report that, if adopted, would help ensure that adverse impacts upon biodiversity are reduced or avoided. They would also help to ensure that positive impacts are enhanced and that the development is managed in-line with legislation protecting habitats and species.

2. Introduction

2.1 Background

Capita Ecologists were commissioned by Barnsley College in June 2014 to undertake an Extended Phase 1 Habitat Survey at the Belle Vue on Cockerham Lane in Barnsley. The survey has been carried out to inform the client of any protected species or habitat issues that may be associated with the proposed development plans. The client plans to refurbish the Belle Vue House and demolish the existing maintenance block on site. A number of new dwellings and a mini-pitch are proposed for the site.

2.2 Survey Site

The survey site is located on Cockerham Lane, Barnsley, S75 1AT. The Grid Reference for the site is SE 434198 407146. Figure 1 illustrates the indicative red-line survey boundary.



Figure 1 - Survey site with red line boundary.

2.3 Legislation and Planning Policy

2.3.1 Legislation

Certain habitats and species are subject to protection as laid out in the *Wildlife & Countryside Act 1981 (as amended)* and/or the *Conservation of Habitats & Species Regulations 2010 (as amended)*. The following legislation lists the protected site and species that apply to the Belle Vue site. For more information of the offences relevant under each Act, refer to *Appendix A*.

The Wildlife & Countryside Act 1981 (as amended): bats, nesting birds and non-native invasive species.

Conservation of Habitats & Species Regulations 2010 (as amended): bats.

Natural Environment and Rural Communities (NERC) Act 2006: *Section 41* of the *NERC Act* requires the Secretary of State to draw up a list of Habitats and Species of Principal Importance which should be used to guide decision makers (which include local authorities) in implementing their duty under *Section 40*. This applies to Barnsley Council.

2.3.2 Planning Policy

In March 2012, the *National Planning Policy Framework (NPPF)* (Department for Communities and Local Government, 2012) was published and replaced the previous detailed Planning Policy Statement 9 (PPS9) although the guidance document '*Planning for Biodiversity and Geological Conservation: A Guide to Good Practice*' ODPM 06/2005 has not been replaced by the NPPF. (Department for Communities and Local Government, 2005).

The NPPF promotes plan-making and decision-taking with a presumption in favour of **sustainable development**. Sustainable development is achieved where developments are designed to address the mutually dependent threads of sustainability: **economic, social and environmental needs**. In terms of biodiversity, sustainable development should **not only achieve no net loss of biodiversity but incorporate proposals that achieve net gains for nature** alongside the other social and economic needs of society.

Protected sites and species are a material consideration in determining planning applications, therefore all information relating to protected sites and species must be submitted with planning submissions for determination of the whole application. The NPPF promotes the approval of plans where applications can demonstrate that they are in accordance with up-to-date Local Plans and have addressed material considerations.

In accordance with Barnsley Local Development Framework, Core Strategy (Adopted September 2011). **CSP 36 Biodiversity and Geodiversity** of the Core Strategy is relevant to the site, which states:

Development will be expected to conserve and enhance the biodiversity and geological features of the borough by:

- *Protecting and improving habitats, species, sites of ecological value and sites of geological value with particular regard to designated wildlife and geological sites of international, national and local significance, ancient woodland and species and habitats of principal importance identified in Section 74 of the Countryside and Rights of Way Act 2000 and in the Barnsley Biodiversity Action Plan.*
- *Maximising biodiversity and geodiversity opportunities in and around new developments.*

- *Conserving and enhancing the form, local character and distinctiveness of the river corridors of the Dearne and Dove as natural floodplains and important strategic wildlife corridors.*

Development which may harm a biodiversity or geological feature will not be permitted unless effective mitigation and/or compensatory measures can be ensured.

2.3.3 Biodiversity Policy

Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. This list is the up-to-date list of Habitats of Principal Importance of Species of Principal Importance requiring action in the UK Biodiversity Action Plan (BAP) and is used as a guide to decision makers such as public bodies (including planning authorities) to implement their duty of having regard to biodiversity when carrying out their functions.

Local Biodiversity Action Plans (LBAP) have also been written and adopted to develop plans for species of nature conservation importance at regional and local levels. The Barnsley Local Biodiversity Action Plan (LBAP) 2008-2012 (Barnsley Biodiversity Trust, 2009) was adopted in 2010 and identifies a list of habitats and species considered as priorities for nature conservation relevant to the site. The LBAP belongs to the Barnsley Biodiversity Trust and can be viewed at www.barnsleybiodiversity.org.uk

2.4 Personnel and Quality Assurance

All ecologists employed by Capita are members of, or are under application for, membership of the Chartered Institute of Ecology and Environmental Management (CIEEM) and follow the Institute's code of professional conduct when undertaking ecological work.

All fieldwork is carried out in accordance with current best practice guidelines under the supervision of senior staff and appropriately licensed ecologists. Neil Page, Ecologist undertook the survey with assistance from Andrea Sarkissian, Assistant Ecologist.

Neil Page is a Full Member of CIEEM and has been an Ecological Consultant for the last Seven years. Neil has a broad range of professional experience in consulting services, including ecosystem management, design, planning, protected species mitigation and environmental research projects. Neil also has experience of a range of habitats and species, coupled with habitat creation and management, which has enabled him to mitigate both social and environmental issues on a wide variety projects and schemes. Neil is an experienced surveyor of reptiles and amphibians and holds a *Natural England Science & Education Great Crested Newt Licence*.

Andrea Sarkissian is a GradCIEEM Assistant Ecologist with a years' experience in ecological consultancy. Andrea has experience of organising and undertaking a number of protected species and habitat surveys and writing the associated reports. These include Extended Phase 1 habitat survey (and Code for Sustainable Homes), bat, breeding bird, great crested newt.

3. Methods

3.1 Survey and Report Objectives

1. To undertake a desk-based study of the proposed development area in order to establish whether there are records of protected species or habitats of importance (on a local, regional, national, or international scale) present.
2. To review existing information detailing habitats (including flora and fauna) on the existing site, with particular attention given to those that have the potential to support protected or otherwise notable species.
3. To undertake a field survey of the site to detail existing habitats and to assess whether the habitats on site have the potential to support protected or otherwise notable species.
4. To evaluate the ecological value of the survey site and identify opportunities for enhancement.
5. To provide advice and guidance in respect of the need for further appropriate surveys, mitigation and enhancement proposals that will enable the development to proceed in full compliance with the relevant wildlife and nature conservation legislation.

3.2 Desk Based Study

A data search was requested from Barnsley Biological Record Centre (BBRC), C/O Sheffield City Council Ecology Service, to obtain information on protected sites and species within a 2km radius of the site.

MAGIC online (MAGIC, 2008) resource was accessed for information on UK and European protected sites and important sites, including:

- Sites of Special Scientific Interest (SSSI);
- Special Protection Areas (SPA);
- Special Areas of Conservation (SAC);
- Ramsar sites;
- National Nature Reserves (NNR);
- Local Nature Reserves (LNR);
- Areas of Outstanding Natural Beauty (AONB);
- Ancient Semi-natural Woodland (ASNW) and
- Mapped Biodiversity Priority Habitats.

The above resources and Ordnance Survey maps were studied to locate and ponds or water bodies within 500 metres (m) of the site.

3.3 Field Survey

3.3.1 *Habitat Survey*

The Extended Phase 1 Habitat Survey was carried out on the 4th June 2014 by Neil Page and Andrea Sarkissian. The survey involved undertaking a detailed walkover across the site marked

by the red line boundary at *Appendix C*. Observations of flora and fauna along with location and extent of habitats were noted. The site and its habitats were also assessed for their potential to support protected species.

The Extended Phase 1 Habitat Survey was conducted in accordance with the guidelines set out in the *Handbook for Phase 1 Habitat Survey* (JNCC, 2010). The extent of each observed habitat was recorded and is mapped at *Appendix B*. Photographs are included in this report to illustrate the habitats descriptions.

3.3.2 *Building Inspection*

The building inspection was undertaken by Neil Page and Andrea Sarkissian. All buildings were inspected externally and internally, where possible, for field evidence of bats including droppings, urine staining, feeding remains, potential roosting/access points and individual bats (live or dead).

Observations were made from ground level using close focusing binoculars (Opticron Discovery 8 x 32) to inspect external features of buildings where access was not possible. Extendable ladders were used to inspect features with potential to support bat roosts where this did not pose a health and safety issue. A LED Lenser X21 torch was also used to aid visibility.

The building inspection was undertaken Neil Page and Andrea Sarkissian.

3.3.3 *Tree Inspection*

All trees were inspected from ground level with the aid of extendable ladders to inspect crevices or cavities that were accessible safely from the ladder. A1 million candle power torch and binoculars were also used to aid inspection of crevices and cavities. Trees were assessed for the presence of suitable roosting features including holes in the trunk and lifted bark and signs of bat presence including staining and scratch marks.

The tree inspection was undertaken Neil Page and Andrea Sarkissian.

3.4 Evaluation Methods

3.4.1 *Habitats and Species*

The ecological value of the site is evaluated against the following criteria:

- Presence of statutory and non statutory protected sites on or adjacent to the site;
- Presence or likely presence of protected species on or adjacent to the site;
- Presence of Species or Habitats of Principal Importance and UK and Local Biodiversity Action Plan Priority Habitats and Species on or adjacent to the site;
- Habitat quality and condition; and
- Presence of non-native invasive species.

The potential impacts of land use change on the nature conservation value of the site are assessed using these criteria together with ecological judgement of the likely impacts on habitats and species of ecological value identified through desk-based study and field survey.

3.4.2 Bats

The *Bat Survey Good Practice Guidelines* (BCT. 2012) are used as a basis to evaluate the site features for their potential to support bats. The table below gives an indication of the value of a variety of features for bats and has been compiled using the guidelines and from the experience of Capita Ecologists.

Table 1 summarises the potential of landscape features to provide potential roosting locations for bats and is used as a reference in the building and tree inspections for bats in Section 5 of this report. The potential rating is a guide and can alter depending on species likely to be present; site location and UK bat species distribution.

Table 1: Roost potential characteristics

Roost Potential	Qualifying Characteristics
Negligible	<u>Built structures and underground sites</u> No features that could be used by bats as roosts. <u>Trees</u> No features that could be used by roosting bats i.e. an immature tree, smooth bark, no crevices and no ivy cladding/vegetation cover. <u>Landscape character</u> Lack of vegetation and foraging habitat within vicinity of the site and no connections to semi-natural habitats. Site located in a highly urbanised environment.
Low	<u>Built structures and underground sites</u> Small number of potential roosting features that could be used by bats. <u>Trees</u> No visible features within tree structure such as crevices, holes in trunk, hazard beam splits. However it may have ivy cladding and hidden features. <u>Landscape character</u> Small amount of isolated habitat on site providing a potential foraging resource i.e. a single tree or a patch of introduced shrub. Maybe linked to small amount of adjacent semi-natural habitat surrounding site, however there are no distinct links to habitat further away.
Moderate	<u>Built structures and underground sites</u> Several potential roosting features within built structure. <u>Trees</u> Several potential roosting features that could be used by roosting bats such as crevices, holes in trunk, lifted bark, hazard beam splits. <u>Landscape character</u> Suitable foraging habitat on site such as tree and hedgerows with linear links to wider landscape.
High	<u>Built structures and underground sites</u> Building offers a significant number of roosting features including gaps under roof tiles, hanging tiles, gaps beneath weather boarding, soffits, barge boards and fascias, holes in the wall and gaps in mortar, access points into large roof void,

Roost Potential	Qualifying Characteristics
	potential roosting features for crevice and void roosting bats. <u>Trees</u> Several potential roosting features that could be used by roosting bats including, lifted bark, crevices, hazard beam splits, downwards facing holes with obvious staining and scratch marks around hole. <u>Landscape character</u> The site habitat is of high quality for foraging bats and includes features such as woodland, tree lined water courses, field margins and hedgerows. The site is well connected within the landscape to surrounding habitats and strong linear features such as hedgerows and tree lines extend from the site to the wider landscape.
Confirmed roost	Presence of field signs indicative of a bat roost including staining and scratch marks around a potential roost entry point combined with the following; urine staining, droppings clustered beneath a potential roosting feature and the presence of live or dead bats.

3.5 Survey Constraints

The optimum survey period for an Extended Phase 1 Habitat Survey is April to October, inclusive. Although surveys can be conducted throughout the year, some animal and plant species may not be evident during surveys undertaken outside of this survey period due to hibernation and dormancy. This survey was undertaken in June, which falls within the optimum period, but some species may not be present on the day of the visit.

Observations were limited to a daytime tree inspection to identify evidence of the presence of bats. External field signs of bats can be lost over time due to weathering and damp conditions. Some bat species such as pipistrelles and brown long eared bats, are largely crevice dwelling bats. As such, their droppings and other field signs are not always visible through routine, non-invasive building surveys.

Not all loft spaces were accessible due to height constraints.

4. Site Description

4.1 The Site

The Belle Vue site is located approximately 3km north of Barnsley Town Centre. The habitats on site comprise of introduced shrub, amenity grassland, scattered, broad-leaved trees, semi-natural broad-leaved woodland and semi-improved neutral grassland.

4.2 Site Context

The A635 (Huddersfield Road) runs to the left of site and to the east is a cleared demolition site. Immediately north of the site is residential housing and a playing field and to the south of site is a railway line. The railway lines that run directly south of site and approx 100m east of site are tree lined and connect the site to wider landscapes. This includes a large open area with a mosaic of habitats to the north, through which the River Dearne runs. This includes ponds, areas of woodland such as Standhill Wood, agricultural fields and semi-improved grassland.

The wider surrounding areas consist mainly of residential properties and railway lines that contain associated gardens and hedgerows / tree lines.

4.3 Project Description

To date, the development proposals include refurbishment of the Belle Vue House, demolition of the maintenance block and constructing a number of new dwellings and a mini-pitch.

Scheme proposals current at the time of writing are provided in *Appendix C*.

5. Results

5.1 Desk Study

5.1.1 *Protected sites*

The Dearne Valley Park Local Nature Reserve (LNR) is located within 2km of the survey site.

The following non-statutory sites, local wildlife sites, are located within 2 km of the survey site:

- Barnsley Canal at Wilthorpe (Barnsley Natural Heritage Site);
- Old Mill Lane (Barnsley Natural Heritage Site);
- Cliff Wood (Barnsley Natural Heritage Site); and
- Redbrook Pastures (Barnsley Natural Heritage Site).

5.1.2 *Habitats of Principal Importance/Biodiversity Priority Habitats*

The following Local and UK Habitats of Principal Importance/Priority Habitats are recorded within 2km of the site as highlighted on the Barnsley LBAP:

- Trees and Woodland LBAP;
- Amenity grassland LBAP; and
- Hedgerows UKBAP and LBAP.

5.1.3 *Waterbodies*

There are no ponds on site and there are no mapped waterbodies within a 500m buffer of the red line boundary.

5.1.4 *Protected Species*

5.1.4.1 Badgers *Meles meles*

The BBRC provided one record of badger from 2010, which is 2km south of site.

5.1.4.2 Bats

The BBRC provided records for the following bat species within 2km of the site:

- Common pipistrelle *Pipistrellus pipistrellus* - x40 roost emergence and activity records between 1987 and 2003, approx. 1.3km and 800m north east of site.
- *Myotis* - x1 record, approx. 700m north west of site.
- Daubenton *Myotis daubentoni* - x47 roost emergence records between 1990 and 2012, approx. 800m and 1.3km east and 2km south.
- Leisler's *Nyctalus leisleri* - x3 records of roosting bats between 2003 and 2005, within 2km of site (exact grid reference not provided).

5.1.4.3 Birds

The following records of notable bird species were highlighted by the BBRC within 2 km of site:

- Reed Bunting *Emberiza schoeniclus*;
- House Sparrow *Passer domesticus*;
- Cuckoo *Cuculus canorus*;
- Curlew *Numenius arquata*;
- Grasshopper Warbler *Locustella naevia*;
- Grey Partridge *Perdix perdix*;
- Hawfinch *Coccothraustes coccothraustes*;
- Lapwing *Vanellus vanellus*;
- Nightjar *Caprimulgus europaeus*;
- Tree Sparrow *Passer montanus*;
- Yellowhammer *Emberiza citrinella*;
- Kingfisher *Alcedo atthis*;
- Black Redstart *Phoenicurus ochruros*;
- Redwing *Turdus iliacus*;
- Brambling *Fringilla montifringilla*;
- Fieldfare *Turdus pilaris*;
- Green Sandpiper *Tringa ochropus*;
- Peregrine *Falco peregrines*;
- Little Ringed Plover *Charadrius dubius*;
- Hobby *Falco subbuteo*;
- Water Rail *Rallus aquaticus*;
- Snipe *Gallinago gallinago*;
- Redshank *Tringa tetanus*;
- Green Woodpecker *Picus viridis*;
- Willow Tit *Parus montanus*;
- Yellow Wagtail *Motacilla flava*;
- Starling *Sturnus vulgaris*;
- Bullfinch *Pyrrhula pyrrhula*;
- Goldfinch *Carduelis carduelis*;
- Linnet *Carduelis cannabina*;
- Meadow Pipit *Anthus pratensis*;
- Mistle Thrush *Turdus viscivorus*;
- Oystercatcher *Haematopus ostralegus*;
- Sand Martin *Riparia riparia*;
- Song thrush *Turdus philomelos*; and
- Dunnock *Prunella modularis*.

5.1.4.4 Great Crested Newts

The BBRC provided seven records of great crested newt *Triturus cristatus* (dated between 1995 and 2012), located approximately 1.5km north-west and 1.8km south-west of the site.

5.1.4.5 Otter

The BBRC provided seven records of otter *Lutra lutra* (dated 2007), located approximately 1.4km north east of the site.

5.1.4.6 Water vole

The BBRC provided eight records of water vole *Arvicola terrestris* (dated between 1980 and 2004), located approximately 1.5km north-west and 2km south of the site.

5.2 Field Survey

A Phase 1 Habitat Map can be found at *Appendix B*.

5.2.1 Habitats

5.2.1.1 Buildings

There are a number of buildings on site. A large Georgian period building (Belle Vue House), an electricity substation and a maintenance block. Building descriptions are detailed in Table 2.



Figure 2 - Georgian building

5.2.1.2 Hardstanding

There are areas of hard standing paths and car parks present on site.



Figure 3 - Hard standing driveway, north-west corner of site

5.2.1.3 Scattered Broad-Leaved Trees

There are scattered broad-leaved trees onsite. The species present include whitebeam *Sorbus aria*, sycamore *Acer pseudoplatanus*, lime *Tilia*, rowan *Sorbus aucuparia*, honey locust *Gleditsia triacanthos*, London plane *Platanus x hispanica*, Turkish hazel *Corylus colurna* and laburnum *Laburnum anagyroides*.



Figure 4 - Scattered trees, north east corner of site

5.2.1.4 Broad-leaved Semi-natural Woodland

There is broad-leaved semi-natural woodland present on site. The species present include alder *Alnus glutinosa*, ash *Fraxinus excelsior*, beech *Fagus sylvatica*, Holly *Ilex aquifolium*, horse chestnut *Aesculus hippocastanum* and silver birch *Betula pendula*. Two of the mature trees (ash and beech) contain bat boxes attached to the trunks (TN4). Understory species include cherry laurel *Prunus laurocerasus*, Hebe, box *Buxus sempervirens*, Ivy *Hedera helix* and dog rose *Rosa canina*. Ground flora species include bramble *Rubus fruticosus*, ivy *Hedera helix* and cat mint *Nepeta*.



Figure 5 a) - Semi-natural woodland trees to south west;



b) - Bat box on Beech tree in tree section

5.2.1.5 Amenity Grassland

The species present in these areas include perennial ryegrass *Lolium perenne*, dandelion *Taraxacum*, common daisy *Bellis perennis*, ribwort plantain *Plantago lanceolata*, meadow buttercup *Ranunculus acris* and cat's ear *Hypochaeris radicata*. An approx. 5m stand of Japanese Knotweed stands in the southern section of amenity grassland, adjacent the palisade fencing (TN1).



Figure 6a) - Amenity grassland playing field east of site;



b) - Stand of Japanese Knotweed (TN1)

5.2.1.6 Semi-improved Neutral Grassland

An area of semi-improved grassland grows to the south of site, adjacent the railway line. The sward height is up to approx. 0.50m. The species present in these areas include meadow buttercup *Ranunculus acris*, creeping buttercup *Ranunculus repens*, Yorkshire fog *Holcus lanatus*, meadow foxtail *Alopecurus pratensis*, common vetch *Vicia sativa*, annual meadow grass *Poa annua*, silverweed *Potentilla anserina*, teasel *Dipsacus fullonum*, fox glove *Digitalis purpurea*, ribwort plantain *Plantago lanceolata*, bracken *Pteridium aquilinum*, oxe-eye daisy *Leucanthemum vulgare*, comfrey *Symphytum officinale*, cleavers *Galium aparine*, ragwort *Senecio jacobaea*, dandelion *Taraxacum officinale* and dock *Rumex*.



Figure 7 - Semi-improved neutral grassland to south, bordering railway line**5.2.1.7 Introduced Shrub**

There are a number of areas of introduced shrub around the site. The species present include cherry laurel *Prunus laurocerasus*, *Hebe*, Cypress *Cupressaceae*, St. John's wort *Hypericum perforatum*, privet *Ligustrum*, *Rhododendron*, box *Buxus*, Ivy, *Allium*, *Buddleja*, *Berberis*, *rubella* *Skimmia japonica*, dogwood *Cornus alba*, *Pieris*, *Pyrocantha*, Portuguese laurel *Prunus lusitanica*, *Choisya* and lilac *Syringa vulgaris*.

Non-native, invasive plant species *Cotoneaster* occurs to the north of site, bordering the maintenance block (TN2). Non native, invasive plant species *Montbretia* occurs in the centre of site, adjacent the car park (TN3).



Figure 8 a) - Introduced shrub bordering the car park, b) - Cotoneaster (TN2), c) - Montbretia (TN3)

5.2.1.8 Walls and Fencing

Brick walls form part of the northern, western and southern borders. Steel palisade fencing forms part of the northern and southern borders.

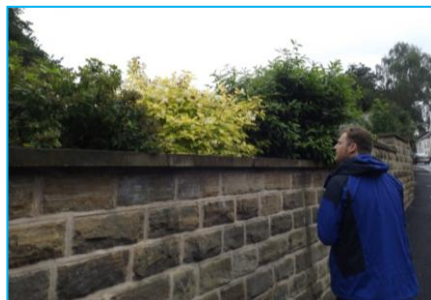


Figure 9 - Brick wall bordering the west of site



Figure 10 - Steel palisade fencing south of the car park

5.2.2 Building inspection

Table 2: Building inspection

Building Number	Description
Belle Vue House Building 1	External: Building 1 is a brick, single storey construction with wooden fascia boards. The roof is pitched with slate roofing tiles and is modern and intact. There is a glass walled foyer that extends out to the north. There are gaps under the fascia boards and a gap under the roof tiles at the west facing aspect, but is otherwise well sealed.  Figure 11 - North face of Building 1  Figure 12 - Gaps under fascia boards  Figure 13 - Gap under roof tiles Internal: The roof is bitumen felt lined with exposed modern wooden beams. The fascias and general roof space is tightly sealed and the floor is

Building Number	Description
	boarded for regular access.  Figure 14 - Roof space Bat Evidence: None. Status: Moderate potential for supporting bat roosts. Due to potential access points and roof structure and age of the property The gap at the apex does not lead into the loft space.
Belle Vue House Building 2	External: Building 2 is the same stone, pitched slate roof construction as Building 1, but with two storey's. The building is well sealed.  Figure 15 - Building 2, north face Internal: The roof space could not be accessed due to a lack of obvious access point. Bat Evidence: None. Status: Moderate potential for supporting bat roosts. The roof tiles and general building are well sealed, which reduces possibility of bat access into the loft space. However, the loft space could not be accessed for assessment and considering the roof structure and age of the building, the status is considered to be moderate.
Belle Vue House Building 3	External: Building 3 is the same stone, pitched slate roof construction as Building 2, though the two floors have higher ceilings. A number of roof tiles and lead flashing sections were raised and there was damage to the ridge tile at the apex.

Building Number	Description
	 Figure 16 - Building 3, south face  Figure 17 - Gap at apex ridge tile  Figure 18 - Raised lead flashing <u>Internal:</u> The lofts pace was inaccessible due to height. 

Building Number	Description
	Figure 19 - Loft space inaccessible Bat Evidence: None. Status: Moderate potential for supporting bat roosts due to potential access points, roof structure and age of the building. The loft space could not be accessed for assessment.
Belle Vue House Building 4	External: Building 4 is the same design as the other buildings. There are gaps between the roofing slabs and a possible bat dropping was identified on the windowledge to the left of the main door that leads in to the building. Figure 20 - Building 4, east face Figure 21 - Possible bat dropping on east facing window (TN5) Figure 22 - Gaps in between roofing slabs Internal: The roof space is a low crawl space consisting of original wooden beams. The bitumen roofing felt lining is damaged in places leaving open access into the loft space. The crawl space could not be fully explored due

Building Number	Description
	to the low height and lack of safe floor boarding.  Figure 23 - Roof space  Figure 24 - Roof space  Figure 25- Roof space Bat Evidence: Possible bat dropping on window ledge (TN5). Status: High potential for supporting bat roosts. The original loft space contains lots of gaps in the lime mortar and the bitumen felt.
Belle Vue House Building 5	External: Building 5 is a single storey extension with a lean to roof. The roof is generally well sealed with superficial gaps under the wooden fascia boards.

Building Number	Description
	Figure 26 - Building 5, west face Figure 27- Gaps under fascia boards Internal: The roof space contains modern wooden beams and is well sealed. The crawl space could not be fully explored due to the low height. Figure 28 – Roof space Bat Evidence: None Status: Moderate potential for supporting bat roosts. The roof tiles and general building are well sealed which reduces possibility of bat access into the loft space, however, considering the structure and age of the building, the status is considered to be moderate.
Belle Vue House Basement	Internal: The basement has a number of chambers with rounded roofs.

Building Number	Description
	 Figure 29 - Basement Bat Evidence: None Status: Low potential for supporting bat roosts. There were no suitable access points for bats.
Building 6 Electricity sub station	External: The building is a modern, tightly sealed brick construction. The roof is flat bitumen felt.  Figure 30 - Building 6, Electricity sub station Internal: The internal could not be accessed for safety reasons. Bat Evidence: None Status: Low potential for supporting bat roosts. The building is well sealed, reducing available roosting areas for bats.
Building 7 Maintenance block	External: The maintenance block is an intact prefabricated concrete panel construction with a flat bitumen felt roof. The windows have been boarded over with wooden panels.  Figure 31 - Building 7, maintenance block

Building Number	Description
	Internal: The internal could not be accessed as no key was provided.
	Bat Evidence: None
	Status: Low

5.2.3 Tree Inspection

Trees on site with the potential to support roosting bats were recorded.

Table 3: Tree inspection

Tree ID	Description
1	 Figure 32 - Ash tree with bat roosting potential, east of site (TN4) Description: Mature Ash tree. Potential bat features: Pruning scars and contained a bat box. Bat evidence: None. Status: High potential for supporting bat roosts.
2	 Figure 33 - Beech tree with bat roosting potential, west of site (TN4) Description: Mature Beech tree. Potential bat features: Pruning scars and contained a bat box. Bat evidence: None. Status: High potential for supporting bat roosts.

5.2.4 Biodiversity Habitats of Principal Importance

Table 4 lists the habitats found within or adjacent to the site boundary and whether these habitats are listed as Habitats of Principal Importance in England and as Priority Habitats under the Barnsley Biodiversity Trust Local BAP.

Table 4: Summary of local and national importance of habitats found on/adjacent the site

Broad Habitat	Habitat of Principal Importance	LBAP
Amenity grassland	X	✓
Semi-improved grassland	X	X
Scattered Trees, broad-leaved	✓ Trees and woodland	✓ Trees and woodland
Semi-natural woodland	✓ Trees and woodland	✓ Trees and woodland
Introduced shrub	X	X

✓ Listed as national/local Habitats of Principal Importance/BAP species

x Not listed as Habitats of Principal Importance/BAP species x.

5.3 Protected Species

Based on a judgement of the local distribution of species and the habitats on the survey site, it is considered that the site has the potential to support the species listed in the following sections.

5.3.1 Nesting Birds

Wood pigeon *Columba palumbus*, blackbird *Turdus merula* and house sparrow *Passer domesticus* were recorded foraging on site and swift *Apus apus* flying over site.

5.3.2 Bats

Belle Vue is situated in a predominantly residential area, but it is also near to open areas of woodland, hedgerow and ponds. The site is, therefore, likely to support a low population of bats. The shrubs and trees on site may provide foraging habitat for bats and a small number of the trees present have potential to support roosting bats (TN4).

5.3.3 Amphibians

There are no ponds on site and no mapped ponds with 500m of the site boundary. The risk of an impact on amphibians is, therefore, deemed negligible and, as such, is not considered further within this report.

5.3.4 Reptiles

The habitats on site do not provide optimal habitat for reptiles due to the intensive management regime in place and the large amount of hard standing and buildings. The large mosaic area of woodland, grassland and ponds (to the north of site) are more likely to support local reptile populations. As such, the risk of encountering reptiles on site is considered to be low. The risk of an impact is deemed negligible and, as such, is not considered further within this report.

5.4 Non-Native Invasive Species

The following non-native invasive species were recorded on site during the survey as discussed in Sections 5.2.1.5 and 5.2.1.7 above:

- Japanese knotweed (TN1);
- *Cotoneaster* (TN2); and
- *Montbretia* (TN3).

5.5 Biodiversity Species of Principal Importance

Table 5 details the species of local and national importance which are likely to occur on or adjacent to the site that are listed as Species of Principal Importance in England or as Priority Species under the LBAP

Table 5: Summary of local and national importance of species found locally

Species	Species of Principal Importance	LBAP
Bats	✓	✓
House sparrow	✓	✓

✓ Listed as national/local BAP species. x Not listed as BAP species.

6. Interpretation and Advice

Below is an interpretation of the value of the biodiversity found on site (at the time of the survey and writing) and recommendations in relation to methods of working in order to limit the development's impacts on biodiversity. In addition, biodiversity enhancement measures are provided that, if adopted, would contribute to the sustainability of the development in line with the NPPF and the conservation of biodiversity locally.

6.1 Overall Conclusion of Site Ecological Value

The site's biodiversity value is largely attributed to the following, which are explained in further detail in the following sections:

- The presence of Habitats of Principal Importance and Local BAP. These include the 'Trees and Woodland LBAP' and 'Amenity Grassland LBAP'.
- The presence of foraging and shelter habitat for European Protected Species, UK BAP species and LBAP species. These consist of bats and nesting birds.

6.2 Habitats

6.2.1 *Scattered Broad-leaved Trees*

Potential Impacts

From the current scheme proposals, a number of trees will be lost to make way for new buildings and pathways. Scattered trees are a LBAP habitat.

Recommendations

Any trees to be affected during the development (including those that are directly impacted through loss/removal or indirectly impacted on via works falling within the Root Protection Zone) should be carried out in-line with *BS5837:2012 Trees in Relation to Design, Demolition, and Construction*. In addition, it is advised that an Arboricultural Risk Assessment is undertaken and a report produced that set-out specific measures to protect the retained trees.

6.2.2 *Broad-leaved Semi-natural Woodland*

As above.

6.2.3 *Amenity Grassland*

Potential Impacts

According to the current development proposals, part of the amenity grassland will be lost to accommodate the new development. Amenity grassland is not a UKBAP habitat, but it is a Local BAP. If managed appropriately, this habitat can provide foraging habitat for bird and invertebrate species. The grassland is currently intensively managed and, as such, the potential to support biodiversity is reduced. At present, the habitat to the north of the site offers more in the way of a range of habitat features.

Recommendations

Where possible, areas of grassland should be retained or native grassland areas should be incorporated into the new landscape design (e.g. within the open 'greens').

6.2.4 *Semi-improved Neutral Grassland*

Potential Impacts

From the current development proposals, it appears that this habitat could potentially be lost as a result of the new development.

Recommendations

As mentioned in 6.2.3, unmanaged grassland should be retained as far as possible and native grassland areas should be incorporated in to the new landscape design (e.g. within the open greens).

6.2.5 *Introduced Shrub*

Potential Impacts

From the current development proposals, it appears that this habitat could potentially be lost as a result of the new development.

Recommendations

Areas of native shrub should be retained as far as possible and native shrub or hedgerow areas should be incorporated in to the new landscape design.

6.3 Protected Species

6.3.1 *Nesting Birds*

Potential Impacts

The trees on site have the potential to support nesting and roosting birds. Nesting birds are protected under the *Wildlife & Countryside Act 1981 (as amended)* and it is an offence to disturb birds and their nests during the main breeding season which runs March to August (inclusive)¹ for the majority of bird species. The main impacts to nesting birds would occur as a result of disturbance, damage to nests and/or loss of eggs during the breeding bird season.

Recommendations

Any site clearance works that involve the removal of vegetation (including trees and tall grass) should be scheduled to occur outside of the bird breeding season and even then, care should be taken in case any birds are present. If this is not possible, a nesting bird survey should be carried out within any affected areas with the potential to support nesting birds. This will ascertain the use of the hedgerow and trees by birds and allow appropriate mitigation and compensation measures to be developed. If any active nests are found, all affecting works must stop and an appropriate buffer established until the young have fledged the nest.

It is also recommended that appropriate (i.e. a mixture of both open fronted, closed fronted and multi-use boxes) bird boxes should be incorporated in to the finished design. These would benefit local bird populations and could be installed upon trees that are to be retained or on new buildings. The correct positioning of the boxes should be considered.

6.3.2 *Bats*

Potential Impacts

The main impacts to bats would occur as a result of the removal of any trees with the potential to support a roost (TN4) and the disturbance to bats during refurbishment works at Belle Vue

¹ Please note that the nesting bird season may start earlier (for example February) and extend later (into September or October) dependent upon current climatic conditions please consult with an ecologist.

House, particularly to Building 4 where a possible bat dropping was recorded and the building was deemed to have high potential to support roosting bats. Another potential impact is the loss of potential foraging/commuting habitat. From the current scheme proposals, it appears that a number of trees will be removed during the development works.

Bats and their roosts are protected under the *Conservation of Habitats & Species Regulations 2010 (as amended)* and the *Wildlife & Countryside Act 1981 (as amended)*. It is an offence to intentionally or recklessly kill, injure or take a bat; damage, destroy or obstruct access to any place that a bat uses for shelter or protection regardless of whether bats are present or not; or to disturb a bat while it is occupying a structure or place that it uses for shelter or protection.

Recommendations

Depending on the scope of the works and whether the roof in particular is to be disturbed, a bat survey may need to be conducted (in particular to those buildings with Moderate to high potential) during the active season, May to September, inclusive. This will ascertain the use of the buildings by bats and allow appropriate mitigation and compensation measures to be developed.

If any trees that have been highlighted as providing the potential to support bat roosts are to be affected by the development works, these should be subject to further surveys and assessment.

Where tree lines need to be removed, these will need to be subject to an activity survey for bats during May – September inclusive.

Any proposed external lighting should be directed away from existing tree lines, in particular the boundary to the east.

6.4 Non-Native Invasive Species

Potential Impacts

It is an offence to plant or cause to grow in the wild any plants listed on *Part II of Schedule 9 of the Wildlife & Countryside Act 1981 (as amended)*. The following non-native invasive species, which are listed in *Part II of Schedule 9*, were recorded on site during the survey:

- Japanese knotweed (TN1);
- *Cotoneaster* (TN2); and
- *Montbretia* (TN3).

Recommendations

It is recommended that the methods of working for the site are designed to avoid spreading these species, particularly where there is a risk that these could be spread into the semi-natural habitats located to the north of the site.

If these species are spread into the wild, but it can be clearly demonstrated that all reasonable steps were taken to avoid this, this may constitute a defence against prosecution. For this reason and to ensure an appropriate strategy is identified, it is recommended that a method statement is prepared and implemented prior to any affecting works taking place. Provided that the recommended methods (within the method statement) are adopted and upheld, this would help demonstrate that reasonable avoidance measures were included within the development of the site.

Effective management of these species may be achieved through mechanical removal, digging and/or herbicide treatment.

With regards to the Japanese knotweed, a 7m exclusion zone should be set-up so as to prevent impact/disturbance of this species during construction and site clearance. Any contaminated soils or excavated materials that are to be removed from site will need to be sent to a licensed facility in accordance with waste management legislation. The waste carrier receiving site will need to be informed in advance that the soil contains Japanese knotweed.

7. References

Barnsley Biodiversity Trust, *Barnsley Biodiversity Action Plan, Second Edition*, 2009, [online]
<http://www.barnsleybiodiversity.org.uk/BarnsleyBAP2008.html>

Bat Conservation Trust, 2012. *Bat Surveys Good Practice Guidelines*, London: Bat Conservation Trust.

Environment Agency, 2010. *Managing invasive Non-native Species*, s.l.: s.n.

Fure, A., 2006. Bats and Lighting. *The London Naturalist*, Volume 85.

JNCC, 2010. *Handbook for Phase 1 Habitat Survey: A technique for environmental audit*. 3rd ed. Peterborough: Joint Nature Conservation Committee.

JNCC, 2011. *UK BAP list of priority habitats*. [Online]
Available at: <http://jncc.defra.gov.uk/page-5706>

MAGIC MAP 2014 [online]
<http://magic.defra.gov.uk/MagicMap.aspx>

Appendix A Wildlife Legislation

The following has been produced as a guide, to outline possible offences that could occur during development. For a definitive list of all species of flora and fauna, and a full interpretation you should refer to relevant *Acts* directly.

A.1 The Wildlife and Countryside Act 1981 (as amended)

A.1.1 *Schedule 1*

Applies to all wild birds where it is an offence:

- to kill, injure or take any wild bird (subject to certain exceptions);
- to take, damage or destroy a nest whilst it is in use or being built, or
- to take or destroy the egg of any wild bird.

It is also an offence to disturb any wild bird listed on *Schedule 1* of the *Wildlife & Countryside Act 1981 (as amended)*:

- while it is nest building;
- at a nest containing eggs or young; or
- disturbs the dependant young of any such bird.

A.1.2 *Schedule 5*

For animals fully protected under *Schedule 5* which includes, all bats, great crested newts, otters, water voles, sand lizards, smooth snake and natterjack toad. It is an offence:

- to intentionally kill or injure or take;
- to intentionally or recklessly damage or destroy or obstruct access to any structure or place which a species uses for shelter or protection, at any time even if the animal is not there;
- to intentionally or recklessly disturb whilst it is occupying a place which it uses for shelter or protection; or
- to obstruct access to any structure or place which an animal uses for shelter or protection.

Adder, grass snake, common lizard and slow worm are only protected from being killed or injured and the white-clawed crayfish is only protected from being taken.

A.1.3 *Schedule 8*

Specific species of plants listed in *Schedule 8* are protected. It is an offence to intentionally pick, uproot or destroy a wild plant listed in *Schedule 8*.

A.1.4 *Schedule 9*

Invasive non-native species are listed under *Schedule 9*. It is an offence to plant or otherwise cause to grow in the wild.

There is a defence to the above offence that if such species are spread into the wild, but it can be demonstrated that all reasonable steps have been taken to avoid committing the offence this would be a defence accepted in the legislation.

If soils are contaminated by invasive non native plant species it becomes classified as 'controlled waste' under the *Environmental Protection Act 1990 (England, Wales & Scotland)*, and must be disposed of accordingly.

A.2 The Conservation of Habitat and Species Regulations 2010

Schedule 2 applies to all European Protected Species (EPS) which included all bat species, great crested newts, dormice, otters, sand lizards, smooth snake and natterjack toad. The protection afforded is overlapping but separate from the *Wildlife & Countryside Act 1981 (as amended)*. It is an offence:

- to deliberately capture, injure or kill;
- to deliberately disturb; or
- to damage or destroy a nesting site or resting place of an EPS; this applies whether species are present or not.

In order to permit a development where the above offences to a European Protected Species are likely to be committed, a European Protected Species Licence can be obtained from Natural England where appropriate mitigation is offered to offset the negative impacts to local populations.

Appendix B Phase 1 Habitat Plan

B.1.1 *Target notes*

TN1 – Stand of Japanese knotweed

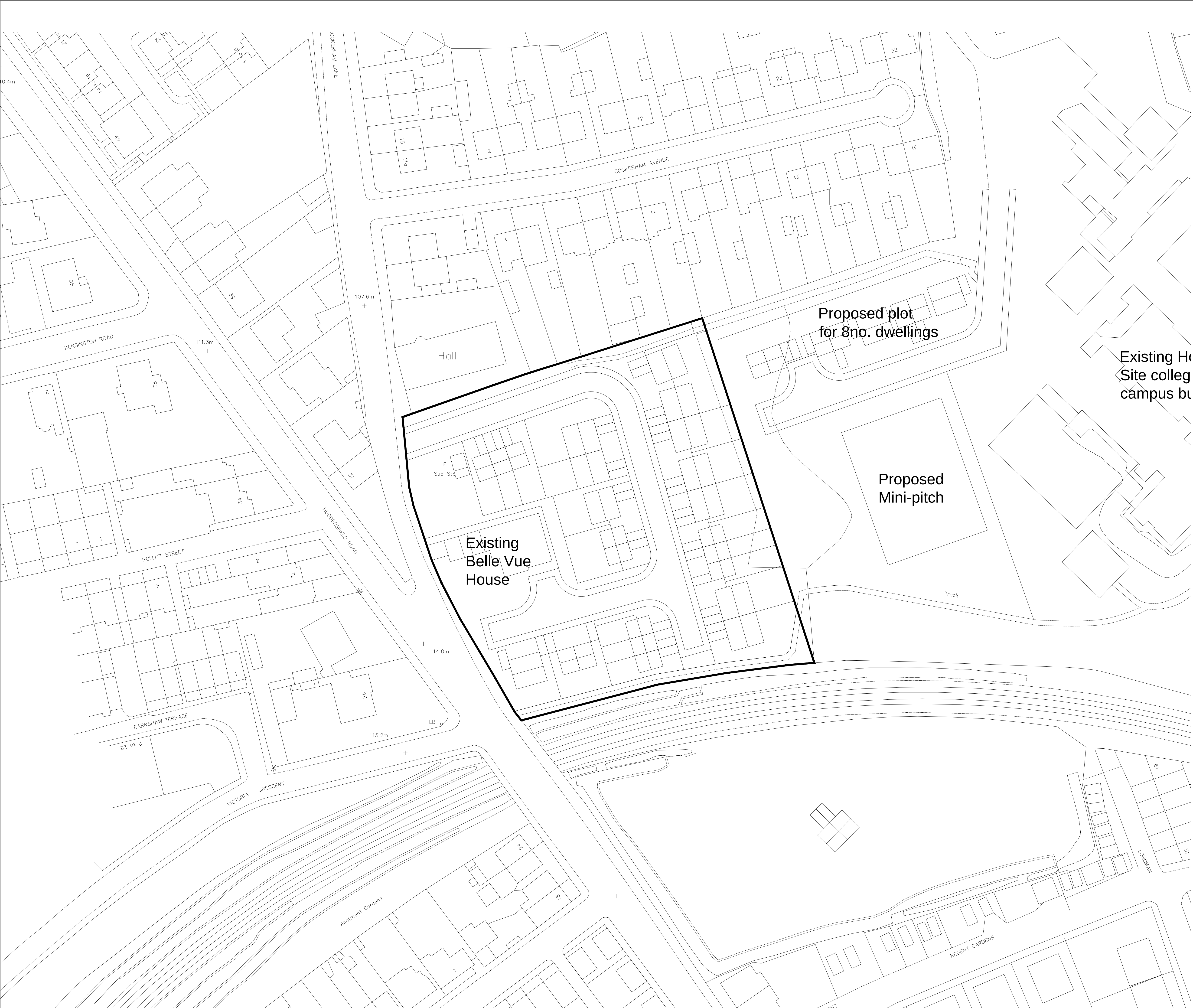
TN2 – Stand of *Cotoneaster*

TN3 – Stand of *Montbretia*

TN4 - Ash and Beech trees with the potential to support bats and contain bat boxes

TN5 – Possible bat dropping on window

Appendix C Proposed Plan



NOTES
1 Do not scale this drawing.
2 Site dimensions to be taken.
3 Contract administrator to be notified of any discrepancies prior to ordering of equipment and/or materials.

Rev	By	Chk'd	Date	Description
	XXX	XXX	XX.XX.XX	XXXXXX

Client
XXXXXX
XXXXX
XXXX

property design
Quadrant, Cobalt Business Park,
North Tyneside, NE27 0BY
Tel: 0191 643 4089

Project
XXXXXX
XXXXX
XXXX

Drawing Title
XXXXXX
XXXXX
XXXX

Drawn By XXX	Date XX.XX.XX
Checked By XXX	Date XX.XX.XX
Approved By XXX	Date XX.XX.XX

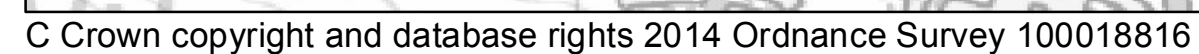
Drawing Number P000 / A / 000	Rev 000
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Drawing Scale **1:500 @ A1**

Drawing Status
FEASIBILITY/ TENDER/
CONTRACT/AS BUILT

Proposed Development
FEASIBILITY/ TENDER/
CONTRACT/AS BUILT

Appendix D Local Wildlife Sites



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