

Figure 2: Extended Phase 1 Habitat Survey Results

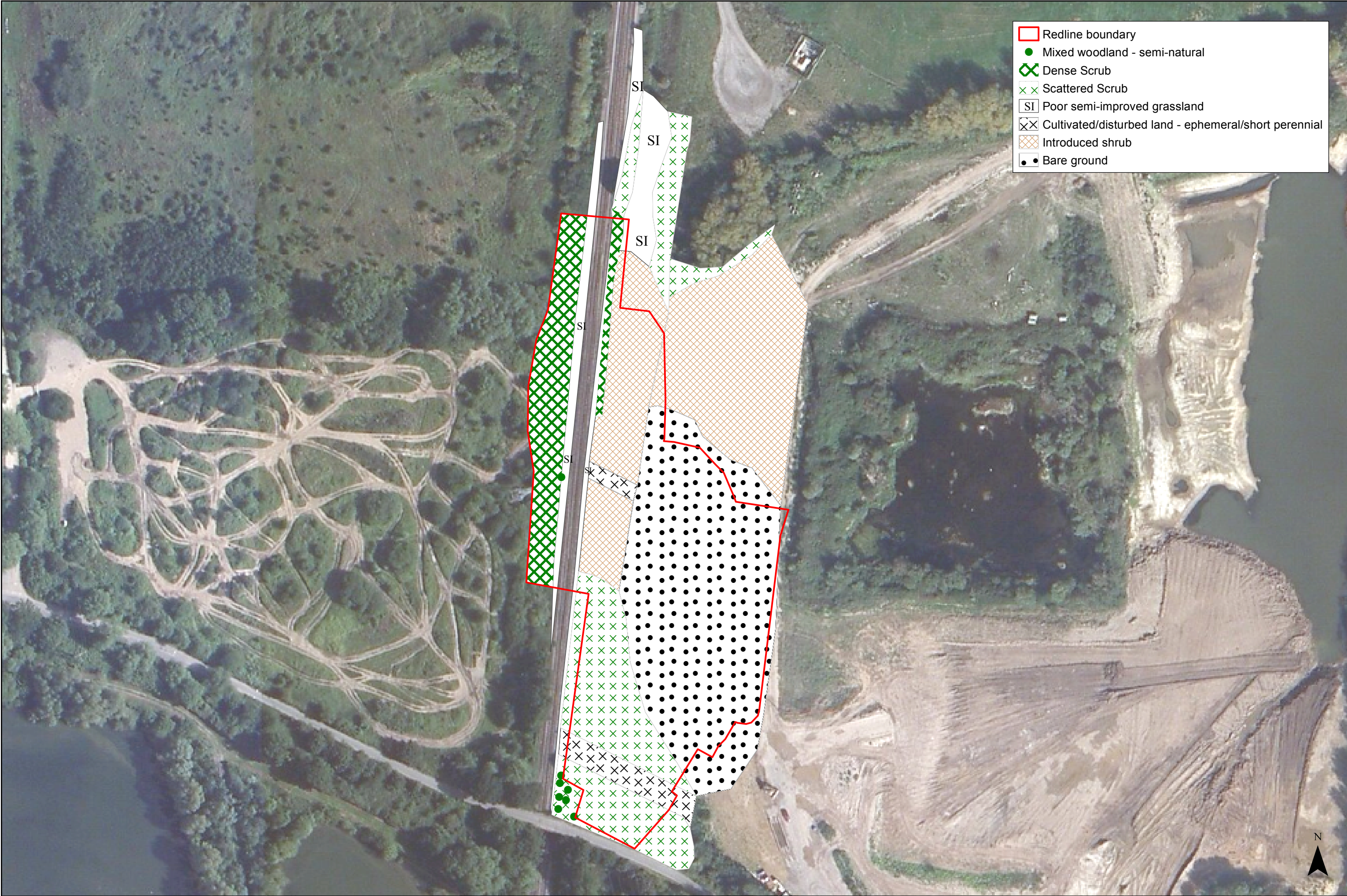


Figure 3: Extent of Suitable Habitat for Protected Species



- Redline Boundary
- Suitable Bat Roosting Habitat
- Suitable Bird Nesting Habitat
- Suitable Reptile Habitat

Appendix A 2014 Ecological Survey Reports

A.1 Green Park Station – Ecological Walkover Survey

Green Park Station

Ecological Walkover Survey

On behalf of **Reading Borough Council**



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Executive Summary

Planning permission for a new railway station, bus interchange and associated car parking facilities on land adjacent to the Basingstoke/Reading Railway Line and to the west of the Green Park business park (hereinafter referred to as the Green Park Station site) was granted by Reading Borough Council on 14th December 2010 (application no. 10/01905/FUL) and West Berkshire Council on 20th January 2011 (application no. 07/02570/COMIND). The planning applications have since expired and will need to be re-applied for in order to extend the existing consent. The scope of the proposed development has also altered slightly, in terms of the facilities to be provided and the phasing of the development. The new applications will take account of these changes.

This note is to provide Reading Borough Council with an overview of the degree to which the existing ecological survey information for the site will require updating to support the renewal of the planning application and the timings of any such survey work.

The original planning applications were supported by a 2007 ecological survey report which included land both within the Green Park Station site and the wider proposed Green Park Village (AMEC, 2007).

Peter Brett Associates undertook an ecological walkover survey of the Green Park Station site in August 2013 to update the findings of the 2007 Phase 1 habitat survey in order to determine the need for updated protected species surveys ahead of the renewal of the planning consent.

The walkover survey confirmed that the ecological character of the site has not altered significantly since the time of the 2007 survey, such that the key ecological receptors have remained unchanged. Having regard to current legislation and policy in relation to ecological resources, waterbodies should be protected from pollution events during construction and operation of the scheme and mature trees should be retained where possible.

In relation to species protected by legislation the following recommendations are made:

- Reptiles – No further updated surveys for reptiles are considered necessary to support the planning application renewal. Areas of suitable habitat for reptiles should be removed in phases and during the period reptiles are active in order to allow their safe dispersal to areas of retained habitat outside of the works footprint prior to the start of construction. A planning condition would ensure that this was carried out.
- Breeding and wintering birds – construction activities should be timed appropriately where these are likely to impact on habitats with the potential to be used by nesting birds. Prior to construction, consideration should be given to screening of the lakes/ponds from construction and operational activities through the planting of a tree belt or hedgerow to create a buffer.
- Bats – any mature trees that cannot be retained should be subject to a detailed ground level inspection to determine their likely use by roosting bats. Similarly, any buildings to be affected by the works should be subject to a detailed external and internal inspection. These surveys should be undertaken in support of the planning application and can be undertaken during the winter months. Updated bat activity surveys are not considered necessary for the planning application. However, lighting during both construction and operational activities should be kept to a minimum and appropriate light sources used. There should be no spill onto the lakes, woodland strip or the ditch and treeline along Smallmead Road.
- Badgers – a survey for badgers should be undertaken in the six month period prior to the start of construction activities, in order to confirm the status of any badger setts within the site.

- Otters – a survey of Pond 1 to assess likely use by otters and the consequent need for any mitigation measures and inform the planning application renewal is recommended. Otter surveys can be undertaken at any time of year but are most effective during the winter months when vegetation cover has died back and field signs are more evident.

This Executive Summary contains an overview of the key findings and conclusions. However, no reliance should be placed on any part of the executive summary until the whole of the report has been read.

1 Introduction

1.1 Site Context and Proposed Development

- 1.1.1 The Green Park Station application site (the application site) comprises approximately 2.56 ha of land adjacent to the Basingstoke/ Reading Railway Line, close to Junction 11 of the M4, south of Reading. The site is located within the western section of the Green Park Village Masterplan, which was granted planning consent in 2011 under planning reference; 07/01275/OUT (Reading Borough Council (RBC)) and 10/01934/OD (West Berkshire District Council (WBDC)).
- 1.1.2 The majority of the application site is located within RBC, but the station platforms, footbridge and entrance are located within WBDC. As a result, duplicate applications are being submitted to both local planning authorities.
- 1.1.3 The application site has a complex planning history which is linked to the wider development of Green Park Village development proposals. The station, bus interchange and decked car park was previously granted planning permission in December 2007 by RBC (Ref: 07/01108/FUL) and WBDC in January 2008 (Ref: 07/02570/COMIND).
- 1.1.4 The 2007 and 2008 permissions were due to expire on the 14th December 2010 and 30th January 2011 respectively and, as development had not commenced, it was necessary to renew the permissions. A new application was submitted to RBC to accommodate amendments to the station infrastructure (Ref No: 10/01905/FUL), whilst an extension of time application was submitted to WBDC as the station platforms and concourse remained the same as the previous permission (Ref: 10/02603/XCOMIN). The planning applications were granted in December 2010 and January 2011 respectively.
- 1.1.5 However, these permissions have now lapsed and therefore it is necessary to submit new applications for the proposed station development. This report accompanies a full planning application submission to both RBC and WBDC for the:
- “Construction of a new Railway Station, bus interchange, multi-storey car park (park and ride facility), short stay car park, taxi drop-off, disabled parking facilities, station access road from Longwater Avenue, landscaping, and associated works”*
- 1.1.6 Overall, the proposed scheme is largely identical to the lapsed permissions (Ref No: 10/01905/FUL and 10/02603/XCOMIN), with the following amendments:
- The station has been designed to accommodate the future electrification of the rail line;
 - The design of the footbridge has been updated to reflect Network Rail’s requirements;
 - The size of the interchange area has been reduced;
 - The size of the car park area has now increased to accommodate 42 surface parking spaces; and
 - The construction and design of the canopies for the station platform have been simplified.
- 1.1.7 It is also proposed that the development be built out in four phases:
- Phase 1 – Service Road and Bus Stop
 - Phase 2 – Interchange and drop-off parking

- Phase 3 – Surface Car Park
- Phase 4 – Full scheme including multi-storey car park

1.1.8 Further detail and justification for the proposed phasing of the development is provided within the Transport Assessment and the Planning Statement.

1.2 Ecological Background

1.2.1 Given the time that has lapsed since the granting of the original planning permission and in light of the fact that ecological resources are dynamic and change over time, Reading Borough Council commissioned PBA in August 2013 to undertake an ecological walkover survey of the Green Park Station site to update the findings of the previous Phase 1 habitat survey undertaken in 2007 (AMEC, 2007) and to determine what, if any, ecological information is needed to support the planning application renewal.

1.3 Site description

- 1.3.1 The Green Park Station site (hereinafter referred to as the 'site') is located on the western edge of the Green Park business park complex in Reading, Berkshire. The site is dominated by an area of land that previously represented the formerly active part of the now closed landfill operation, which now largely supports ephemeral/short perennial vegetation interspersed with pockets of scattered scrub and tall ruderal vegetation.
- 1.3.2 The Basingstoke/Reading railway line forms the majority of the western boundary of the site along which are a number of mature trees and dense areas of bramble scrub (see Figure 1). A small strip of land extends beyond the railway boundary to the west and comprises a section of ditchline. To the south of the site lies Kirton's Farm Road, beyond which is an area of arable farmland. North of the site the landscape is also dominated by large arable fields and to the east of the site are a number of large, man-made lakes/ponds, associated with former gravel extraction works.

1.4 Aims of study

- 1.4.1 The aim of the study was to re-establish baseline ecological conditions within the site and ascertain the degree to which the habitats within the site have changed since the time of the original assessment. Depending on the scale of change, the study will either confirm that the mitigation and enhancement measures specified in support of the (now expired) planning application are still relevant and adequate or will allow the scope of any necessary further surveys needed to clarify mitigation requirements to be appropriately specified in support of the planning permission re-application.

2 Methodology

2.1 Field Survey

- 2.1.1 The field survey was undertaken by Kerry Elliott MCIEEM of BSG Ecology on behalf of PBA on 21st August 2013, the purpose of which was to update the findings of the previous Phase 1 habitat survey undertaken in 2007 (AMEC, 2007). Notes were made on any changes to the extent or character of habitats present, or other features of ecological interest, as required. Consideration was also given to the current potential of the site to support protected species or species of conservation importance.
- 2.1.2 The weather conditions on the site visit were dry and sunny with a light breeze (Beaufort Scale 1). Cloud cover was 2/8 throughout the survey visit with an air temperature of 19-22°C.

Limitations

- 2.1.3 Access to the small strip of land included within the proposed development where this lies to the west of the railway track was not possible during the 2013 field visit and therefore it was not directly surveyed. However, it was observed from the eastern side of the railway track, and reviewed using aerial and bird's eye imagery available online. Lack of direct access to this small area during the survey is not therefore considered to be a significant constraint to the survey methodology.
- 2.1.4 The findings of the survey, as presented in this report, are written in an ecological context. Reference to, for example, building condition should therefore be read in this context. Observations made are representative of the site at the time of the survey and under the prevailing weather and climatic conditions.

3 Results and Interpretation

3.1 Habitats

3.1.1 The survey encompassed the following survey areas and habitats, as described in AMEC's 2007 (AMEC, 2007) report:

- Area 1
- Area 2
- Area 3
- Area 4
- Area 7
- Pond 1
- Pond 2
- Pond 3
- Ditch 1
- Ditch 5

3.1.2 The location of these survey areas and habitats are provided in Figure 1.

3.1.3 The areas and habitats as outlined above supported the following Phase 1 habitat types at the time of the updated survey in 2013:

- Scattered broadleaved trees
- Broadleaved woodland
- Tall ruderal vegetation
- Dense scrub
- Scattered scrub
- Standing open water
- Ephemeral/short perennial vegetation
- Bare ground
- Semi-improved grassland
- Dry ditch
- Amenity grassland

- 3.1.4 Further detail as to the extent of Phase 1 habitat types within the areas and habitat included within the survey, and the degree to which these have changed since the time of the previous Phase 1 habitat survey (AMEC, 2007), is provided below. Figure 1 provides a plan of the distribution of habitats within the site.

Area 1

- 3.1.5 At the time of the original Phase 1 habitat survey, Area 1 comprised an extensive area of bare ground, yet to be colonised by re-establishing vegetation, which previously represented the formerly active part of the now closed landfill operation. At the time of the updated survey, bare ground within Area 1 was restricted to the former access track, which bisects this whole area. The majority of Area 1 was found to currently support a mosaic of ephemeral/short perennial vegetation, tall ruderal vegetation and scattered scrub. Small pockets of semi-improved grassland were also identified, particularly along the western edge of Area 1. Species frequently noted throughout Area 1 included mayweed, St John's wort *Hypericum perforatum*, bird's foot trefoil *Lotus corniculatus*, black medick *Medicago lupulina*, bristly ox-tongue *Picris echinoides* and chickweed *Stellaria media*. Stands of tall ruderal vegetation were largely dominated by teasel *Dipsacus fullonum*, burdock *Arctium lappa* and common nettle *Urtica dioica*, whilst pockets of scrub habitat were largely limited to bramble *Rubus fruticosus* and buddleia *Buddleja davidii*.

Area 2

- 3.1.6 As was the case at the time of the 2007 survey, Area 2 comprised a narrow band of broadleaved woodland running between Kirtons Farm Road and the closed landfill site. The woodland includes canopy species such as alder *Alnus glutinosa* and elm *Ulmus minor* with shrubs such as hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa*, elder *Sambucus nigra*, grey willow *Salix cinerea*, sycamore *Acer pseudoplatanus* and dog-rose *Rosa canina*. The ground flora continues to be poor and open, with only occasional woodland species such as lords and ladies *Arum maculatum*, ground ivy *Glechoma hederacea* and garlic mustard *Alliaria petiolata*.

Area 3

- 3.1.7 This refers to the narrow habitat surrounding waterbodies Pond 2 and Pond 3. By the time of the updated survey, the degree of scrub cover (dominated by bramble) within this area had significantly increased, such that areas of shorter, grassland vegetation were no longer present. Indeed, the bramble scrub cover was such that the area was impenetrable to access on foot beyond a metre or so, although it was evident from the canopy cover that grey willow and osier *Salix viminalis* were still present closer to the water margins where ground conditions are presumably damper.

Area 4

- 3.1.8 A small section of Area 4 fell within the updated survey area. This was unchanged since the time of the 2007 survey and comprised an amenity grassland lawn, bound by a post and wire fence, beyond which were the landworkings associated with the Pingewood Industrial Estate. Immediately adjacent to the grassland is a small bungalow, constructed from brick and supporting a pitched tiled roof with gable ends. The bungalow appeared to be occupied, but was in a slightly dilapidated state of repair.

Area 7

- 3.1.9 As was the case at the time of the 2007 survey, Area 7 is dominated by a large, two-storey former residential dwelling now used for offices and its associated garden, comprising amenity grassland lawn, ornamental plantings and scattered trees. The dwelling is brick built with a pitched tiled roof, supporting an L-shaped roof void. The building was generally in a good state

of repair, although some gaps in the soffit were noted along with a couple of slipped roof tiles. Immediately to the east of the dwelling and its associated land holdings, is a two storey commercial building used for offices. The walls of the building were rendered and the roof was pitched and constructed from corrugated metal.

Pond 1

- 3.1.10 Pond 1 comprises a large lake which, as was the case at the time of the 2007 survey, supported limited stands of marginal vegetation, owing to its steep sides and quickly deepening basin. Where present, marginal species included greater reedmace *Typha latifolia*, common reed *Phragmites australis* and great willowherb *Epilobium hirsutum*.

Pond 2

- 3.1.11 Pond 2 is a smaller lake located immediately to the west of Pond 1. As detailed above, the dense scrub vegetation which surrounds Pond 2 was found to be impenetrable at the time of survey, such that access to the lake's margins was not possible. Where vantage points of Pond 2 were possible, scattered but dense stands of common reed were noted scattered around its margins.

Pond 3

- 3.1.12 At the time of the 2007 survey, Pond 3 was found to be characterised by a band of greater reedmace, which completely encircled its margins. The degree to which reedmace may have encroached further into the lake was not possible at the time of the updated survey, as the dense scrub vegetation surrounding this habitat, which forms a steeply sloping bund was completely impenetrable on foot such that no vantage points of Pond 3 could be established.

Ditch 1

- 3.1.13 As was the case in 2007, Ditch 1 was completely defunct, having becoming encroached by scrub and scattered tree saplings (willow mainly) and held no water.

Ditch 5

- 3.1.14 At the time of the updated Phase 1 habitat survey, Ditch 5 was found to be largely dry, supporting only short sections of standing water, mainly along its central stretch. Numerous mature crack willow *Salix fragilis* grow adjacent to the ditch along the top of its bank, creating a high degree of shading. Marginal species were recorded along the channel of the ditch, suggesting it is seasonally wet. These included yellow iris *Iris pseudacorus*, hemlock water-dropwort *Oenanthe crocata*, great willowherb and purple loosestrife *Lythrum salicaria*.

Habitat west of railway track

- 3.1.15 The strip of land to the west of the railway track supports a narrow ditch (located at the bottom of the railway embankment), flanked to the east and west by dense scrub and scattered semi-mature trees.

Overview

- 3.1.16 Broadly speaking, the extent of habitats present within the site has diversified since the time of the original 2007 Phase 1 habitat survey. In particular, the majority of the site, which was previously dominated by bare ground, now supports a mosaic of ephemeral/short perennial vegetation, tall ruderal vegetation and scattered scrub. Whilst these habitats were found to support common and widespread species with limited intrinsic ecological value in their own right, they are likely to provide opportunities for a number of protected species assemblages,

including birds, reptiles and invertebrates. The strip of mature broadleaved woodland where this runs parallel to Kirton's Farm Road, as well as the lines of mature trees along Ditch 5 and Ditch 1/the railway corridor are likely to provide sheltering and foraging habitats for common and widespread birds and bats. The areas of dense bramble-dominated scrub which surround Ponds 2 and 3 are also likely to support breeding bird assemblages typical of scrub and woodland habitats.

- 3.1.17 The two lakes which occur within the site (Ponds 1 and 2) are classified as a Habitat of Principal Importance (HPI), in accordance with Section 41 of the Natural Environment and Rural Communities (NERC) Act, 2006. This legislation placed a duty on the Secretary of State to publish, review and revise lists of habitats in England that are of principal importance for the purpose of conserving biodiversity. Eutrophic lakes, such as Ponds 1 and 2, are included on this list. The NERC Act also requires the Secretary of State to take, and promote the taking of, steps to further the conservation of the listed habitats. Similarly, whilst access to Pond 3 was not possible during the survey, it is worth noting that ponds are also classified as Habitat of Principal Importance, and as such the same duty with regards to preserving the biodiversity of this type of habitat would apply.

3.2 Protected Species and Species of Conservation Importance

- 3.2.1 This section presents evidence of protected species or species of conservation importance identified during the survey and evaluates the potential for the site to support protected or notable species, taking into account the findings of previous protected species surveys undertaken at the site (AMEC, 2007). The relevant legislation and policy for each species or species group is also briefly summarised below and detailed fully in Appendix A.

Reptiles

- 3.2.2 Reptiles prefer a mosaic of habitats with a varied vegetation structure providing conditions suitable for both sheltering and foraging (Edgar *et al.*, 2010). In light of this, it is considered that the site has improved in terms of its potential to support reptiles since the time of the 2007 survey work, particularly around the margins of Area 1 where the bare ground habitat has since developed into a structurally diverse mix of tall ruderal vegetation, scattered scrub and pockets of semi-improved grassland. The majority of Area 1, being dominated by ephemeral/short perennial vegetation, is still considered to be largely unsuitable for reptiles. It is likely that grass snake still occur within the site, given its association with wetland features, and that the limited areas of suitable habitat, where present, also now have the capacity to support low numbers of other common and widespread species such as slow-worm *Anguis fragilis* and common lizard *Zootoca vivipara*.
- 3.2.3 All species of common reptile are protected from killing and injury under the Wildlife and Countryside Act, 1981 (as amended). Reptiles are also classified as Species of Principal Importance prepared in response to Section 41 of the Natural Environment and Rural Communities (NERC) Act, 2006. This legislation places a duty on the Secretary of State to publish, review and revise lists of living organisms in England that are of principal importance for the purpose of conserving biodiversity. The NERC Act also required the Secretary of State to take, and promote the taking of, steps to further the conservation of the listed organism.

Breeding and wintering birds

- 3.2.4 A total of six bird species were incidentally recorded on site during the extended Phase 1 habitat survey. These included starling *Sturnus vulgaris*, collared dove *Streptopelia decaocto*, green woodpecker *Picus viridis*, heron *Ardea cinerea*, cormorant *Phalacrocorax carbo* and mute swan *Cygnus olor*.
- 3.2.5 The extent of habitat within the site suitable for breeding birds is considered to have increased since the time of the previous breeding bird survey, with scrub encroachment far more

evident, particularly around the margins of Ponds 1 and 2 and around the fringes of Area 1. Such habitats are common and widespread and as such, any breeding bird assemblage associated with the site is unlikely to have significantly diversified since the time of the previous survey work, although is still likely to include a number of noteworthy species (e.g. species of Principal Importance in accordance with Section 41 of the NERC Act 2006, such as starling *Sturnus vulgaris*). The strip of woodland adjacent to Kirtons Farm Road is also likely to provide good quality nesting habitat for common species of breeding birds typical of garden and scrub/wooded habitats. As was the time of the original 2007 survey, the large waterbodies within the site are likely to continue to support an assemblage of bird species typical of an urban fringe wetland habitat. However, such habitat is common in the local area, with a number of other waterbodies within the vicinity of the site having been designated for their nature conservation value. The importance of the site's waterbodies for breeding birds within the local area is therefore likely to be diluted by the presence of abundant and similar gravel pit habitat within the vicinity of the site.

- 3.2.6 As was the case at the time of the 2007 survey, the large lakes within the site are likely to continue to provide winter refuges for a diversity and number of wildfowl, although their potential is likely to be diluted by the presence of abundant and similar gravel pit habitat within the vicinity of the site (which includes other waterbodies specifically designated for their nature conservation value). The remainder of the site is considered to be of negligible interest to wintering birds.
- 3.2.7 The potential for the site to support birds is a material consideration as all wild birds and their nests receive protection under the Wildlife and Countryside Act 1981 (as amended) in respect of intentional killing and injury.

Bats

- 3.2.8 A number of the mature trees along Ditches 1 and 5, and within the woodland strip adjacent to Kirtons Farm Road, have potential to provide roosting opportunities for bats, in the form of dense ivy cover, rot holes and splits in the trunk/branches. The three buildings along Smallmead Road in the eastern part of the site are also considered to offer some potential to support roosting bats. In addition to this, it is likely that Smallmead Road, the woodland strip and habitats associated with the lakes/ponds are likely to continue to be used by commuting and foraging bats, as was the case at the time of the 2007 survey work.
- 3.2.9 Both bats and their roosts are afforded protection under the Conservation of Species and Habitats Regulations 2010 (as amended) and the Wildlife and Countryside Act 1981 (as amended). In broad terms these pieces of legislation jointly mean that the animals themselves are protected against killing, injury, taking (capture) and disturbance. In addition, their places of shelter are protected against damage, destruction and obstruction.

Badgers

- 3.2.10 Badgers *Meles meles* tend to build setts in areas where there is some form of cover. Woodland copses, scrub and hedgerows are preferred locations for setts as they allow badgers to emerge from the setts inconspicuously and young cubs to play near the sett entrances without being visible to potential predators and people (Neal & Cheeseman, 1995). No evidence of badger setts was identified within or adjacent to the site during this field survey. No other field signs (e.g. latrines, droppings, foraging scrapes) indicating use of the site by badgers were recorded during the survey. The badger's preferred food source is the earthworm *Lumbricus terrestris* and therefore they predominantly forage on areas of grassland and pasture. Badgers are omnivorous and they supplement their diet with carrion and fruits from hedgerows, trees and shrubs (Neal & Cheeseman, 1995; Roper, 2010).
- 3.2.11 Whilst no evidence of badger was recorded during the survey, they are known to occur within the vicinity of the site within the main Green Park business park complex (BSG Ecology, 2013)

and it is conceivable that a local clan uses parts of the site to forage on an occasional basis. It should also be noted that some areas of the site were impossible to access, because of dense scrub cover and the possibility of a sett within these areas cannot be fully discounted.

- 3.2.12 Both badgers and their setts are protected under the Protection of Badgers Act 1992 making the intentional or reckless destruction, damage or obstruction of a badger sett an offence.

Water voles

- 3.2.13 The water vole *Arvicola amphibius* is usually found within 2 m of the water's edge, along the densely vegetated banks of ditches, river, streams and marshes where it feeds on grasses, reeds and sedges (Harris & Yalden, 2008). Neither of the accessible ditches within the site were considered suitable for water vole at the time of survey, being either dry or largely dry. The section of ditch west of the railway is also considered sub-optimal for water vole. This ditch is connected by culvert under the railway line to the ditch system in the wider site; no evidence of water vole has been found in the ditch system to the east of the railway line (which connects to it) and it is heavily shaded by surrounding scrub vegetation and is likely to only be seasonally wet (given the ditch to the east of the railway line which it connects to is also only seasonally wet). Similarly the large lakes and ponds within the site are considered to be largely unsuitable for this species, lacking substantive dense stands of suitable marginal vegetation for foraging. A recent water vole survey within the Green Park business park complex (BSG Ecology, 2013) revealed a thriving mink population (and no evidence of water vole) further adding weight to the fact that this species is unlikely to be present. The water vole is not therefore considered further in this assessment.

Otter

- 3.2.14 Whilst no evidence of otter *Lutra lutra* was recorded in the site at the time of the original survey work (AMEC, 2007) and large lakes do provide suitable foraging opportunities. This species is now known to occur along Foundry Brook where this flows through the Green Park business park complex, approximately 700m to the south-east of the site (BSG Ecology, 2013).
- 3.2.15 Both otters and their places of rest/shelter are afforded protection under the Conservation of Species and Habitats Regulations 2010 (as amended) and the Wildlife and Countryside Act 1981 (as amended). In broad terms these pieces of legislation jointly mean that the animals themselves are protected against killing, injury, taking (capture) and disturbance. In addition, their places of shelter are protected against damage, destruction and obstruction.

Great crested newts

- 3.2.16 The waterbodies within the site are considered to be largely unsuitable for great crested newts *Triturus cristatus*, who typically favour medium-sized ponds (e.g. field ponds, clay pits, large ditches and quarry ponds) which are well vegetated and not too shaded (English Nature, 2001). The presence of predatory fish and a high density of waterfowl also reduce the value of waterbodies for breeding great crested newts. No great crested newts were recorded within the site at the time of the previous survey work (AMEC, 2007) and this species is highly unlikely to be present. This species is not therefore considered further in this assessment.

Invertebrates

- 3.2.17 At the time of the 2007 survey work, an invertebrate assemblage including one Red Data Book and 17 Nationally Notable taxa were recorded. Many of these species were aquatic, or closely associated with wetland habitats, and recorded in the sites ponds and lakes. It is conceivable, given the diversification in habitats across the site since the time of the original survey work (particularly within Area 1), that the diversity of the invertebrate assemblage has also increased. In particular, the proportion of terrestrial early colonising invertebrate species,

which occur in recently disturbed and successional habitats, is likely to have increased, given the shift from bare ground habitat, to a mosaic of ephemeral/short perennial vegetation, tall ruderal vegetation, scattered scrub and pockets of semi-improved grassland.

3.3 Potential Impacts and Recommendations

- 3.3.1 This section highlights the potential impacts of a proposed development on ecological receptors identified during the field survey. This section then goes on to outline recommended mitigation and compensation measures to overcome the identified potential impacts as part of any future development within the site. Initial recommendations for further survey and potential ecological enhancement are made, where necessary, in line with legislation and current government and local planning policy.

Habitats

- 3.3.2 The site is currently dominated by recently modified and disturbed habitats, which has since been colonised by vegetation supporting common and widespread species with limited intrinsic ecological value. However, these habitats do provide limited potential to support protected species and species of conservation importance.
- 3.3.3 The key habitats of ecological interest within the site are the waterbodies (Ponds 1, 2 and 3, assuming Pond 3 is still present). These habitats should be protected from pollution events as part of the construction and operation of the new station. All future demolition and construction works within the site should therefore accord with the Environment Agency's Pollution Prevention Guidelines (PPG), with particular attention given to the following:
- PPG 1 – general guide to the prevention of pollution;
 - PPG 5 – works and maintenance in or near water; and
 - PPG 6 – working at construction and demolition sites.
- 3.3.4 Any future drainage strategy for the site as part of its development will also need to be carefully considered to ensure that run-off levels into the lakes remain at or below current levels, in terms of both quality and quantity.
- 3.3.5 Where possible, the majority of the site's mature trees will be retained as part of the station development. These contribute to the ecological value of the site and provide opportunities for protected and notable species (bats and birds). Construction works in the vicinity of any retained broadleaved trees should adhere to British Standard: 5837:2012 "*Trees in Relation to Design, Demolition and Construction*" which prescribes the need for the following protection measures:
- Erection of stout fencing around each tree or hedgerow in advance of site clearance, enclosing the Root Protection Area;
 - Avoidance of construction activities, material storage, use of vehicles, fires, etc. within the fenced area to prevent damage to tree roots and compaction of the soil; and
 - Maintenance of an adequate water supply to the trees and hedgerows both during and after construction.

Protected Species and Species of Conservation Importance

Reptiles

- 3.3.6 Whilst parts of the site, in particular the habitats present within Area 1, are considered to have improved in terms of their potential to support reptiles since the time of the 2007 survey, the areas of suitable habitat are limited in extent and the majority of the site is unsuitable for this species group. Furthermore, only a relatively short space of time has passed since the previous survey (when only very low numbers of grass snake were recorded), such that the opportunity for the site to have become colonised by a more diverse assemblage of reptiles is limited.
- 3.3.7 In light of this, no further updated surveys for reptiles are considered necessary in support of the planning application.
- 3.3.8 Due to the known presence of low numbers of grass snake within the site, and in order to ensure the legislation protecting reptiles is not contravened during development of the site, habitat suitable for reptiles should be removed in phases and during the period reptiles are active (i.e. between March and September) in order to allow their safe dispersal to areas of retained habitat outside of the works footprint.

Breeding Birds

- 3.3.9 No further surveys for breeding birds are necessary to support the planning application, in light of the fact that the assemblage associated is unlikely to have significantly changed since the time of the original survey work and the extent of habitat to be affected (in the context of the wider landscape) is limited.
- 3.3.10 The woodland strip, scattered trees and dense scrub vegetation are likely to provide nesting habitat for common, widespread species of breeding birds. Where possible, such habitat should be retained within the development proposals.
- 3.3.11 However, to avoid damage or destruction of nests and eggs, or killing or injury of young birds in nests, if site clearance within suitable habitat is necessary it should be timed to avoid the breeding season of common bird species. In practice, this means that clearance of such areas should be undertaken within the period from 1st September until the 28th February, as a guide. If this timing is not possible, all areas to be cleared should first be checked by an ecologist or other suitably qualified individual for active nests. This would involve watching the areas for signs of bird activity and undertaking a search for active nest sites; in the event that nesting activity was identified the clearance works in the vicinity of the nest would need to cease until the bird had finished nesting. It should be noted that, given the density of the scrub habitat within parts of the site, such that circumnavigating it and checking for nests is not necessarily possible, the only viable option for vegetation clearance works within these areas to ensure compliance with the law protected nesting birds will be to do the works outside the bird breeding period.
- 3.3.12 The previous survey work (AMEC, 2007) identified that the lakes and ponds within the site support a breeding bird assemblage typical of wetland habitat. Currently, the lake habitat within the site is relatively undisturbed. Development proposals should therefore give consideration to the screening of the lake from activities associated with the construction and operation of the station, for example through the planting of a tree belt or hedgerow within the area of semi-natural habitat between the lake margins and the built footprint (and prior to the start of construction works) to create a buffer between the two areas, in order to ensure the value of this habitat for breeding waterfowl is maintained in the long term.

Wintering Birds

- 3.3.13 No further surveys for wintering birds are necessary to support the planning application, in light of the fact that the assemblage associated with the site is unlikely to have significantly changed since the time of the original survey work and the extent of habitat to be affected (in the context of the wider landscape) are limited.

- 3.3.14 The lakes within the site are known to support aggregations of diving ducks, (such as pochard and tufted duck) during the wintering months. As this habitat is currently relatively undisturbed, the development proposals should give consideration to the screening of the lake from activities associated with the construction and operation of the station, for example through the planting of a tree belt or hedgerow within the area of semi-natural habitat between the lake margins and the built footprint (and prior to the start of construction works) to create a buffer between the two areas, in order to ensure the value of this habitat for over-wintering waterfowl is maintained in the long term.

Bats

- 3.3.15 A number of the more mature trees within the site have the potential to support roosting bats. Where mature trees are to be removed as part of the development proposals, these should be subject to a detailed ground level inspection (preferably during the winter months when potential roosting features can be more easily seen) in order to determine their value for roosting bats. Where necessary, further survey, in the form of climbing inspections and/or dusk emergence surveys of individual trees may be required.
- 3.3.16 In the event any of the three properties along Smallmead Road are to be demolished or otherwise physically affected by the development proposals, a detailed internal and external inspection should be undertaken to look for evidence of, or potential for, roosting bats to be present. This survey can be undertaken at any time of year. Further dusk emergence/dawn-re-entry surveys of these buildings may then be required during the period bats are active (i.e. between May and September) if the inspection reveals the buildings provide bat roosting opportunities.
- 3.3.17 The survey work undertaken at the site in 2007 has already identified the keys areas of commuting and foraging bat activity within the site (i.e. along Smallmead Road, around the woodland strip, across the waterbodies) and this is unlikely to have changed in the time that has passed. In light of this, and considering the small area of land that will be affected by the development proposals (in the context of the abundant suitable bat foraging habitat in the wider landscape), updated bat activity surveys are not considered necessary.
- 3.3.18 The insensitive use of external lighting within the site as part of any future development could have a negative impact on any bats that use the shelterbelt for roosting, foraging and commuting activity. It is recommended that external lighting be kept to a minimum and should not spill onto the lakes, woodland strip or the ditch and treeline along Smallmead Road. The preference would be to use no lighting, or low- level lighting only, around the site. However, if brighter lighting (flood lighting) is proposed, low and high pressure sodium lights should be used instead of mercury and metal halides as these will reduce the impact of light pollution on commuting bats (BCT and ILE, 2008). Light spillage onto the tree shelterbelt can be further reduced through the use of luminaires or directional light accessories (BCT and ILE, 2008). The sensitive use of external lighting will also ensure that the development is compliant with Paragraph 125 of the NPPF.

Badgers

- 3.3.19 The site is currently considered unlikely to support an important badger sett (such as a main or subsidiary sett), given the lack of any evidence of badger activity recorded during the field survey and taking into account the results of the previous survey work undertaken in 2007 (AMEC, 2007). However, badgers are highly mobile creatures, and frequently abandon setts and create new ones elsewhere. A survey for badgers is therefore recommended in the six month period leading up to the start of any construction activities, in order to confirm the status of any setts within the site. Badger surveys can be undertaken any time of year, but are more effective during the autumn and winter months when vegetation has died back and field signs are more evident.

Otter

- 3.3.20 Low levels of otter activity have been recorded along the Foundry Brook where it flows through the Green Park business park complex, approximately 700m south-east of the site, and this species has the potential to occur within the lakes which lie to the east of the site. In light of the fact that the footprint of the development works will fall within close proximity of the southern edge of Pond 1 (the large lake) where the new access road will be constructed and given otter are known to occur within the vicinity of the site, a survey for this species is recommended to identify the need for any mitigation measures and inform the planning application renewal.

Invertebrates

- 3.3.21 Whilst it is considered likely that the site, particularly where this comprises Area 1, is likely to have become more suitable for terrestrial invertebrates in the time that has lapsed since the 2007 survey work, given the limited amount of habitat to be impacted and its ephemeral nature, it is considered unlikely that the invertebrate assemblage would be notable, such that further survey for this group is not necessary to support the planning application. The loss of this type of habitat could be easily recreated within the development proposals through, for example, the incorporation of green and brown roofs into the scheme design or appropriate habitat creation and management as part of the soft landscaping.

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Figures

Figure 1: Phase 1 habitat survey plan



KEY:

- SEMI-NATURAL BROADLEAVED WOOD
- DENSE SCRUB
- SCATTERED SCRUB
- SCATTERED BROADLEAVED TREES
- SI POOR SEMI-IMPROVED GRASSLAND
- TALL RUDERAL VEGETATION
- STANDING WATER
- AMENITY GRASSLAND
- SPECIES-POOR INTACT HEDGE
- DRY DITCH
- EPHEMERAL/SHORT PERENNIAL
- BARE GROUND
- BUILDINGS
- HARDSTANDING

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Reading
BOROUGH COUNCIL

SCALING NOTE: Do not scale from this drawing. If in doubt, ask.
UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake his own investigation where the presence of any existing sewers, services, plant or apparatus may affect his operations.

GREEN PARK STATION
PHASE ONE HABITAT SURVEY

A	Annotations added	smr	16.10.14	KE
Mark	Revision	Drawn	Date	Chkd
Drawing Status				
FOR INFORMATION				
Date of 1st Issue	27.09.2013	Drawing Number	Revision	
A3 Scale	1:2500	28791/002/001		A
Drawn by	smr			
Checked by	KE			

Appendix A Legislation and Planning Policy

A.1.1 This section briefly summarises the relevant legislation, policy and related issues that are mentioned in the main text of the report. The following text does not constitute legal advice.

A.2 National Planning Policy Framework

- 3.3.22 The government published the National Planning Policy Framework (NPPF) on 27th March 2012. The NPPF states that, “the planning system should contribute to and enhance the natural and local environment by:
- i. Protecting and enhancing valued landscapes, geological conservation interests and soils;
 - ii. Recognising the wider benefits of ecosystem services;
 - iii. Minimising impacts on biodiversity and providing net gains in biodiversity, where possible contributing to the Government’s commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
 - iv. Preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability; and
 - v. Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.”

Planning – land allocation and policies

- 3.3.23 The NPPF indicates that ‘in preparing plans to meet development needs, the aim should be to minimise pollution and other adverse effects on the local and natural environment. Plans should allocate land with the least environmental or amenity value, where consistent with other policies in this Framework.’
- 3.3.24 In paragraph 111, the NPPF refers to brownfield land as follows: ‘planning policies and decisions should encourage the effective use of land by re-using land that has been previously developed (brownfield land), provided that it is not of high environmental value.’
- 3.3.25 Local planning authorities are advised in paragraph 113 to ‘set criteria-based policies against which proposals for any development on or affecting protected wildlife or geodiversity sites or landscape areas will be judged. Distinctions should be made between the hierarchy of international, national and locally designated sites so that protection is commensurate with their status and gives appropriate weight to their importance and the contribution that they make to wider ecological networks.’
- 3.3.26 Local planning authorities are advised further to ‘set out a strategic approach in their Local Plans, planning positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure...’
- 3.3.27 In paragraph 115 the NPPF states that for National Parks, the Broads and Areas of Outstanding Natural Beauty ‘the conservation of wildlife and cultural heritage are important considerations in all these areas and should be given great weight in National Parks and the Broads.’ The accompanying Paragraph 116 sets out the assessment requirements should planning applications be considered in these areas although the default is that ‘planning permission should be refused for major developments in these designated areas except in exceptional circumstances and where it can be demonstrated they are in the public interest.’

3.3.28 The NPPF also states that, “to minimise impacts on biodiversity and geodiversity, planning policies should:

- a. Plan for biodiversity at a landscape-scale across local authority boundaries;
- b. Identify and map components of the local ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by local partnerships for habitat restoration or creation;
- c. Promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets; and identify suitable indicators for monitoring biodiversity in the plan;
- d. Aim to prevent harm to geological conservation interests; and
- e. Where Nature Improvement Areas are identified in Local Plans, consider specifying the types of development that may be appropriate in these Areas.”

Planning applications and biodiversity

3.3.29 “When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:

- a. If significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- b. Proposed development on land within or outside a Site of Special Scientific Interest likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other developments) should not normally be permitted. Where an adverse effect on the site’s notified special interest features is likely, an exception should only be made where the benefits of the development, at this site clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of Sites of Special Scientific Interest;
- c. Development proposals where the primary objective is to conserve or enhance biodiversity should be permitted;
- d. Opportunities to incorporate biodiversity in and around developments should be encouraged;
- e. Planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss; and
- f. The following wildlife sites should be given the same protection as European sites:
 - (i) potential Special Protection Areas and possible Special Areas of Conservation
 - (ii) listed or proposed Ramsar sites; and

- (iii) sites identified, or required, as compensatory measures for adverse effects on European sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.”

- 3.3.30 “The presumption in favour of sustainable development (paragraph 14 [of NPPF]) does not apply where development requiring appropriate assessment under the Birds and Habitats Directives is being considered, planned or determined.”
- 3.3.31 In paragraph 125 the NPPF stipulates that ‘by encouraging good design, planning policies and decisions should limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.’

A.3 Species and Habitats of Principal Importance

- 3.3.32 The NPPF (paragraph 117) indicates that local authorities should take measures to “promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species” linking to national and local targets through local planning policies. Priority species are those species shown on the England Biodiversity List published by the Secretary of State under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Planning authorities have a duty under Section 40 of the NERC Act to have regard to priority species and habitats in exercising their functions including development control and planning.

A.4 European and National Legislation

European protected species

- 3.3.33 The Conservation of Habitats and Species Regulations 2010 consolidates the various amendments that have been made to the Regulations. The original (1994) Regulations transposed the EC Habitats Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Council Directive 92/43/EEC) into national law.
- 3.3.34 “European protected species” (EPS) are those which are present on Schedule 2 of the Conservation of Habitats and Species Regulations 2010. They are subject to the provisions of Regulation 41 of those Regulations. All EPS are also protected under the Wildlife and Countryside Act 1981 (as amended). Taken together, these pieces of legislation make it an offence to:
 - a. Intentionally or deliberately capture, injure or kill any wild animal included amongst these species
 - b. Possess or control any live or dead specimens or any part of, or anything derived from a these species
 - c. deliberately disturb wild animals of any such species
 - d. deliberately take or destroy the eggs of such an animal, or
 - e. intentionally, deliberately or recklessly damage or destroy a breeding site or resting place of such an animal, or obstruct access to such a place
- 3.3.35 For the purposes of paragraph (c), disturbance of animals includes in particular any disturbance which is likely—
 - a. to impair their ability—
 - (i) to survive, to breed or reproduce, or to rear or nurture their young, or

- (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
- (iii) to affect significantly the local distribution or abundance of the species to which they belong.

3.3.36 Although the law provides strict protection to these species, it also allows this protection to be set aside (derogation) through the issuing of licences. The licences in England are currently determined by Natural England (NE) for development works. In accordance with the requirements of the Regulations (2010), a licence can only be issued where the following requirements are satisfied:

- a. The proposal is necessary 'to preserve public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment'
- b. 'There is no satisfactory alternative'
- c. The proposals 'will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.'

A.5 Breeding birds

3.3.37 All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs.

A.6 Common Reptiles

3.3.38 All species of British reptile are protected by the Wildlife and Countryside Act 1981 (as amended). The common species (adder, grass snake, slow worm and common lizard) are only protected against intentional killing and injuring (but not taking).

A.7 Badgers

3.3.39 Badgers and their setts are protected under the Protection of Badgers Act 1992, which makes it illegal to kill, injure or take badgers or to interfere with a badger sett. The term 'badger sett' is normally understood to mean the system of tunnels and chambers, in which badgers live, and their entrances and immediate surrounds. The 1992 Act specifically defines a sett as "any structure or place which displays signs indicating current use by a badger".

A.2 Green Park Station - Bat Survey and Assessment

Green Park Station, Reading

Bat Survey and Assessment

On behalf of **Reading Borough Council**



Project Ref: 28791| Rev: BB | Date: October 2014



Document Control Sheet

Project Name: Green Park Station

Project Ref: 28791

Report Title: Bat Survey and Assessment

Doc Ref: 28791_Green Park Station_Bat-Pynings_IDWHE_291014

Date: October 2014

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For and on behalf of Peter Brett Associates LLP				

Revision	Date	Description	Prepared	Reviewed	Approved
A	16-10-14	Edits to reflect minor changes to scheme phasing	HE	KE	-
B	31-10-14	Edits to reflect minor changes to scheme phasing	HE	KE	DA

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Executive Summary

This report presents the results of survey work undertaken to support the planning permission renewal for the proposed Green Park railway station scheme and its associated access road. The necessity for this survey work was identified in a preceding report (PBA, 2014a).

Three trees with the potential to support bats were identified within the footprint of the proposed access road by the work undertaken earlier in 2014 (PBA, 2014b). A licenced bat worker and tree climber climbed all three trees to carry out a detailed visual assessment of the trees on 27th May 2014. It was found on close inspection that none of the trees provided features capable of supporting roosting bats.

The bungalow known as “Pynings” which will also be directly affected by the proposed access road was subject to a detailed internal and external survey, also on 27th May 2014 (refer Building A in Figure 1). In addition, monitoring of bat activity associated with the building was undertaken between May and August 2014 through the use of a static bat detector deployed in the roof space of the building and through the use of evening emergence and dawn re-entry surveys. For the latter surveys, surveyors were equipped with bat detectors for recording, downloading and subsequent review using appropriate software to enable genus/species identification. Night vision cameras were also used to monitor potential access/egress points of all building elevations. Very small numbers of old bat droppings (from 2013 or before) were found in the roof space, as has been reported previously (PBA, 2014). However, no bat activity was recorded in the roof space; neither were any bats recorded emerging or re-entering the building. Bats were recorded foraging close to the building and in the garden; however there is no evidence of current use of the building by bats.

Given that no bat roosts are present in Pynings or the trees, a European Protected Species (EPS) licence application for the demolition of the bungalow and the felling of the trees is not required. As features suitable for use by roosting bats remain within the bungalow and bats are known to use the area for commuting and foraging, the following recommendations are made with regards to the project design and with regards to site clearance:

- The demolition of the bungalow should be undertaken with a supporting method statement presenting the evidence and proposed method of working to demonstrate contravention of the legislation relating to bats and their roosts will not occur. Should demolition of the bungalow not commence prior to next spring then a further bat survey should be undertaken to update this report given the high level of bat activity in the area.
- Replacement potential roosting resources for bats should be provided in advance of demolition. A small number of bat boxes on trees or retained buildings in appropriate positions within or adjacent to the Green Park Station site would be sufficient to provide replacement for the type of roosting opportunities provided by the bungalow.
- In accordance with the recommendations given within the previous reports (PBA, 2014a; PBA, 2014b), it is recommended that lighting along the access road should be kept to a minimum and should not spill onto the lakes, woodland strip or the ditch and treeline along Smallmead Road. Further details are given in Section 4 of this report.

Providing the recommended measures are put in place, no significant residual impacts on bats are envisaged as a result of the proposed access road. The mitigation and compensation proposed will ensure that the proposed development is in compliance with planning policy and legislation.

This Executive Summary contains an overview of the key findings and conclusions. However, no reliance should be placed on any part of the executive summary until the whole of the report has been read.

1 Introduction

1.1 Background

- 1.1.1 Full planning permission for the construction of a new railway station, bus interchange and associated car parking facilities (to include multi storey car park, short stay car park, taxi drop-off and disabled parking facilities) on land adjacent to the Basingstoke/Reading Railway Line and to the west of the Green Park business park was granted by Reading Borough Council on 14th December 2010 (application no. 10/01905/FUL) and West Berkshire Council on 20th January 2011 (planning permission ref. 10/02603/XCOMIN). These permissions have now lapsed and therefore it is necessary to submit new applications for the proposed station development. This report accompanies a full planning application submission to both RBC and WBDC for the:

“Construction of a new Railway Station, bus interchange, multi-storey car park (park and ride facility), short stay car park, taxi drop-off, disabled parking facilities, station access road from Longwater Avenue, landscaping, and associated works”

- 1.1.2 Overall, the proposed scheme is largely identical to the lapsed permissions (Ref No: 10/01905/FUL and 10/02603/XCOMIN), with the following amendments:
- The station has been designed to accommodate the future electrification of the rail line;
 - The design of the footbridge has been updated to reflect Network Rail’s requirements;
 - The size of the interchange area has been reduced;
 - The size of the car park area has now increased to accommodate 42 surface parking spaces; and
 - The construction and design of the canopies for the station platform have been simplified.
- 1.1.3 It is also proposed that the development be built out in four phases:
- Phase 1 – Service Road and Bus Stop
 - Phase 2 – Interchange and drop-off parking
 - Phase 3 – Surface Car Park
 - Phase 4 – Full scheme including multi-storey car park
- 1.1.4 Further detail and justification for the proposed phasing of the development is provided within the Transport Assessment and the Planning Statement.
- 1.1.5 Given the time that has lapsed since the granting of the original planning permission and in light of the fact that ecological resources are dynamic and change over time, Reading Borough Council commissioned PBA in August 2013 to undertake an ecological walkover survey of the Green Park Station site to update the findings of the previous Phase 1 habitat survey undertaken in 2007 (AMEC, 2007). This updated survey determined that further survey work of mature trees and buildings likely to be affected by the proposed development should be undertaken to determine whether there was any potential for, or evidence of, bat use. In addition, due to the proximity of the footprint of the proposed development to the edge of one of the large waterbodies within the site, a survey to assess whether there was any potential

for, or evidence of use of this waterbody by otter *Lutra lutra* should be undertaken (PBA, 2014a).

- 1.1.6 The results of the follow-up survey (PBA, 2014b) determined that three of the trees supported features suitable for roosting bats; trees T4, T5 and T6 in Figure 1. The presence of these features warranted further climbing inspections to enable close inspection of the features supported by these trees in order to determine the potential, or evidence of bat use. In addition, the inspection of one of the buildings (the bungalow known as “Pynings”; see Building A in Figure 1) during the previous survey (PBA, 2014b) revealed the presence of a bat dropping (considered likely to be pipistrelle *Pipistrellus* sp.) within the roof space of the property. No other evidence of roosting bats within the bungalow was recorded during the survey. It was considered likely that the bungalow offers low roosting potential for bats which use the building on a transient basis during their active period. It was identified that further activity surveys would be necessary to confirm the nature and status of any current roost present within the bungalow. The results of the recommended additional survey work of the trees and Pynings would inform an appropriate mitigation response and fully support the planning application renewal.

1.2 Site Description

- 1.2.1 The Green Park Station site (hereinafter referred to as the ‘site’) is located on the western edge of the Green Park business park complex in Reading, Berkshire. The site is dominated by an area of land that previously represented the formerly active part of the now closed landfill operation, which now largely supports ephemeral/short perennial vegetation interspersed with pockets of scattered scrub and tall ruderal vegetation, the existing Smallmead Road also passes through the site.
- 1.2.2 The Basingstoke/Reading railway line forms the western boundary of the site along which are a number of mature trees and dense areas of bramble scrub. To the south of the site lies Kirton’s Farm Road, beyond which is an area of arable farmland. North of the site the landscape is also dominated by large arable fields and to the east of the site are a number of large, man-made lakes/ponds, associated with former gravel extraction works. To the east of the southernmost lake lies an existing builder’s yard.
- 1.2.3 The Pynings bungalow and the three trees that are the subject of this report are located immediately to the north of Smallmead Road (see Building A and tree nos. 4, 5 and 6 shown on Figure 1 taken from PBA, 2014).

1.3 Aims and Objectives

- 1.3.1 This report sets out the approach to the survey work carried out for bats and presents the results of the surveys. This information is used to determine the approach necessary to ensure that effects on bats can be avoided or ameliorated during the construction and operation of the proposed Green Park Station and its associated access road. Recommendations are made in the light of the survey results to ensure that the proposed development will be acceptable with reference to the planning and legal framework relating to bats.

2 Methods

2.1 Personnel and Survey Approach

- 2.1.1 Field surveys were led and coordinated by Ian Davidson-Watts, holder of Natural England Class Licence levels 3&4, registration number CLS02580. The bat survey followed guidance as set out in the Bat Conservation Trust (BCT) Survey Guidelines (Hundt 2012).
- 2.1.2 The findings of the survey, as presented in this report, are written in an ecological context. Reference to, for example, building condition should therefore be read in this context. Observations made are representative of the site at the time of the survey and under the prevailing weather and climatic conditions.

2.2 Building Survey and Tree Inspections

- 2.2.1 An external search was undertaken of the “Pynings” bungalow on 27th May 2014, using binoculars to identify possible roost sites (for example, loose or missing tiles; missing mortar at gable ends; hanging tiles or wooden cladding; raised lead flashing; gaps beneath the eaves; broken windows; damaged air vents and recesses in stonework). Characteristic field signs of bats, for example accumulations of droppings or obvious scratch/wear marks were also identified where possible.
- 2.2.2 The exterior building search was combined with internal searches of the building (where safely accessible) to search for signs of bats, including droppings, urine staining, feeding remains (for example, large accumulations of moth wings), and individual bats. An endoscope enabled closer inspection of potentially important features.
- 2.2.3 To determine whether bats were visiting the roof space, an Elekon Batlogger M with external battery was left in the roof space from 27th May 2014 to 3rd June 2014 to automatically record any bat echolocation calls from bats visiting the roof space.
- 2.2.4 Three trees (T4, T5 and T6 shown on Figure 1) had been identified as supporting features which could be suitable for roosting bats. A climbing survey was therefore undertaken by a licensed bat worker to fully inspect all crevices, cracks or loose bark, using an endoscope where necessary. For reasons of health and safety, two surveyors were present during the survey, both of whom were City and Guild qualified tree climbers. The trees were climbed and inspected on 27th May 2014.

2.3 Dusk Emergence and Dawn Re-entry Surveys

- 2.3.1 To help determine whether bats are roosting within suitable features of the “Pynings” bungalow, dusk emergence and dawn re-entry surveys were undertaken between June and August 2014. The evening emergence surveys were carried out of the building on 2nd June, 21st July and 18th August 2014. A dawn re-entry survey was carried out on 3rd June 2014.
- 2.3.2 For each of the surveys, surveyors were equipped with Pettersson D240x time expansion or Elekon Batlogger M full spectrum bat detectors for recording and downloading and review using BatSound 4 software to enable genus/species identification of any emerging bats. Night vision cameras were also used to monitor potential egress points of all building elevations from the building during the survey; all video recordings were also reviewed post survey. The positions of the surveyors in relation to the building during the dusk emergence and dawn re-entry surveys are shown in Figure 2.
- 2.3.3 Evening emergence surveys commenced up to fifteen minutes before sunset and finished no earlier than 90 minutes after sunset. Dawn re-entry surveys were undertaken 90 minutes before local sunrise and ended just after sunrise. All surveys were undertaken in appropriate

weather conditions which were recorded (see Appendix B). The survey dates were suitable to record any maternity roosts which may be present. Any additional commuting or foraging activity recorded during the protected species surveys was noted, to enable an understanding of local habitat use by bats to be reached.

3 Results and Interpretation

3.1 Introduction

- 3.1.1 This section sets out the findings of the survey work and determines which of these have significance with reference to ecological planning policy and legislation. Summaries of relevant legislation and planning policy are included where this is relevant to provide context to our reasoning.

3.2 Building Survey and Tree Inspections

Pynings Bungalow

- 3.2.1 As identified in the previous report (PBA, 2014) the Pynings Bungalow (Building A shown on Figure 1) is a single-storey brick-built bungalow with a pitched, tiled roof, lined with bituminised roofing felt. The close inspection on the 27th May 2014 revealed the eaves soffits were well sealed and there were no more than two or three potential access point for bats beneath the tiles of the roof. A small number of very old pipistrelle bat droppings were identified within the roof space; these droppings are likely to be the same identified in the previous bat survey (PBA, January 2014).
- 3.2.2 No bats were detected between the 27th May and 3rd June 2014 using the roof space of the bungalow by the Elekon Batlogger M and a further internal inspection of the roof space made when retrieving the bat detector logger on the 3rd June 2014 found no further evidence of bats within the roof space (e.g. fresh droppings).

Trees

- 3.2.3 Three semi mature - mature trees (T4 - Ash, T5 - Oak and T6 – Cherry) were climbed and inspected for bat roosting potential on the 27th May 2014. A close inspection revealed that there were no suitable day roosting opportunities for bats under the ivy and no cavities suitable for use by roosting bats were found. Photographs of these trees are provided at Appendix C.

3.3 Dusk Emergence and Dawn Re-entry Surveys

- 3.3.1 The full survey results of the dusk emergence and dawn re-entry surveys are detailed in Appendix B. In summary, a soprano pipistrelle bat appeared to emerge from the northern side of the bungalow at dusk during survey 1 on the 2nd June 2014. However there were numerous pipistrelle bats foraging in the area at the time and light levels were low, therefore the exact emergence point was not confirmed and this bat may have been foraging close to the building. The following two emergence surveys and one dawn re-entry survey in June, July and August found no bats emerging from or re-entering into the bungalow. Taking this into account along with the fact that no activity was recorded on the static logger left in the roof space over 7 nights and the droppings in the roof space are likely to be old, with no evidence of recent activity, it is therefore considered that the bat observed on the 2nd June was likely to have been foraging close to the building only, rather than using the roof space. In addition, the time that the bat was observed was at 21:53, forty minutes after sunset. Typically soprano pipistrelles emerge from their roosts up to 20 minutes after sunset and on warm nights sometimes before sunset. In addition, the area where the bat was thought to emerge from was closely inspected and although there were some small gaps where tiles overlap sideways, there were no gaps suitable for roosting bats. It is therefore concluded that Pynings bungalow does not at present support a daytime bat roost.

- 3.3.2 During the emergence and re-entry surveys, soprano and common pipistrelle bat were recorded foraging around the bungalow and garden on all surveys and noctule passes were also recorded regularly. This is consistent with the results of previous activity surveys undertaken (AMEC, 2007).

4 Recommendations and Conclusion

- 4.1.1 The survey work undertaken provides sufficient survey effort, in accordance with current good practice guidelines (Hundt, 2012), to determine that neither the Pynings bungalow nor the three trees which were previously identified as having features capable of supporting bats currently support bat roosts. The survey work did however confirm that bat activity (foraging and commuting) does occur within the proposed development site.
- 4.1.2 Given that no bat roost is present, a European Protected Species (EPS) licence application for the demolition of the bungalow and the felling of the trees is currently not required. As features suitable for use by roosting bats remain within the bungalow and bats are known to use the area for commuting and foraging, the following recommendations are made with regards to the project design and with regards to site clearance:
- The demolition of the bungalow should be undertaken with a supporting method statement presenting the evidence and proposed method of working to demonstrate contravention of the legislation relating to bats and their roosts will not occur. Should demolition of the bungalow not commence prior to next spring then a further bat survey should be undertaken to update this report given the high level of bat activity in the area.
 - Replacement roosting resources for bats should be provided in advance of demolition. A small number of bat boxes on trees or retained buildings in appropriate positions within or adjacent to the Green Park Station site would be sufficient to provide replacement for the type of roosting opportunities provided by this building.
 - In accordance with the recommendations given within our previous reports (PBA, 2014a; PBA, 2014b), it is recommended that lighting along the access road should be kept to a minimum and should not spill onto the lakes, woodland strip or the ditch and treeline along Smallmead Road. The preference would be to use no lighting or low- level lighting only. However, if brighter lighting is proposed, low and high pressure sodium lights should be used instead of mercury and metal halides as these will reduce the impact of light pollution on commuting bats (BCT and ILE, 2008). Light spillage onto the tree shelterbelt can be further reduced through the use of luminaires or directional light accessories (BCT and ILE, 2008). The sensitive use of external lighting will also ensure that the development is compliant with Paragraph 125 of the NPPF.
- 4.1.3 Providing the recommended measures are put in place, no significant residual impacts on bats are envisaged as a result of the proposed access road. The mitigation and compensation proposed will ensure that the proposed development is in compliance with planning policy and legislation.

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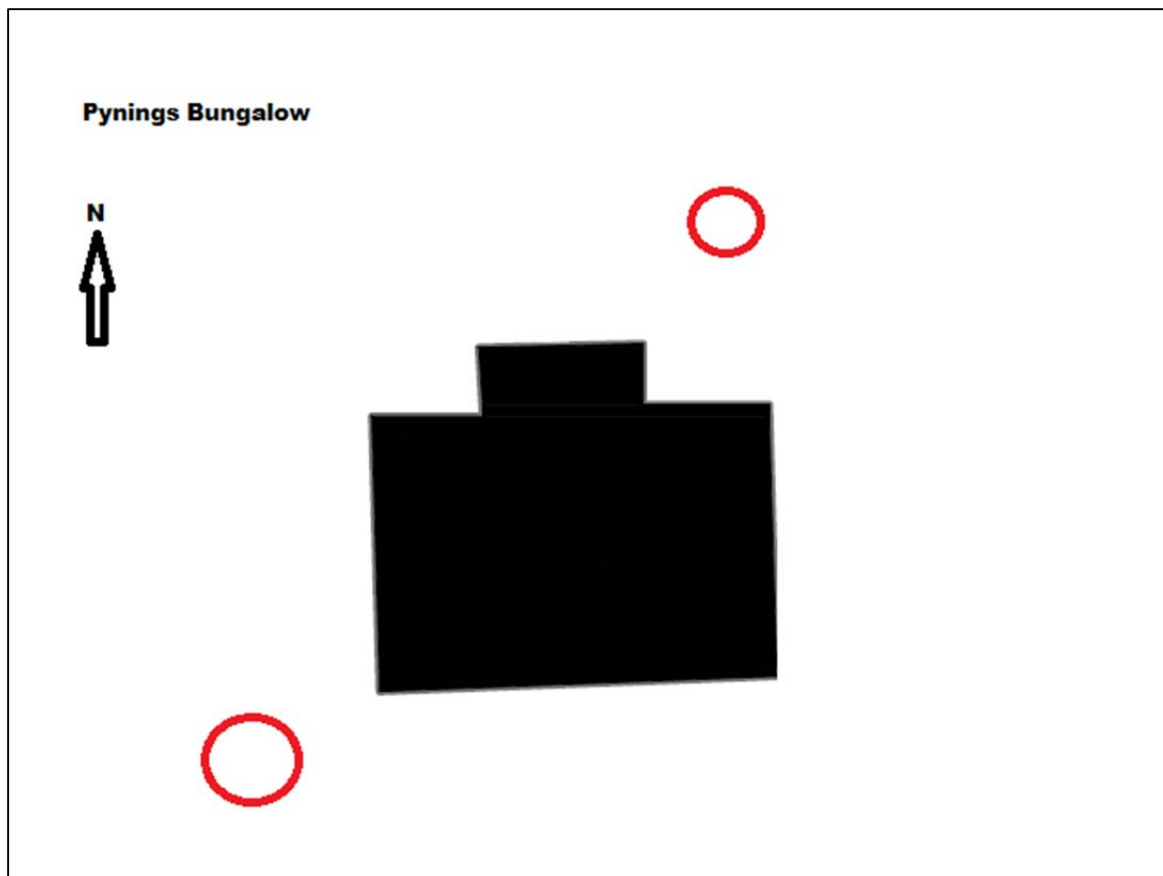
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Figures

Figure 1: Location of Buildings and Trees subject to survey

Figure 2: Location of Surveyors Emergence and Dusk Surveys (Circles)



Appendix A Legislation and relevant planning policy

- A.1.1 Both bats and their roosts are afforded protection under the Conservation of Species and Habitats Regulations 2010 (as amended) and the Wildlife and Countryside Act 1981 (as amended). In broad terms these pieces of legislation jointly mean that the animals themselves are protected against killing, injury, taking (capture) and disturbance. In addition their places of shelter are protected against damage, destruction and obstruction. Works affecting any bat roosts in England can only proceed under licence from Natural England once planning permission is in place. The licence application must demonstrate the need for the development, that there is no suitable alternative and that appropriate mitigation and compensation will be put in place to ameliorate impacts and maintain the favourable conservation status of the bat population.
- A.1.2 The National Planning Policy Framework (NPPF) came into effect on the 27th March 2012. It states that the planning system should seek to contribute to and enhance the natural and local environment by minimising impacts on biodiversity and provide net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity. The Government Circular 06/2005 (ODPM, 2005) supports the NPPF by providing guidance on the application of the law in relation to planning and nature conservation as it applies in England. Paragraph 117 of the NPPF states that local authorities should seek to promote the preservation, restoration and re-creation of priority habitats and recovery of priority species populations, linked to national and local targets, through planning policies. Priority habitats and species referred to in the NPPF relate to species and habitats of principle importance listed in accordance with section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. This includes certain species of bat, such as the crevice dwelling species of bat: soprano pipistrelle *Pipistrellus pygmaeus*.

Appendix B Emergence and Re-entry Survey Results

B.1 Dusk Emergence 2nd June 2014

Time	Species	Activity
Sunset: 21:12		
Start time - 21.00. 15.5 °C 80% cloud cover Wind BF scale 2		
End time - 23.15 12c 80% cloud cover Wind BF scale 2, no rain.		
21:53	Soprano pipistrelle	Possible emergence from under tiles at rear of property.
21:54	Soprano pipistrelle	Two bats commuting passed together.
21:59	Noctule	Commuting pass, bat not seen.
22:06	Soprano pipistrelle	Commuting pass.
22:07	Soprano pipistrelle	Commuting pass.
22:13	Common pipistrelle	Commuting pass.
22:14	Pipistrelle sp (49 kHz)	Commuting pass.
22:17	Soprano pipistrelle	Commuting pass, bat not seen.
22:18	Common pipistrelle	2 bats passing together.
22:27	Common pipistrelle	Commuting pass, bat not seen.
22:29	Common pipistrelle	Commuting pass
22:39	Common pipistrelle	Commuting pass, bat not seen.
22:40	Soprano pipistrelle	Commuting pass, bat not seen.
22:42	Common pipistrelle	Commuting pass, bat not seen.
22:44	Soprano pipistrelle	Commuting pass, bat not seen.
22:49	Soprano pipistrelle	Commuting pass, bat not seen.
22:56	Soprano pipistrelle	Commuting pass, bat not seen.
22:57	Soprano pipistrelle	Commuting pass
23:00	Pipistrelle sp. (50kHz)	Commuting pass, bat not seen.
23:06	Common pipistrelle	Commuting pass, bat not seen.
23:10	Soprano pipistrelle	Commuting pass, bat not seen.
23:15	Survey End	

B.2 Dawn re-entry 3rd June 2014

Time	Species	Activity
Sunrise: 04:51		
Start time - 03.15 15c 100% cloud cover and wind speed BF scale 2		
End time - 05.00 17c 100% cloud cover and wind speed BF scale 2 no rain		
04:00	Common pipistrelle	Flew past, did not enter.
04:06	Soprano pipistrelle	Flew over and away from property.
04:51	Survey end.	

B.3 Dusk Emergence 21st July 2014

Time	Species	Activity
Sunset time - 21.08 Start time - 20.50 21c 20% cloud cover, wind BF scale 2. End time - 22.50 16c 20% high cloud cover, wind BF scale 2, no rain.		
22:15	Noctule	Bat commuted from south towards bungalow headed east.
22:20	Soprano pipistrelle	Foraging around garden.
22:25	Soprano pipistrelle	Commuting west across garden in front of bungalow.
22:27	Common pipistrelle	Foraging around garden.
22:34	Common pipistrelle	Commuting pass, bat not seen.
22:39	Noctule	Commuting pass, bat not seen.
22:43	Common pipistrelle	Commuting pass, bat not seen.
22:50	Survey end	

B.4 Dusk Emergence 18th August 2014

Time	Species	Activity
Sunset time: 20.20 Start time - 20.10 17°C, BF scale 3, 80% cloud cover with very light rain to start, clear by 20:30 End time - 22.10 14°C, BF scale 3, 80% cloud cover no rain.		
20:38	Soprano pipistrelle	Commuting pass
20:55 to 20:56	Soprano pipistrelle	Foraging in garden
20:56	Noctule	Commuting pass
20:58	Soprano pipistrelle	Feeding buzzes from pipistrelle and commuting noctule
21:00	Soprano pipistrelle	Foraging around garden
21:02	Noctule	Pass
21:04	Soprano pipistrelle	Pass
21:10	Noctule	Pass
21:14	Noctule	Pass
21:15 to 21:17	Soprano pipistrelle	Foraging around garden
21:20	Common pipistrelle	Pass
21:21	Pipistrelle sp (50kHz)	Pass
21:23 to 21:25	Common pipistrelle	Foraging around bungalow
21:26 to 21:30	Soprano pipistrelle and common pipistrelle	Both species foraging
21:31	Noctule	Commuting pass
21:36 to 21:41	Soprano pipistrelle	Foraging
21:41	Noctule	Commuting pass
21:42 to 22:02	Soprano pipistrelle	Foraging
21:47	Noctule	Commuting pass
22:04 to 22:06	Common pipistrelle	Foraging in garden
22:08	Soprano pipistrelle	Commuting pass.
22:50	Survey end.	

Appendix C Photographs of Trees and Bungalow

Trees climbed

C.1.1 Tree T4 (Ash)



C.1.2 Tree T5 (Oak)



C.1.3 Tree T6 (Cherry Tree)



Building Assessment

C.1.4 Pynings south-facing elevation



C.1.5 Pynings north-facing elevation



C.1.6 Lake to north of Pynings rear garden



A.3 Green Park Station - Bat and Otter Survey

Green Park Station

Bat and Otter Survey Report

On behalf of **Reading Borough Council**



Project Ref: 28791/002 | Rev: BB | Date: October 2014



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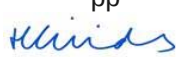
Project Name: Green Park Station

Project Ref: 28791

Report Title: Bat and Otter Survey

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Revision	Date	Description	Prepared	Reviewed	Approved
A	16-10-14	Edits to reflect minor changes to proposed scheme phasing	HE	KE	-
B	31-10-14	Edits to reflect minor changes to proposed scheme phasing	KE	JP	DA

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Figure 1: Showing location of buildings and trees affected by the proposed development

Appendices

- Appendix A Tree Survey Results
- Appendix B Building Survey Results

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Executive Summary

This report presents the results of survey work undertaken to support the planning permission renewal for the proposed Green Park railway station scheme and its associated access road. The necessity for this survey work was identified in a preceding report (PBA, 2014).

Three trees with the potential to support small numbers of non-breeding transitory bats were identified (please refer to T4, T5 and T6 in Figure 1). In addition, evidence of use by bats of one of the buildings affected by the proposed access road was identified (Building A, Figure 1). The evidence (a single bat dropping) suggests use of the building by small numbers of non-breeding transitory bats.

To avoid impacts on bats, it is recommended in relation to the trees that a licenced bat worker and tree climber should climb the tree to carry out a detailed off-ground visual assessment of the trees prior to them being felled. The tree felling works should also be timed to either the early spring or late autumn to avoid the period when bats are more vulnerable to disturbance (i.e. during breeding or hibernation). In the unlikely event that a bat or bats are found during the inspection by the tree climber, the tree felling work would necessarily need to cease in order for a European protected species license to be secured prior to recommencement of felling works.

In relation to the building where bat evidence was identified, further survey work is recommended to confirm the extent of use of the building by bats. A single dusk/dawn emergence and re-entry survey, along with automated monitoring using a bat detector within the roof space of the building would be an appropriate level of survey. The results will be required to support a European protected species licence application for demolition of the building. This can only be submitted once planning permission for the development is in place and will include details of appropriate mitigation and compensation.

The approach to addressing impacts on bats will be detailed in full in the licence application, based on the results of the survey work to confirm roost use. However, on the basis of current evidence the mitigation and compensation required is likely to include: appropriate timing of the demolition of the building (in spring or late autumn) to avoid the periods when bats are most vulnerable to disturbance; provision of replacement roosting resources in advance of demolition (bat boxes) and provision of no or low light-spillage lighting in order to minimise the impact of light pollution on roosting bats.

The survey work identified no evidence of otter use of the route of the access road, or of the nearby lake. Given the known presence of otter in the wider area, the presence of this species cannot be entirely ruled out as a result of this survey. However, there is no evidence of frequent use of the site by this species and no evidence of a holt which could be used for breeding purposes.

Given the absence of signs of otter activity within the site and the low level of use of the nearby Foudry Brook by otter (BSG Ecology, 2013), the nature of the road and the speed and number of the vehicles using it, impacts on otters as a result of road traffic collisions are considered unlikely. The provision of measures to minimise light pollution on the immediate areas around the proposed access road will also ensure, were otter to use the lake, that this species would not be disturbed by lighting along the road.

Providing the recommended further survey work in relation to bats confirms the limited extent of use by the building that is indicated from the results of the building inspection, and that the recommended measures set out in this report are put in place, no significant residual impacts on bats or otters are envisaged as a result of the proposed Green Park Station scheme and its associated access road. The development will therefore be in compliance with planning policy and legislation.

This Executive Summary contains an overview of the key findings and conclusions. However, no reliance should be placed on any part of the executive summary until the whole of the report has been read.

1 Introduction

1.1 Background

1.1.1 Full planning permission for the construction of a new railway station, bus interchange and associated car parking facilities (to include multi storey car park, short stay car park, taxi drop-off and disabled parking facilities) on land adjacent to the Basingstoke/Reading Railway Line and to the west of the Green Park business park was granted by Reading Borough Council (RBC) on 14th December 2010 (application no. 10/01905/FUL) and West Berkshire District Council (WBDC) on 20th January 2011 (planning permission ref. 10/02603/XCOMIN).

1.1.2 These permissions have now lapsed and therefore it is necessary to submit new applications for the proposed station development. This report accompanies a full planning application submission to both RBC and WBDC for the:

“Construction of a new Railway Station, bus interchange, multi-storey car park (park and ride facility), short stay car park, taxi drop-off, disabled parking facilities, station access road from Longwater Avenue, landscaping, and associated works”

1.1.3 Overall, the proposed scheme is largely identical to the lapsed permissions (Ref No: 10/01905/FUL and 10/02603/XCOMIN), with the following amendments:

- The station has been designed to accommodate the future electrification of the rail line;
- The design of the footbridge has been updated to reflect Network Rail's requirements;
- The size of the interchange area has been reduced;
- The size of the car park area has now increased to accommodate 42 surface parking spaces; and
- The construction and design of the canopies for the station platform have been simplified.

1.1.4 It is also proposed that the development be built out in four phases:

- Phase 1 – Service Road and Bus Stop
- Phase 2 – Interchange and drop-off parking
- Phase 3 – Surface Car Park
- Phase 4 – Full scheme including multi-storey car park

1.1.5 Further detail and justification for the proposed phasing of the development is provided within the Transport Assessment and the Planning Statement.

1.1.6 Given the time that has lapsed since the granting of the original planning permission and in light of the fact that ecological resources are dynamic and change over time, Reading Borough Council commissioned PBA in August 2013 to undertake an ecological walkover survey of the Green Park Station site to update the findings of the previous Phase 1 habitat survey undertaken in 2007 (AMEC, 2007). This updated survey determined that further survey work of mature trees and buildings likely to be affected by the proposed development should be undertaken to determine whether there was any potential for, or evidence of, bat use. In addition, due to the proximity of the footprint of the proposed development to the edge of one of the large waterbodies within the site, a survey to assess whether there was any potential

for, or evidence of use of this waterbody by otter *Lutra lutra* should be undertaken (PBA, 2014).

1.2 Site Description

- 1.2.1 The Green Park Station site (hereinafter referred to as the 'site') is located on the western edge of the Green Park business park complex in Reading, Berkshire. The site is dominated by an area of land that previously represented the formerly active part of the now closed landfill operation, which now largely supports ephemeral/short perennial vegetation interspersed with pockets of scattered scrub and tall ruderal vegetation, the existing Smallmead Road also passes through the site.
- 1.2.2 The Basingstoke/Reading railway line forms the western boundary of the site along which are a number of mature trees and dense areas of bramble scrub. To the south of the site lies Kirton's Farm Road, beyond which is an area of arable farmland. North of the site the landscape is also dominated by large arable fields and to the east of the site are a number of large, man-made lakes/ponds, associated with former gravel extraction works. To the east of the southernmost lake lies an existing builder's yard.

1.3 Aims of Report

- 1.3.1 This report sets out the approach to the survey work for bats and otters and presents the results of the surveys. This information is used to determine the approach necessary to ensure that effects on these species are avoided or ameliorated such that the proposed development will be acceptable with reference to the planning and legal framework relating to ecological resources. This includes recommendations for further survey work where this is necessary to ascertain the full extent of use of the site by these species and recommendations in relation to working methods or design details.

2 Methods

2.1 Survey Approach

- 2.1.1 All survey work detailed below was carried out by Helen Evriviades MCIEEM and Eva Hansen on 28th January 2013. Helen holds a personal survey licence for bats from Natural England (Class Survey Licence WML CL18 (Bat Survey Level 2)) registration number CLS02571; she is also experienced in surveying for evidence of otter. The weather conditions during the survey were dry with sunny intervals and a light breeze (Beaufort Scale 1). Cloud cover was 2/8 increasing to 7/8 through the survey with an air temperature of 7°C.
- 2.1.2 The findings of the survey, as presented in this report, are written in an ecological context. Reference to, for example, building condition should therefore be read in this context. Observations made are representative of the site at the time of the survey and under the prevailing weather and climatic conditions.

2.2 Bat Survey of Trees

- 2.2.1 All trees or groups of trees that had previously been identified as likely to be directly affected by the proposed development were inspected from the ground using binoculars and a high power torch as necessary. The following information was recorded for each tree: species; width at chest height; description of feature(s) with potential to support roosting bats and the height and aspect of these features. Photographs of each of the trees were taken.
- 2.2.2 Each tree was assigned a category with regards to its potential to support roosting bats with reference to the Bat Conservation Trust Survey Guidelines (Hundt, 2012). These categories are set out below:

Tree Category	Description
Category 1*	Trees with multiple features suitable for bats capable of supporting larger roosts.
Category 1	Trees with definite bat potential, supporting fewer suitable features than category 1* trees or with potential for use by single bats
Category 2	Trees with no obvious potential, although the tree is of a size and age that elevated surveys may result in cracks or crevices being found; or the tree supports some features which may have limited potential to support bats
Category 3	Trees with no potential to support bats

2.3 Bat Survey of Buildings

- 2.3.1 In addition, the two existing buildings identified within the footprint of the proposed development and to be impacted by the scheme were surveyed both internally and externally to determine whether they had any features with the potential to support bats and whether there was any evidence of use by bats. An assessment was made of the building construction and any features of the walls, windows or roof that had the potential to provide a roosting space for a bat. The inspection searched further for evidence of use by bats including: droppings, feeding remains, characteristic staining, scratch marks and any live or dead bats. Powerful torches were used to aid the survey where necessary, and photographs of the buildings were taken.

2.4 Otter Survey

- 2.4.1 The entire perimeter of the water body immediately adjacent to the footprint of the proposed works (Pond 1 as described in the ecological walkover survey report; PBA, 2014) was walked and evidence of otter activity was searched for. Such evidence could include: scat (otter faeces), footprints, feeding remains, holts or daybeds. Particular care was taken during the survey of the southern perimeter of the water body given that this area will be in closest proximity to the footprint of the proposed development.

3 Results and Interpretation

3.1 Overview

- 3.1.1 The results of the survey work, with reference to previous survey reports where this helps to provide context to the results, are set out below. The locations of the trees and buildings described below that have been identified as being affected by the proposed development are shown in Figure 1.

3.2 Bat Survey of Trees

- 3.2.1 The full results of the tree survey are presented in Appendix A. Three of the trees were identified as Category 1 trees see Figure 1, trees T4, T5 and T6). These are two oak *Quercus robur* trees and an ash *Fraxinus excelsior* tree along Smallmead Road. All three of these trees have ivy growth covering the trunk up to at least 3m height. However, the ivy does not appear to be very old, neither do the trees themselves appear to be overly mature such that significant features capable of supporting large bat roosts are unlikely to be hidden by the ivy. Therefore it is considered that the ivy is most likely to provide potential for use by single, transient crevice-dwelling bats.

3.3 Bat Survey of Buildings

- 3.3.1 The full results of the building surveys are presented in Appendix B. Two buildings have been identified as being directly affected by the proposed development. One of these (Building B) has been identified as having no potential to support roosting bats. This building is a single storey building which is metal frame with metal cladding on the walls and roof. The internal rooms of the building are lined with chipboard on the walls and ceiling. The poor thermal properties of the metal cladding mean that the building will be subject to extremes of temperature, not suitable for bats.
- 3.3.2 The other building (Building A) is a single-storey brick-built bungalow with a pitched, tiled roof. This building has a number of features which could provide access into the roof space for roosting bats including lifting tiles and gaps at the eaves. Internally the modern-truss roof space has insulation material on the floor and roofing felt lining the tiles. Careful search by torchlight of the roof-space revealed numerous rat and mouse droppings. In addition a single pipistrelle dropping was found close to the internal gable end of the building. This evidence is consistent with the building being used on an infrequent basis by individual transient bats. No evidence of consistent use by bats (e.g. piles of droppings, urine staining, dead bats) was present which would be indicative of use by a maternity roost. The occasional use of the building by individual non-breeding bats is consistent with the previous activity survey findings (AMEC, 2007).

Bat Legislation and Planning Policy

- 3.3.3 Both bats and their roosts are afforded protection under the Conservation of Species and Habitats Regulations 2010 (as amended) and the Wildlife and Countryside Act 1981 (as amended). In broad terms these pieces of legislation jointly mean that the animals themselves are protected against killing, injury, taking (capture) and disturbance. In addition their places of shelter are protected against damage, destruction and obstruction. Works affecting any bat roosts can only proceed under licence from Natural England once planning permission is in place. The licence application must demonstrate the need for the development, that there is no suitable alternative and that appropriate mitigation and compensation will be put in place to ameliorate impacts and maintain the favourable conservation status of the bat population.

- 3.3.4 The National Planning Policy Framework (NPPF) came into effect on the 27th March 2012. It states that the planning system should seek to contribute to and enhance the natural and local environment by minimising impacts on biodiversity and provide net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity. The Government Circular 06/2005 (ODPM, 2005) supports the NPPF by providing guidance on the application of the law in relation to planning and nature conservation as it applies in England. Paragraph 117 of the NPPF states that local authorities should seek to promote the preservation, restoration and re-creation of priority habitats and recovery of priority species populations, linked to national and local targets, through planning policies. Priority habitats and species referred to in the NPPF relate to species and habitats of principle importance listed in accordance with section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. This includes certain species of bat, such as the crevice dwelling species of bat: soprano pipistrelle *Pipistrellus pygmaeus*.
- 3.3.5 Given findings of the surveys and the legislative and policy framework that protects bats, the likely impacts of development and the mitigation and compensation that will be implemented to ameliorate such impacts are considered in the subsequent sections of this report.

3.4 Otter Survey

- 3.4.1 No evidence of otter was found during the survey work undertaken around the perimeter of the waterbody. Whilst no evidence of otter was found during the survey, previous reports (PBA, 2013) identified that otter have previously been recorded along Foundry Brook which lies 700m to the south-east of the site. Given this, and the presence of suitable habitat (dense scrub) around the perimeter of the lake, the presence of otter cannot be entirely ruled out although it is considered that the banks of the lake are unlikely to support a breeding holt due to the proximity of the lake to the builders and construction yard which provides noise and visual disturbance to the lake.

Otter Legislation and Planning Policy

- 3.4.2 Both otters and their places of rest/shelter are afforded protection under the Conservation of Species and Habitats Regulations 2010 (as amended) and the Wildlife and Countryside Act 1981 (as amended). In broad terms these pieces of legislation jointly mean that the animals themselves are protected against killing, injury, taking (capture) and disturbance. In addition, their places of shelter are protected against damage, destruction and obstruction.
- 3.4.3 The otter is also a priority species for biodiversity conservation, as referred to in the NPPF (refer to paragraph 4.3.4).

4 Potential Impacts and Recommendations

4.1 Overview

- 4.1.1 The presence of bats and the potential for otters to use the lake on at least a transitory basis, and the legislation and planning policies relating to these species make them a material consideration in the planning application renewal for the proposed development. Therefore, the likely impacts of the proposed development on those species identified as being present, or likely to be present, within the site are discussed below along with the appropriate mitigation and compensation that will be required to ensure that the proposed development is in compliance planning policy and legislation.

4.2 Bat Survey of Trees

- 4.2.1 Three of the trees within the site that are to be affected by the proposed development were identified as having potential to support bats due to the presence of ivy growth up the trunks of these trees (see Figure 1, T4, T5 and T6). However, neither the trees nor the ivy are so old that they are likely to provide any more than opportunities for use by single, transient crevice dwelling bats. It is considered highly unlikely that these trees would support significant roosts.
- 4.2.2 Given this assessment, no further survey work is considered necessary to support the planning application to provide any more certainty to the likely impacts. However, the loss of the trees represents the loss of features which could be used by transitory non-breeding bats.
- 4.2.3 Because of this, it is recommended that a licenced bat worker and tree climber should climb the tree to carry out a detailed off-ground visual assessment of the trees prior to them being felled. The tree felling works should also be timed to either the early spring or late autumn to avoid the period when bats are more vulnerable to disturbance (i.e. during breeding or hibernation).
- 4.2.4 In the unlikely event that a bat or bats are found during the inspection by the tree climber, the tree felling work would necessarily need to cease in order for a European protected species license to be secured prior to recommencement.
- 4.2.5 To provide replacement potential roosting opportunities for bats, it is recommended that a minimum of three bat boxes suitable for crevice-dwelling bat species are provided on suitable retained trees within or adjacent to the Green Park station site.

4.3 Bat Survey of Buildings

- 4.3.1 The demolition of Building B that has been identified as having no potential to support roosting bats will result in no impact on bats and therefore no mitigation is required in relation to demolition of this building.
- 4.3.2 A single pipistrelle dropping found in the roof space of Building A indicates that the building is used on an infrequent basis by individual transient bats of this species. To confirm that this is the case and given that previous survey work (AMEC, 2007) has identified foraging/commuting bats in the vicinity of this building, further survey work of this building is recommended to confirm the extent of use of this building by bats.
- 4.3.3 Given the evidence found during the building assessment, a single evening emergence and dawn re-entry survey, carried out in the same 24 hour period, is recommended to confirm the extent of use of the building by bats. In addition, an automated detector will be left in the roof void of the building for a week to record any bat echolocation calls. This survey work should be carried out in the period May-August inclusive when bats are most likely to be active and will provide the necessary additional information to confirm the extent of the building use by

bats such that the LPA will be able to validate and determine the planning application with full ecological information available to them. In the event that this survey work finds significantly different results from those indicated by the building survey, the need for further survey work to confirm the extent of use of the building by bats should be reviewed.

4.3.4 The survey work suggested above will confirm the extent of use of the building by bats including the species and numbers of individuals present. The results of the survey work will verify the extent of mitigation required to support a European Protected Species (EPS) licence application to allow the legal demolition of any current bat roost using the existing building. The licence application can only be completed once planning permission for the development is in place and will necessarily include details of appropriate mitigation and compensation. This is likely to include:

- Demolition of the building in early spring or late autumn to avoid the period when bats are most vulnerable to disturbance (i.e. during breeding or hibernation).
- Provision of replacement roosting resources for bats in advance of demolition. A small number of bat boxes on trees or retained/new buildings in appropriate positions within or adjacent to the Green Park Station site would be sufficient to provide replacement for the type of roost thought to be present in this building.
- In accordance with the recommendations given within our previous report (PBA, 2013), it is recommended that lighting along the access road should be kept to a minimum and should not spill onto the lakes, woodland strip or the ditch and treeline along Smallmead Road. The preference would be to use no lighting or low- level lighting only. However, if brighter lighting is proposed, low and high pressure sodium lights should be used instead of mercury and metal halides as these will reduce the impact of light pollution on commuting bats (BCT and ILE, 2008). Light spillage onto the tree shelterbelt can be further reduced through the use of luminaires or directional light accessories (BCT and ILE, 2008). The sensitive use of external lighting will also ensure that the development is compliant with Paragraph 125 of the NPPF.

4.4 Otter Survey

- 4.4.1 Given the lack of evidence of otter in or near to the footprint of the proposed access road and taking into account the fact that access to the new station will remain via a single carriageway low-speed road, highly unlikely to form a barrier to otters which may be moving through the area, impacts on this species associated with changes to the access road are considered unlikely.
- 4.4.2 The provision of low level lighting along the access road, as recommended in the preceding section with regard to bats, will ensure that were otter to use the lake the lighting along the access road will not disturb them in any significant way.

5 Conclusion

- 5.1.1 Providing the recommended further survey work in relation to bats confirms the limited extent of use of Building A, and the recommended measures set out in this report are put in place, no significant residual impacts on bats or otters are envisaged as a result of the proposed Green Park Station scheme and its associated access road. The mitigation and compensation proposed will ensure that the proposed development is in compliance with planning policy and legislation.

References

AMEC (2007) Proposed Green Park Village – Ecological Survey and Assessment, Technical Appendix 8.1. AMEC Earth & Environmental UK Ltd, June 2007.

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Hundt, L (2012) Bat Surveys: Good Practice Guidelines, 2nd Edition. Bat Conservation Trust

NPPF (2012) National Planning Policy Framework - Department for Communities and Local Government. March 2012.

PBA (2014) Green Park Station. Ecological Walkover Survey. Report on behalf of Reading Borough Council.

Department for Communities and Local Government (2012) National Planning Policy Framework. DCLG.

Figures

Figure 1: Showing location of buildings and trees affected by the proposed development

Appendix A Tree Survey Results

For the locations of trees, refer to Figure 1.

ID number (see Figure 1)	Tree description (species, cm dbh, condition)	Bat roost feature and aspect	Tree Category	Photograph
T1	Willow <i>Salix</i> sp. 20cm dbh, few small areas of lifting bark and broken branches but features too small to be used by bats.	none	Category 3	
T2	Group of young alder < 10cm dbh, contiguous with G25	none	Category 3	
T3	group of young alder < 10cm dbh	none	Category 3	

T4	Ash <i>Fraxinus excelsior</i> tree adjacent to gated entrance c. 50cm dbh (but pollarded at some point such that trunk above that around 20cm diameter) ivy <i>Hedera helix</i> covering to approximately 3 m	Ivy all around trunk; potential to support single transitory crevice-dwelling bats.	Category 1	
T5	Oak <i>Quercus robur</i> ~30cm dbh, ivy covered to approx.. 3m	Ivy all around trunk; potential to support single transitory crevice-dwelling bats.	Category 1	
T6	Oak with ivy to c. 3m, est. 20 cm dbh. Some branches snapped off but no obvious potential bat features other than the ivy	Ivy all around trunk; potential to support single transitory crevice-dwelling bats.	Category 1	

T7	Silver birch <i>Betula pendula</i>, approx. 20cm dbh. Good condition, no cracks or splits or obvious holes. Small amount of ivy at base only. NB: pine and cherry immediately adjacent to silver birch assumed being retained. Pine category 3, cherry category 2	-	Category 3	
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Appendix B Building Survey Results

Job Name and Number: RBC BLTB 28791	Date: 28/01/14
Surveyor(s): Helen Evriviades, Eva Hansen	Other Personnel: N/A
Survey Location: Green Park, Reading	Grid Reference: SU698700

Building Reference: A (Pynings House, Residential)	No. of Storeys 1
Building Age: c. 1970s	Building Size (length/width): approx. 11x8m
Wall Construction: Brick No Cladding or hanging tiles	Roof construction: Pitched Modern truss Internal height to ridge 2.5m Tiled Underfelt (bituminised) Loft insulation present
External features: Boxed eaves/soffits No barge boarding/weather boarding No hanging tiles Small amount of lead flashing around chimney Cracked mortar @ gable ends providing potential access points.	Potential/actual roost/access points: Gable apex Gaps between tiles underneath roofing tiles at eaves of gable end Gaps in mortar at eaves of verandah to rear of building Lifting tiles (see photographs below)
Bat evidence: 1 old dropping found close to loft hatch No other evidence	Overall assessment: Bats present (single individuals, transient use most likely) Other evidence: mouse droppings and lots of rat droppings

Photographs

Building A – Front elevation	
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Building A – Rear elevation		
Gaps in mortar at eaves above verandah at rear of building.		
Building A – showing gaps at eaves at gable end and gap at gable apex		
Modern truss internal construction		

Piles of rat and mouse
droppings inside roof void



Building Reference: B (Storage Building)	No. of Storeys 1
Building Age: Temporary structure only c. 10 years max.	Building Size (length/width): 14m long x 5m wide w/ 2mx2m extension
Wall Construction: Metal cladding Entirely metal framed with metal cladding and woodchip board lining	Roof construction: Pitched Metal truss frame Internal height to ridge – 2.5m Corrugated metal sheeting lined with woodchip boarding
External features: Gaps between metal sheeting on roof and metal sheeting of wall filled with insulation material	Potential/actual roost/access points: Some small gaps at top of walls
Bat evidence: None	Overall assessment: No potential for bats Mouse droppings and rat skeleton found inside

Photographs

Front and side elevation of building B	
Metal frame and wooden boarding inside building B	

Appendix B Photographs



Photograph 1: Bare-ground used for storage in the east of the site.



Photograph 2: Mosaic of scrub, introduced shrub and scattered trees providing suitable reptile foraging and sheltering habitat and bird nesting habitat.



Photograph 3: Good quality reptile habitat in the north-east of the site.



Photograph 4: Potential reptile habitat along the edges of the trail track.



Photograph 5: Group of four alder trees in the south-eastern corner of the site with a low level of bat roosting potential.