

# ENVIRONMENTAL STATEMENT VOLUME 2 APPENDIX 9.3 – BADGER REPORT



## **Great Wolf Resorts**

## **BICESTER GOLF COURSE**

**Badger Report** 



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**Badger Report** 

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## **Great Wolf Resorts**

## **BICESTER GOLF COURSE**

## **Badger Report**

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APPENDIX A - DETAILED BADGER SETT INFORMATION

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#### **EXECUTIVE SUMMARY**

WSP was commissioned by Great Wolf Resorts (GWR) to undertake a Badger Survey to support proposals to develop land to the north-west of Bicester Golf Course referred to as the 'Proposed Development'. The Proposed Development comprises the construction of a resort hotel with access to be taken from A4095, which runs along the northern boundary of Bicester golf course. The land affected by the Proposed Development is hereafter referred to as the 'Site'.

A badger field survey was conducted of the Site in May 2019 in line with good practice guidelines (Harris, et al (1989)).

Badger activ	ity was rec	orded ——	-	-			

Due to the proximity to the Site and potential for adverse effects from the Proposed Development, M2 and M3 were subject to camera trapping in Sept/Oct 2019, as well as update inspections. These were concluded as being rabbit burrows not in use by badger.

Badgers are a widespread and common species that are not of conservation concern at a national or regional scale. Overall, the Survey Area is considered to be of up to local value for badger.

This survey is considered valid for a period of 12 months. It is therefore recommended that an updated walkover survey is undertaken in 2020 prior to construction commencing. The optimal timeframe for this is mid-February – April. The survey should include up to a 30m buffer from the Proposed Development boundary to check for any new setts that may have been created since the previous badger survey. This could also involve the deployment of camera traps on any mammal holes for potential badger activity.

As evidence of badger foraging has been recorded on Site, recommendations have been provided in Section 5.2 for measures to avoid harm to badgers during the construction and operational phase of the Proposed Development.

It should be noted that should a badger sett be located during the 2020 pre-commencement survey and be directly affected by construction works of the Proposed Development, it would be necessary to close those setts prior to commencement of construction under licence from Natural England. Licences are only typically issued between 1 July and 30 November inclusive.

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#### 1. INTRODUCTION

#### 1.1. PROJECT BACKGROUND

- 1.1.1. Great Wolf Resorts (GWR) is planning a development on land to the north-west of the Bicester Golf Hotel and Spa off the A4095. The development is understood to include:
  - the creation of a 500-bed all-inclusive resort hotel, with an indoor pool and leisure complex, targeted at families and golf enthusiasts; and
  - the creation of an access road to be taken from A4095 road.
- 1.1.2. This scheme will hereafter be referred to as the 'Proposed Development'.

#### 1.2. ECOLOGICAL BACKGROUND

- 1.2.1. The land which would be affected by the Proposed Development is hereafter referred to as the 'Site' and is shown on Figure 1.
- 1.2.2. Habitats within the Site are predominantly managed grassland, plantation woodland, hedgerow and scrub with intermittent ponds. Land use surrounding the Survey Area is mixed with the village of Chesterton to the east, Bignell Park Farm to the north and predominantly arable land to the west and south. The M40 runs along the west boundary of the Survey Area. Land to the east of the Survey Area is currently under development.
- 1.2.3. The desk study (WSP, 2018),
  Survey Area, however these records were over 10 years old. Of these records, the closest was
  1.2.4. A Phase 1 Survey,

#### 1.3. BRIEF AND OBJECTIVES

- 1.3.1. GWR commissioned WSP to complete a badger survey of land within the Site and accessible land within 50m of the Site boundary. The brief was to:
  - complete a field survey to search for signs of badger activity; to include recording the presence of setts and their activity status and field signs such as latrines or dung pits, pathways or tracks, prints and snuffle holes where present; and
  - if present, evaluate the Site for badgers and make recommendations as to how proposals should account for badgers in relation to legislation, planning and biodiversity policy.
- 1.3.2. The results of this survey, and subsequent recommendations, are included within this report.

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#### 2. METHODS

#### 2.1. FIELD SURVEY

- 2.1.1. The Site was surveyed for evidence of badger following the standard methodology as outlined by Harris et al (1989) and with regard to recent reviews and comment on these methods (Roper, 2010 and Andrews, 2013). In addition to the Site, the previously identified badger sett was revisited to review its status.
- 2.1.2. Where present, evidence indicative of badger presence was recorded; including:
  - setts:
  - dung pits and latrines;
  - prints;
  - mammal paths;
  - hairs; and
  - other evidence including snuffle holes, feeding remains and scratching posts.
- 2.1.3. Where setts were recorded, their status and level of activity was noted. Sett status is broadly categorised as follows (after Thornton, 1988):
  - Main: generally the largest sett within a badger social group home range, with a relatively large number of sett entrances with well-worn pathways between them, and conspicuous spoil mounds. This type of sett tends to be occupied throughout the year and be used for breeding;
  - Annex: normally found within 150m of the main sett and comprising multiple entrances, this type of sett is connected to the main sett by one or more obvious well-worn pathways. It may not be occupied throughout the year, and can be used for breeding if there is more than one breeding sow within the social group;
  - Subsidiary: similar to an annex sett, but typically located further from the main sett (at least 50m away). This type of sett will not be occupied throughout the year and lacks the well-worn paths connecting it to another sett that are associated with main and annex setts; and
  - Outlier: normally consisting of one or two entrances, often with little spoil outside and with no
    obvious path connecting it to another sett. This type of sett will tend to be found furthest from the
    main sett and will only be used sporadically throughout the year.
- 2.1.4. Sett use or level of activity is broadly categorised as follows:
  - Well used sett/hole: shows evidence of current use (as defined by Natural England, 2009), such as fresh spoil or bedding, well-worn pathways between entrances and the presence of badger hair.
  - Partially used sett/hole: no evidence present indicating current occupation (as distinct from current use), though hairs may be present, as these can persist for some time. The sett may be occupied intermittently and cannot be categorically described as dis-used. It could easily be re-occupied; for example, it may contain some leaves or sticks in tunnel entrances, but entrances are not blocked and it would take little effort for a badger to reoccupy it. Badger field signs may not have decayed to the extent they can be categorically considered to no longer indicate current use (as defined by Natural England, 2009).
  - Disused sett/hole: a badger sett that appears to have been abandoned by a badger social group
    is described as 'disused'; these differ from partially used setts which can be temporarily disused

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(not in current occupation, but in current use). Disused setts are often completely blocked with vegetation or have collapsed and badger field signs are no longer present, or have decayed to the extent they do not indicate current use.

- 2.1.5. Where encountered, other mammal excavations were recorded during the survey. Information including the location, a description of the type of evidence (i.e. pathway or burrow) and where applicable any signs of current use were recorded.
- 2.1.6. The overall suitability of the existing habitats within the Site for badger breeding and foraging habitat was also assessed during the field survey.

#### 2.2. CAMERA MONITORING

- 2.2.1. Camera trapping was utilised in order to further classify the usage of mammal holes identified during the field survey (M2 and M3 as these setts lie in positions which could be affected by the Proposed Development).
- 2.2.2. This involved deployment of one Xikezan 1080P 12MP Trail Camera at each location for a period of 7 days in a suitable position with a view of each hole and the approach. Both cameras were deployed for a period of three weeks. Camera footages was analysed subsequently using desktop video software.

#### 2.3. EVALUATION

- 2.3.1. A preliminary evaluation of the importance of the Site for badgers has been provided based on CIEEM (CIEEM, 2018) guidance. This guidance recommends that valuation of site importance is made with reference to a geographical framework, e.g. a site is of local, regional, national value etc.
- 2.3.2. To inform the assessment in this report, the numbers of setts identified, type and activity levels of these setts and other field signs identified have been considered in the light of the quality of the habitat present within the Site and the distribution and abundance of badgers at the local, county and national level.

#### 2.4. DATES OF SURVEY AND PERSONNEL

- 2.4.1. The badger walkover survey was completed on 2 May 2019 in dry, mild and sunny conditions by an experienced WSP Ecologist.
- 2.4.2. The trail cameras were deployed on 26<sup>th</sup> September and collected on 16<sup>th</sup> October. Prevailing weather conditions during this period were warm and with some extended periods of rain.

#### 2.5. NOTES AND LIMITATIONS

- 2.5.1. Badger sett status can change quickly. New setts can be excavated or for example outlier or subsidiary setts can quickly be re-occupied after a long period of disuse. The data within this report represents an accurate assessment of badger activity within the Site at the time of survey but there is potential for sett locations, status or level of activity to change prior to the commencement of works within the Site. It is therefore considered that badger survey data is valid for 12 months.
- 2.5.2. A small area of dense bramble vegetation adjacent to the M40, west of the Site, could not be accessed and several signs of badger activity were recorded in its vicinity (shown on Figure 2). Whilst there is a likelihood that a badger sett could occur in this area, it would be of a significant distance so as not to be affected by the Proposed Development.

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2.5.3. The camera trap installed at M3 during the trial camera survey became dislodged, possibly due to weather or wildlife passing. As such the video footage from this camera could not be fully inspected. Nevertheless, at the time of camera collection, this hole was inspected by two competent ecologists (ACIEEM and MCIEEM) using the same method described in Section 2.1 to provide a robust and up-to date assessment.

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#### 3. RESULTS

#### 3.1. OVERVIEW

3.1.1.

described within Table 1 below and locations shown on Figure 2.

#### 3.2. FIELD SURVEY

3.2.1. Badger setts identified as part of the survey are summarised in Table 1 below, with full details contained within Appendix A.

Table 1 - Sett references and summary description (full details contained within Appendix A)

Sett Reference	Sett Status / Type	Sett Description

- 3.2.2.
- 3.2.3. Two unidentified mammal holes (M2 and M3) were also recorded within the Site boundary during the visit, and these are also shown on Figure 2 and listed in Appendix A.
- 3.2.4. At least five rabbit warrens were identified across the Site with associated runs and signs of foraging. This is shown on Figure 2.
- 3.2.5. Unidentified mammal faeces, most likely fox, was also identified during the survey as shown on Figure 2 and Appendix A.
- 3.2.6. During the survey, two common lizards and two grass snakes were also recorded within the semineutral grassland along the western boundary.
- 3.2.7. The Site is dominated by amenity grassland in use for golf, highly manicured and offering little potential for badger foraging. Some parcels of habitat with higher foraging value are present such as scrub, tall ruderal and boundary hedgerows, as well as plantation woodland to some extent (although this is also highly manicured).

#### 3.3. CAMERA MONITORING

3.3.1. Analysis of camera footage revealed that M2 is in active use by rabbits only, and is not an active badger sett.

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- 3.3.2. The video footage retrieved at M3 was not viable, the update inspections did not record any evidence suggesting use by badger. Rather, abundant rabbit droppings and rabbit-grazed grassland were recorded. In addition, the hole had become somewhat narrow and resembled that used by rabbit.
- 3.3.3. In combination with the results of the camera trapping at S2, it is therefore considered that S3 is also in use by rabbits only and is not an active badger sett.

#### 3.4. EVALUATION

3.4.1. Badgers are a common and widespread species and are not considered to be of conservation concern on a national or local scale. One active sett has been recorded within the Site, which will not be affected by the Proposed Development. Overall, the Site is considered to be of up to Local value for badger.



#### 4. IMPLICATIONS FOR DEVELOPMENT

#### 4.1. OVERVIEW

4.1.1. Badgers and their setts are afforded legal protection under the Protection of Badgers Act 1992. In addition, planning policy affords further protection within the planning system, as described below. As badger setts have been confirmed to be present on Site it will be necessary to incorporate avoidance and, or mitigation measures as part of the Proposed Development, see recommendations in Section 5.

#### 4.2. LEGAL COMPLIANCE

- 4.2.1. The Protection of Badgers Act 1992 makes it illegal to wilfully kill, injure or take any badger, or attempt to do so. It also makes it an offence to intentionally or recklessly damage, destroy or obstruct access to any part of a badger sett. Activities that would otherwise constitute an offence under this legislation may be licensed by Natural England for certain purposes.
- 4.2.2. In addition, The Wild Mammals (Protection) Act 1996 protects any wild mammal from 'crushing and/or asphyxiating with intent to inflict unnecessary suffering'.

#### 4.3. PLANNING POLICY COMPLIANCE

- 4.3.1. At the national level the National Planning Policy Framework (2019) forms the basis for planning system decisions with respect to conserving and enhancing the natural environment, including great crested newts. The Office of the Deputy Prime Minister (ODPM) circular 06/2005 also provides supplementary guidance, including confirmation that 'the presence of a protected species is a material consideration when a planning authority is considering a development proposal'.
- 4.3.2. The NPPF sets out, to protect and enhance biodiversity, plans should:
  - 'Identify, map and safeguard components of local wildlife-rich habitat and wider ecological networks, including e hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
  - promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.'
- 4.3.3. A list of principles which local planning authorities should follow when determining planning applications is included in the NPPF, and includes the following:
  - 'If significant harm resulting from a development cannot be avoided...adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
  - ...opportunities to incorporate biodiversity improvements in and around development should be encouraged, especially where this can secure measurable net gains for biodiversity'.
- 4.3.4. At a local level, Cherwell local plan 2011-2031; Cherwell Policy ESD 10 Protection and Enhancement of Biodiversity and the Natural Environment states (Cherwell District Council 2015):
  - Development proposals will be expected to incorporate features to encourage biodiversity, and retain and where possible enhance existing features of nature conservation value within the site.

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Existing ecological networks should be identified and maintained to avoid habitat fragmentation, and ecological corridors should form an essential component of green infrastructure provision in association with new development to ensure habitat connectivity.'

 'Relevant habitat and species surveys and associated reports will be required to accompany planning applications which may affect a site, habitat or species of known or potential ecological value.'

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#### 5. **RECOMMENDATIONS**

#### 5.1. FURTHER INVESTIGATION AND INFORMATION

- 5.1.1. the Proposed Development and does not require further survey or monitoring.
- 5.1.2. Unidentified mammal holes were confirmed by camera trapping and update inspections to be in use by rabbit only, and are not considered to be active badger setts at this time.
- 5.1.3. Badgers are a highly mobile species and can excavate new setts or reopen old setts very quickly, especially in the vicinity of a main sett. As such it is recommended that survey information should be updated on an annual basis if required. It is understood that the construction phase of the Proposed Development will not commence within a year of this survey, it is therefore recommended that an updated survey/check should be undertaken in 2020 prior to construction. The optimal timeframe for this would be mid-February– April 2020 and should focus on investigating mammal holes M2 and M3 for badger activity. The pre-construction check should also search for any new setts that may have been created since the previous badger survey. It is recommended that the check should include the deployment of remote camera traps on mammal holes M2 and M3.
- 5.1.4. It should be noted that if an active badger sett is located in the future which could be disturbed by the Proposed Development, it may be necessary to permanently or temporarily close those setts prior to commencement of construction. Such closure work will require a licence application to interfere with a badger sett from Natural England (NE). The licence will allow the eviction and exclusion of badgers or to dismantle the sett for development or to prevent serious damage.
- 5.1.5. Licences are typically only approved by NE for activities affecting setts occurring between 1 July and 30 November inclusive, in order to avoid the badger breeding season. To obtain a licence a suitable sett closure strategy must be in place and this is likely to include:
  - Installation of one-way badger gates kept in place for at least 21 days from the last sign of badgers accessing the sett.
  - Monitoring of sett for signs of badgers entering or leaving the sett.
  - Dismantling of the sett once badgers are excluded to reduce the chances of badgers reoccupying and ensure the sett is securely proofed against re-entry by badgers by using heavygauge chain-link.
- 5.1.6. Natural England typically require at least 30 working days to process a licence application and the sett closure process can be protracted. It is therefore important to ensure that sufficient time is set aside during the pre-construction period to allow the licence application and closure work to take place. Typically the whole process can take at least six weeks.
- 5.1.7. As evidence of badger foraging has been recorded on Site, generic recommendations have been provided in Section 5.2 below for measures to avoid harm and disturbance to badgers during the construction and operational phase of the Proposed Development.

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#### 5.2. **AVOIDANCE, MITIGATION AND COMPENSATION MEASURES** COMPLETION OF WORKS IN PROXIMITY TO SETTS, WHERE DIRECT EFFECTS **UPON THE SETT CAN BE AVOIDED**

- 5.2.1. Badgers are also legally protected from disturbance whilst occupying setts. Disturbance can result from a range of construction activities, for example vibration, noise, lighting and vegetation clearance<sup>1</sup> around setts. Some activities, such as pile driving, are likely to cause disturbance at a much greater distance from the sett.
- 5.2.2. Consideration should be given on an individual basis to each sett where there is potential for disturbance. To determine whether disturbance is likely to occur therefore, and whether measures need to be implemented to avoid disturbance or if this is not possible whether a licence from Natural England will be required<sup>2</sup>, it will be necessary to consider the proposed construction methods, including location, duration and timing, in the context of the location of the sett, sett status and likely orientation of tunnels below ground.
- 5.2.3. It is not possible at this stage and in the absence of detailed construction working method statements to conclusively state whether disturbance is likely, but general good practice recommendations to avoid disturbance are provided below.
  - In general, all construction activities within 30m of a sett should be avoided during the breeding season (i.e. they should be completed between July and November inclusive); and pile driving or other high vibration activities should be avoided within 100m of a sett (though specific consideration should be given to each situation as described above).
  - A zone of 30m around setts, in which no construction works are permitted without special permission, should be clearly demarcated during the construction period. Where possible this should be fenced (for example with netlon or similar highly visible material), with fencing clearly labelled to avoid the risk of re-alignment or removal of fencing (fencing should be at least 180mm above ground level to enable badgers to pass beneath). Precautionary good practice working methods should be implemented within this zone for activities not associated with construction within the zone, but necessary for construction within the wider site. These could include limiting the time heavy plant can wait within the zone; prevention of storage of large quantities of material and preventing noisy activities such as generator use.
  - Non-percussive construction techniques such as dead weight rollers and low vibration retaining wall construction methods (not high vibration piling) should be utilised wherever possible.
  - The duration of time in which high vibration activities occur should be minimised, for example restricting these to the morning only, enabling badgers to rest undisturbed through the afternoon and early evening.

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<sup>&</sup>lt;sup>1</sup> Please note this is not an exhaustive list.

<sup>&</sup>lt;sup>2</sup> Natural England do not frequently issue licences for disturbance as wherever possible measures should be taken to avoid disturbance (for example modifying construction timings or working methods).



- Unavoidable vegetation removal within 30m of a sett should be completed sensitively using hand tools (to include chainsaws and brushcutters) rather than tracked machinery.
- 5.2.4. As the Site is utilised by badgers for foraging, the following recommendations should be followed across the Site during the construction period to minimise effects upon badger movement and foraging behaviour:
  - Avoid blocking badger runs which are not directly affected by the Proposed Development.
  - Avoid leaving open trenches into which animals could fall, if this is not possible a means of
    egress should be provided, such as a plank. It should be ensured dangerous areas such as deep
    excavations are fenced to prevent badger access or covered overnight; whilst ensuring at least
    one safe crossing point of the construction footprint is available within 100m.
  - Avoid storage of plant or materials on areas of potential foraging habitat (such as retained grassland).
  - Raise all fencing at least 180mm above ground level to ensure badgers can continue to move freely (unless intentionally installed to prevent access to unsafe areas).
  - Avoid night works where possible, to avoid disturbance through the use of artificial lighting, and ensure the Proposed Development Site is left unlit at night during the construction period. If lighting of some areas is unavoidable hoods, cowls or shield should be used to avoid light spill onto setts or known badger paths.

## CREATION OF ALTERNATIVE FORAGING HABITAT AND MINIMISATION OF OPERATIONAL EFFECTS

- 5.2.5. Further to the above, incorporation of the following recommendations within the design of the Proposed Development is recommended to compensate for loss of suitable foraging habitat (such as woodland, tall ruderal and scrub) and to minimise effects upon badgers foraging and moving across the Site once the works are complete:
  - Permanent lighting of the Proposed Development should be minimised and where unavoidable hoods and cowls should be used to focus light onto the required areas and minimise light spill onto new landscaping or retained vegetated areas.
  - Native hedgerows, shrub planting and grassland areas should be incorporated within designs, to compensate for loss of foraging habitat and connectivity associated with the Proposed Development. New landscaping should include the use of native fruiting species (such as blackthorn *Prunus spinosa*, apple *Malus* spp., pear *Pyrus communis*, hawthorn *Crataegus monogyna*, plum *Prunus domestica*, native roses *Rosa canina* or *R. arvensis* and raspberry *Rubus idaeus*), to compensate for loss of suitable foraging habitat.

#### OTHER MAMMALS AND FUTURE SETTS

- 5.2.6. Other mammal holes directly affected by the Proposed Development should be excavated by hand to ensure unnecessary suffering is not caused in relation to the Wild Mammals Protection Act (1996). These include rabbit warrens (Figure 2) identified near to the Proposed Development which would be likely to be disturbed during the construction phase.
- 5.2.7. Hand excavation also applies where any burrows are unexpectedly uncovered during works, provided it can be confirmed by a suitably qualified individual that they are not badger setts.

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#### 6. CONCLUSIONS

- north-west and northern boundary of the Site. Signs of badger activity included latrines, prominent mammal runs and pathways along fence lines as well as snuffle holes, suggesting that badgers are present and utilising the Site for at least foraging purposes.
- 6.1.2.
- 6.1.3. Two further unidentified mammal holes in closer proximity to the Proposed Development have been confirmed as non-badger at this time, rather are in use by rabbits.
- 6.1.4. As badgers are dynamic animals which may re-colonise holes or create new setts at any time, a precautionary pre-works check is recommended. In addition, a number of construction phase mitigation measures have been recommended to safeguard any animals active within the Site for foraging. Finally, compensatory foraging habitat provision has been incorporated into the designs in order to minimise the long-term impact on badgers in the local area.



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#### 7. REFERENCES

#### 7.1. PROJECT REFERENCES

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#### 7.2. TECHNICAL REFERENCES

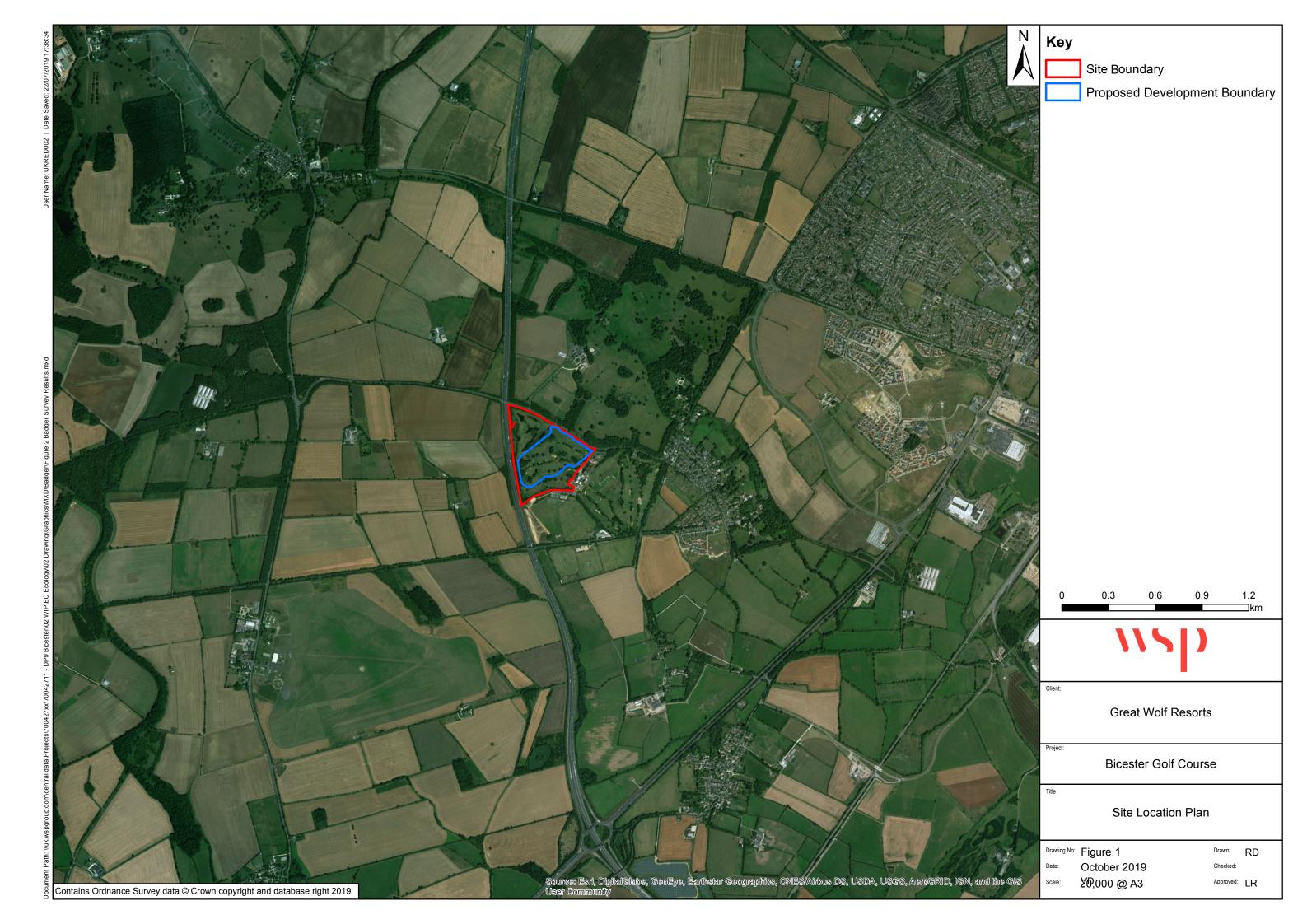
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#### 8. FIGURES

Figure 1 – Site Location Plan

Figure 2 - Badger Survey Results



## **Appendix A**

DETAILED BADGER SETT INFORMATION





**Table 2 - Detailed Badger Sett Information** 

Sett Reference	Evidence Reference on Figure 2	Description	Photographs
Sett 1			



Sett Reference	Evidence Reference on Figure 2	Description	Photographs					
Other Mami	Other Mammal Holes (Rabbit)							
M2	M2							
M3	МЗ							
Other Evide	ence							
	4							



Sett Reference	Evidence Reference on Figure 2	Description	Photographs
	5		
	6		
	7		



Sett Reference	Evidence Reference on Figure 2	Description	Photographs
	8		



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