



Preliminary Ecological Appraisal

Cote Lane, Thurgoland

Report reference: R-2524-01

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The information which we have prepared and provided is true and has been prepared and provided in accordance with the CIEEM's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions. This report does not constitute legal advice.



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Non-technical Summary

Purpose of report

This report is produced to present an initial assessment of the potential ecological constraints and opportunities relating to a Site known as Land off Cote Lane, Thurgoland; to inform the Site's potential for development.

In respect of a future detailed planning application it is our conclusion that this survey and report will require the support of further surveys / reports to be completed as reserved matters to the outline application.

Methodology

The report is based on a Desk Study of designated wildlife sites and records of protected or notable species, and an extended Phase 1 Habitat Survey carried out in March 2016.

Findings Key-Points

The Site is almost entirely occupied by semi-improved grassland, a habitat of low species diversity and common in the local area. Its presence at the Site is not considered to pose a constraint to development.

Bat activity survey should be carried out to inform any specific mitigation required in relation to the assemblage of bats using the Site. A pre-commencement badger survey should be carried out in adjacent woodland to avoid potential delays to the project.

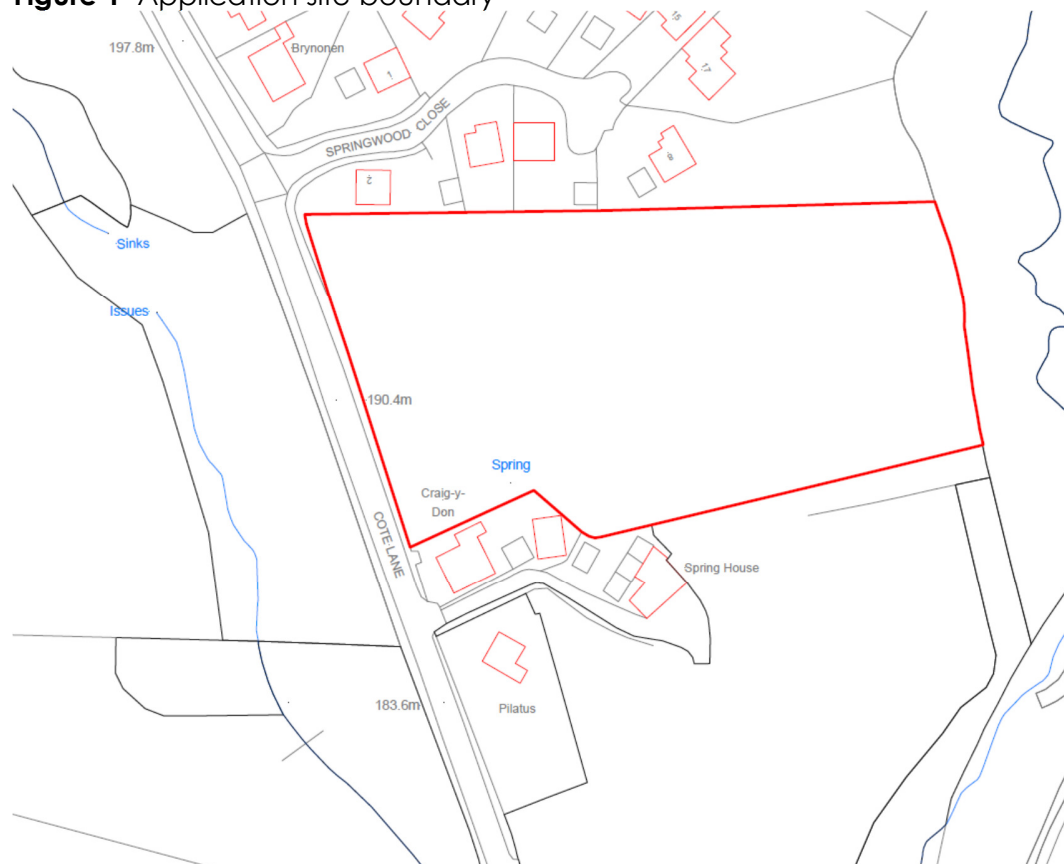
Introduction

1. Brooks Ecological Ltd was commissioned by Dryden Wilkinson Partnership to carry out a Preliminary Ecological Appraisal of land off Cote Lane, Thurgoland, Barnsley, South Yorkshire (SE 291 006).
2. This report is produced with reference to British Standard BS42020 'Biodiversity Code of Practice for Planning and Development' and the CIEEM (2013) Guidelines for Preliminary Ecological Appraisal.

Scope

3. The application site 'the Site' includes a single, small pasture found at the southern limit of the small village of Thurgoland.
4. The 'Study Area' includes a 2 km area of search around the site for records of protected and notable species and locally or nationally designated wildlife sites.

Figure 1 Application site boundary



Proposals

- Proposals for the site detail the development of 24 residential units, with associated infrastructure including an access road from the west, recreational space and a SuDS. The detailed layout is draft at this stage.

Figure 2 Draft layout taken from DWP Drawing No 2467.002



Site context

- The site is found to the south of a small village within a rural location in South Yorkshire. Barnsley is found c.6km north east, with the hills of the Peak District rising c.6km south west of the Site. Bedrock geology of the site alternates between bands of Pennine lower coal measures and Penistone Flags sandstone, this will give rise to largely neutral soil conditions potentially leaning towards marginally acidic soils.
- Immediate boundaries include residential development and associated gardens to the north and south. Cote lane is found beyond the western boundary with pasture and arable land beyond this. A band of woodland associated with a small valley stream is found beyond the eastern boundary.

- The wider landscape is principally occupied by agricultural land, primarily relatively small pastures. Linear woodlands are common place throughout the landscape, often following the numerous small brooks and streams.

Wildlife corridors

- The Upper Don Trail which follows the route of a dismantled railway line, c.230m south, and River Don, c.550m south form two landscape scale corridors in the vicinity of the Site, both of which are associated with mature woodland while in close proximity to the site. These both run roughly north west - south east. The stream and woodland to the east of the site connects to these corridors forming a minor wildlife corridor link, however, this terminates a short distance north of the site. Many of the linear woodlands throughout the landscape form minor corridors connecting various small woodlands and areas of other suitable habitat.

Figure 3 Analysis of wildlife corridors and higher value habitat in relation to the Site.



Water bodies

- A single pond is shown on mapping within 500m of the Site. This being a large garden pond within private property, c.180 north. This is separated from the Site by Cote lane and residential development. Beyond this, four large ponds, associated with the River Don are found c.520m south of the Site.

Designated Sites

Statutory Designations

11. There are no statutory designations within 2km of the Site, the closest being Wharnccliffe Crags SSSI and Wharnccliffe Common LNR, 2.3km south. The site is designated as a SSSI for geological reasons which would be unaffected by the proposed development. The LNR designation covers the heath and woodland within the site, given the separation from the Site impacts on these habitats are not anticipated.
12. International designations within 10km of the application Site include the South Pennine Moors Special Area of Conservation (SAC) and Peak District Moors (South Pennine Moors Phase 1) Special protection Area (SPA), designations which cover the same geographical area, 5.9km south west at its closest point. Qualifying interests of these designations would not be impacted upon by the small scale development at the proposed Site.

SSSI Impact Risk Zones (IRZs)

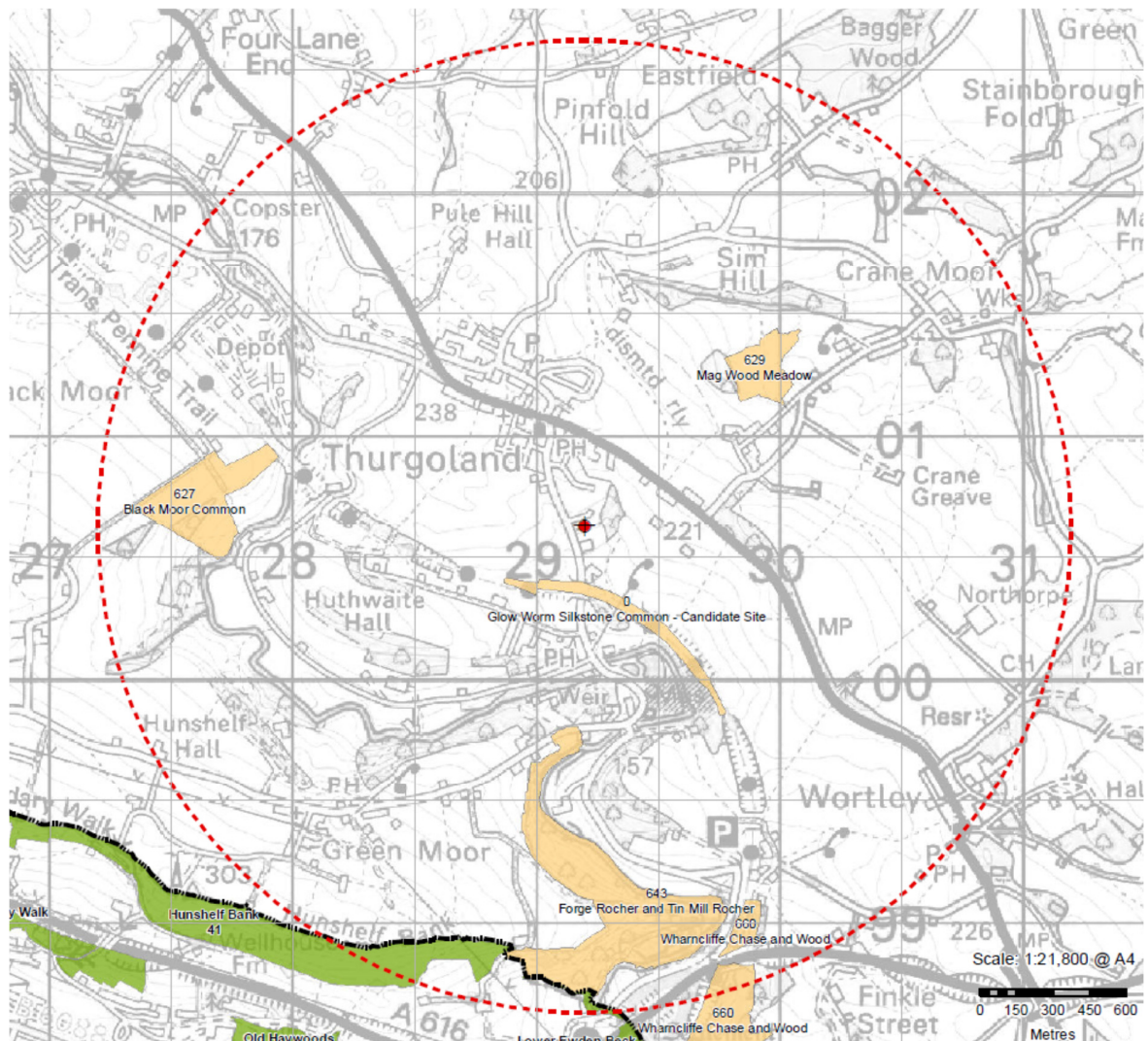
13. The site lies within the 10km IRZ for the Dark Peak SSSI, part of the South Pennine Moors, but does not fall into one of the highlighted categories which requires consultation between the Local Planning Authority (LPA) and Natural England (NE). The development is of a scale and nature which is unlikely to impact on this SSSI.

Non-Statutory Designations

14. There are six Local Wildlife Sites within the search radius as well as one candidate Site.
 - Glow Worm Silkstone Common Candidate Barnsley Local Wildlife Site (LWS) is the closest such Site, this is located c.200m south at its closest point.
 - Mag Wood Meadows Barnsley LWS, c.750m north east.
 - Ford Rocher and Tin Mill Rocher Barnsley LWS, c.800m south.
 - Black Moor Common Barnsley LWS, c.1.5km west.
 - Wharnccliffe Chase and Wood Barnsley LWS, c.1.7km south
 - Hunshelf Bank Sheffield LWS, c.1.8km south, and,
 - Lower Ewden Beck Sheffield LWS, c.2km south.
15. Glow Worm Silkstone Common candidate LWS is the only local designation which shares functional links to the Site. The LWS incorporates habitat associated with the Upper Don Trail, this is linked to the Site via woodland running north-south past the Site's eastern boundary. Despite this, impacts from development at the Site are not considered likely. The woodland to the east of the Site does not include paths linking

to the LWS, suggesting further impact from footfall would not be expected in an area where a well-established trail is already likely to draw numerous visitors.

Figure 4 Locally designated sites provided by Sheffield Biological Records Centre



Extended Phase 1 Habitat Survey

Method

16. The survey was carried out during March 2016¹ and followed Phase 1 habitat survey methodology (JNCC, 2010).

Limitations

17. The survey was carried out in March before many plant species are fully expressed however the habitat type and likelihood of supporting notable species or communities could still be assessed at this time by the experienced surveyor.
18. Sufficient time was afforded the surveyor to carry out the survey. The survey was not constrained by poor weather.

Results

19. The Site is primarily occupied by pasture, typical of large areas of the surrounding landscape. The sites use is reflected in the type of habitats present on Site.
20. The following habitats were identified within the Site and on its immediate boundaries:
 - Improved neutral grassland
 - Hedgerows and trees
 - Developing scrub

Improved neutral grassland

21. Grazing pasture covers almost the entire footprint of the Site. The paucity of species present suggest this grassland has been subject to some level of agricultural improvement over time. A range of common grasses dominate the sward including perennial ryegrass (*Lolium perenne*), common bent (*Agrostis stolonifera*), Yorkshire fog (*Holcus lanatus*) and timothy (*Phleum pratense*), with frequent cocksfoot (*Dactylis glomerata*) and red fescue (*Festuca rubra* agg.).

¹ This Report has been prepared during March 2016 following a visit to the site in March 2016 and our findings are based on the conditions of the site that were reasonably visible and accessible at that date. We accept no liability for any areas that were not reasonably visible or accessible, nor for any subsequent alteration, variation or deviation from the site conditions which affect the conclusions set out in this report.

22. Forbs are scarce throughout, being limited to occasional dandelion (*Taraxacum vulgare* agg.), creeping buttercup (*Ranunculus repens*) and cow parsley (*Anthriscus sylvestris*) and very occasional broad leaved dock (*Rumex obtusifolius*), chickweed (*Stellaria media*) and field speedwell (*Veronica persica*).
23. A proliferation of forbs and coarse grasses is noted around the margins of the Site where management is likely to be less routine. Cocksfoot, Yorkshire fog and false oat grass (*Arrhenatherum elatius*) are seen in greater abundance, as is cow parsley. Nettle (*Urtica dioica*) and cleavers (*Galium aparine*) were also noted around the margins but found to be absent from the main body of the sward.



Figure 5

General view of grassland on site

Hedgerows and trees

24. Hedges are limited with only a short section remaining on the southern boundary while a hedge is present along much of the northern boundary though it falls into the curtilage of adjacent properties.
25. The southern hedge stretches for c.20m, being c.1.8m high and 2m wide, made up of an ornamental species and leylandii suggesting it has been planted by the neighbouring property to the south. Ground flora in this area is limited to shade tolerant species including bramble (*Rubus fruticosus* agg.), ivy (*Hedera helix*) and cow parsley, with grasses such as cocksfoot and false oat grass around the edges. The common moss, *Brachythecium retabulum* is abundant through the field layer of this hedge.



Figure 6

Hedge of the southern boundary

26. Hawthorn (*Crataegus monogyna*) is the dominant species of the northern hedge, with occasional ash (*Fraxinus excelsior*), elder (*Sambucus nigra*) and dog rose (*Rosa canina*). Ground flora of this hedge is marked by the grassland field margins and developing scrub, as described below.
27. Trees are scattered sporadically around the boundary of the Site. The only mature example being an ash to the south, though this appears to fall outside the Site's boundary.
28. Young – early mature specimens are found along the western boundary. This includes six specimens of ash, a single cherry (*Prunus* sp.) and a multi-stemmed sycamore (*Acer pseudoplatanus*). Additionally, a large holly (*Ilex aquifolium*) specimen and a single ash are found on the southern boundary.

Scrub

29. Small patches of scrub are developing around the Site's margins. Species assemblage is typical of scrub developing round a grassland habitat, dominated by bramble, with common forbs, many of which are reflected in the grassland. In this case nettle, cow parsley, cleavers and willowherb (*Epilobium* sp.) were all noted.

Summary Habitat Evaluation

30. The Site is almost entirely occupied by species poor improved grassland, a common habitat of low diversity, this is not expected to pose a constraint to development.

Off-site Habitats

Broadleaf woodland and water course

31. The eastern boundary is marked by a small area of broadleaf woodland. This occupies a bank which falls over approximately 10m to a small stream. The canopy layer of this woodland being primarily made up of oak (*Quercus* sp.) and ash, with an under storey of hazel (*Corylus avellana*), holly, hawthorn, beech (*Fagus sylvatica*) and willow (*Salix* sp.).
32. The ground flora and field layer are typical of woodlands of this type, comprising bramble, cow parsley, ivy, male fern (*Dryopteris filix-mas*), bluebell (*Hyacinthoides* sp.), wood anemone (*Anemone nemorosa*) and opposite leaved golden saxifrage (*Chrysosplenium oppositifolium*).
33. The water course was found to be on average c.50cm wide with a maximum depth of approximately 15cm. Short, vertical earth and stone banks lead to the valley sides, occupied by the woodland. Vegetation reflects that of the woodland ground flora with little or no emergent or aquatic flora.

Figure 7 Woodland and watercourse to east



Faunal Appraisal

Bats

34. A total of 55 bat records have been returned from within the search radius. This covers common and soprano pipistrelle, leislars bat, noctule, whiskered, natterers, daubentons and brown long eared bats as well as a number of records of indeterminate bats. Records of eight confirmed roosts have been returned including visual observations of natterers bats in crevices on the River Don Bridge, and visual observations of brown long eared bats in Holly Hall House and Thurgoland Tunnel, and pipistrelle roosts in residential properties, one with a count of 84 bats.
35. All records are over 500m from the Site, the closest being the River Don Bridge, c.530m south, and dated, with the most recent being brown long eared bats in Holly Hall House, recorded in 2002.
36. Records indicate a healthy bat assemblage in the wider area, covering a range of species, albeit all of which are relatively common and widespread. The range of species present is typical of areas such as this where good habitat is found in abundance.
37. The Site itself represents low value habitat for bats. Activity within the Site is likely to be limited to low level foraging by common bats species, such as pipistrelle. However, the presence of the woodland immediately east of the Site is likely to draw activity of a greater range of species which forage around this habitat type. Development of the Site has the potential to impact upon bats associated with this habitat.
38. No features of bat roost potential are found within the application Site boundary though once again, trees within the woodland are likely to present a range of cracks and crevices suitable for use by roosting bats.

The Site should be subject to bat activity surveys to provide detailed information on the range of species using the Site and the nature of their activity thus informing the final masterplan. Surveys should comprise three visits, one in each of Spring, Summer and Autumn and be supported by a period of remote monitoring.

Amphibians

39. Records of amphibians within the search area are limited. A single record of common toad has been returned along with 10 common frog records.

40. No suitable amphibian breeding habitat is present within the Site boundary. A single pond is present within 500m, located 180m north within a private garden. This water body is separated from the Site by Cote Lane and the residential development which flanks this road.
41. While the Site offers suitable terrestrial amphibian habitat, residential development between this and the pond to the north offers sufficient separation to conclude that amphibian populations which may breed in this pond are unlikely to be found within the Site. Furthermore, the pond is found surrounded by mature woodland which links to open habitat to its west. Should amphibians be breeding in this pond this area provides higher value terrestrial habitat immediately linked to the pond further reducing the likelihood of individuals being found within the Site.
42. A likely absence of notable amphibian populations, and particularly great crested newt, from the site is concluded.

Birds

43. An extensive number of records have been returned from within the search radius. Many of these focus around the River Don and the Upper Don Trail, found to the south of the Site, no records from within the Site have been returned.
44. Considering the range of habitats within the Site, its size, proximity to development and likely disturbance by dog walkers it is unlikely to be used by anything other than low numbers of common garden and farmland birds.
45. A number of raptors, afforded various levels of protection are recorded within the search radius. The open nature of the field in proximity to woodland provides habitat which may be suitable for foraging by such species. However, the proximity of development to the north and south limit its value. Similar habitat is found in abundance in the wider area, suggesting species such as these would have no dependence on habitat within the Site.
46. The Site is unlikely to be of value as a roosting or mustering site for wintering or passage birds due to the lie of land (poor sight lines) and proximity of footpaths, roads and disturbance by humans. The Site will not provide habitat which contributes to the range of species listed as qualifying interests for the SPA, c.5km from the Site.
47. The few scattered trees and sections of hedge found on site have the potential to support common birds during the nesting period (March-August). To prevent the proposed works impacting on nesting birds, any clearance of vegetation will need to be undertaken outside the breeding bird season, which is 1st March – 31st August inclusive. Any clearance that is required during the breeding bird season should be preceded by a nesting bird survey to ensure that the Wildlife and Countryside Act

(1981) is not contravened through the destruction of nests and that any active nests are identified and protected during construction.

Water Vole

48. Historically water voles have been recorded in the area. Although the stream to the east of the Site provides suboptimal habitat for this species, having short banks with stony patches, in times of population expansion they may be present in the area.
49. The distance from the Site to the water course suggests that, providing impacts to the woodland are avoided, water vole using this stream, if present, would not be impacted. No further survey is deemed necessary in support of this conclusion.

Badger

50. Twenty one records of badger are recorded within the search radius. This includes eleven sett records, the closest of which was recorded in Huthwaite Wood, 660m south west of the Site, though this record is dated from 1983.
51. The most recent records dated 2013 inform a sett 1.5km south west and various field signs in the area.
52. Although the no sett was found in the Site, the adjacent woodland provides valuable badger habitat to which the Site may provide supporting foraging grounds.
53. A number of mammal tracks and what may be badger snuffle holes were found in close proximity to the Site.

It is recommended that a pre-commencement survey be undertaken prior to the start of works. This should be scheduled to allow sufficient time to close a sett should it be required.

Reptiles

54. Four records of grass snake have been returned, these focus around Wortley Top Forge, c.740m south. Habitat around this area is linked to the Site via the woodland running past the eastern boundary.
55. Despite these links, the Site provides only marginal habitat for this group and the likely absence from the Site can be reasonably concluded. However, to avoid killing or injury of individuals should they be present, we advise the Site is cleared from west to east to allow reptiles to flee to the adjacent woodland corridor. Given the very limited chance of reptiles being present on Site this reflects a proportionate resolution considering survey is unlikely to highlight the presence of this group.

Invasive Species

56. No species listed on Schedule 9 of the Wildlife and Countryside Act (1981) were found at the Site during the survey.

Key Findings

Constraints to Development

57. Habitats found on Site are species poor and common in the wider area. The presence of these habitats should not be seen as a constraint to development.
58. Woodland and the watercourse to the east of the Site provides an area of higher value habitat in the immediate vicinity of the Site. Tree protective fencing should be installed in the appropriate position along this boundary prior to the start of works to ensure that the RPA's of these is not encroached upon during development. The mature ash on the southern boundary should be similarly protected during development. A drainage plan should be produced to ensure surface water during construction and occupation of the site will not affect the watercourse.
59. The woodland to the east also provides habitat suitable for a range of protected fauna including bats and badger. Given the range of bat species recorded in the area, activity surveys should be carried out to provide detailed information on the assemblage of bats using the Site and inform any specific mitigation requirements.
60. Although no badger setts are currently present on site it is evident that a badger clan holds a territory locally. Badgers readily establish new setts in their territories consequently a pre-commencement badger survey is recommended prior to the start of works on Site. This should be appropriately scheduled to minimise the risk of delays given the potential time constraints of the badger closed season, in which disturbance of setts is not permitted.
61. It is recommended that, if possible, the layout be altered to incorporate recreational space at the eastern boundary as opposed to the west. This will provide a standoff from development to the woodland and help mitigate impacts on species such as bats as well as help avoid potential issues in relation to the potential presence of badger.
62. It is highly likely that bat surveys will highlight the strip of land along the eastern boundary, marking the woodlands edge, as being the focus of bats activity at the Site. If planned recreational space cannot be moved into this area then a buffer strip to the woodland should be incorporated into the design of the Site, the requirement for this will be further informed by bat activity surveys.

Ecological Enhancement

63. The requirement for development to make a positive contribution to biodiversity is clearly set out guidance such as the NPPF and BS:42020 - beyond mitigating or compensating any potential impacts.

64. The following themes provide opportunities for the proposals to deliver such a contribution:
- Landscaping of the Site should seek to utilise an array of native species, in various habitats across the Site. This should include, but need not be limited to, using a native wildflower seed mix in retained open space which will have far greater ecological value as opposed to standard lawn mixes, and the planting of a range of marginal and aquatic plant species in and around the SUDS pond. Should a buffer strip to the woodland be incorporated into the layout this should be sown with a shade tolerant wildflower mix.
 - Native, species rich hedges should be planted along the north, south and west boundaries of the Site to enhance linear features providing habitat, food sources and corridors for movement of local wildlife. Planting should seek to use locally prevalent species such as hawthorn, blackthorn, holly, field maple, hazel and oak.
 - The sealed envelope design of new builds fails to provide habitat suitable for species adapted to making use of crevices in manmade structures. To this end, the Site should seek to incorporate a number of bat and bird boxes. These can be installed off the peg into the fabric of buildings without creating any conflicts with homeowners.
65. Opportunities for enhancement are shown on the Ecological Constraints and Opportunities Plan provided as an appendix to this report.

Further ecological input required

66. Guidance provided by Clause 8 BS:42020 and ODPM circular 06/05 (2005) makes it clear that proposals and planning decisions should be informed by sufficient information - this is particularly the case in respect of European Protected Species (EPS).
67. Additional surveys will be required in terms of confirming and supporting this preliminary assessment. These are summarised in the tables below:

Table 1 Additional survey required **pre-planning**

Survey	Rationale	Timing
Bat Activity	<p>Our approach to scoping bat activity surveys is set out in Appendix 4 of the report.</p> <p>The level of precaution required in terms stand off from the woodland and hedgerow / structure planting retention and future management will need to be informed by the value of the bat assemblage using them.</p> <p>Information on bat assemblages will inform proposals for habitat enhancement.</p>	Three seasonal transects spanning Spring, Summer and Autumn - concurrent with remote monitoring of key features.

* Information on relevant legislation is provided in Appendix 5 of the report

68. Some further surveys will inform precautions taken during the Site's development, but will not impact on the layout or planning decisions. These are best carried out once timescales are known. They can be time constrained and information on those required at this Site is provided below to aid project planning.

Table 2 Additional survey required **pre-commencement**

Survey	Rationale	Timing
Badger survey	<p>Excavation close to badger setts is prohibited by law* and unexpected discovery of setts can lead to lengthy delays.</p> <p>Confirmation of the continued absence of this species from the adjacent woodland should be sought at a suitable time.</p>	Walkover survey - timed depending on proposed start date
Nesting bird surveys	<p>Destruction of active nests is prohibited by law*</p> <p>Survey will be needed prior to the clearance of vegetation during the period March - August (inclusive). This would allow and active nests to be identified and protected.</p>	Immediately prior to clearance

* Information on relevant legislation is provided in Appendix 5 of the report

Issues to be addressed in layout or project design

69. The following features should be incorporated into the project in relation to the protection of ecology and compliance with policy and best practice.

Table 3 Issues to be addressed in layout or project design

Feature	Rationale / Comments
Altering the layout to provide open space or a buffer strip bordering the woodland to the east of the Site To the benefit of the woodland habitat but also potentially avoiding issues with bats and or badger at the Site.	Good practice requirement. BS 5837:2012 / BS 42020:2013. Avoidance of conflict with Habitat Regulations (2010).
Incorporating proposals for habitat enhancement (see suggestions above and ECOP in appendix) into the proposals plans can avoid the need for these to be conditioned later.	NPPF
<u>All retained trees and hedgerows and those within the sphere of influence of development should be protected</u> to BS 5837:2012.	Good practice requirement. BS 5837:2012 / BS 42020:2013 Should be informed by detailed topographical and arboricultural surveys.
<u>A Construction Environment Management Plan (CEMP) should be provided</u> by the projects main contractor. This would include a chapter on biodiversity with specific input from and ecologist and would set out (amongst other issues) the protection of woodland watercourses.	Good practice requirement BS 42020:2013 (Clause 10).
<u>A drainage plan for the operational site should be produced</u> which shows the settlement and retention of surface water on site and the suitable control of sediment and pollution prior to discharge to ensure the protection of the woodland and water course.	Good practice requirement BS 8582:2013

Appendices







1. Extended Phase 1 Habitat Plan D-2524-01.1
2. Ecological Constraints and Opportunities Plan D-2524-01.2
3. Explanatory Notes and Resources
4. Bat Activity Survey Rationale
5. Information on legislation / protection

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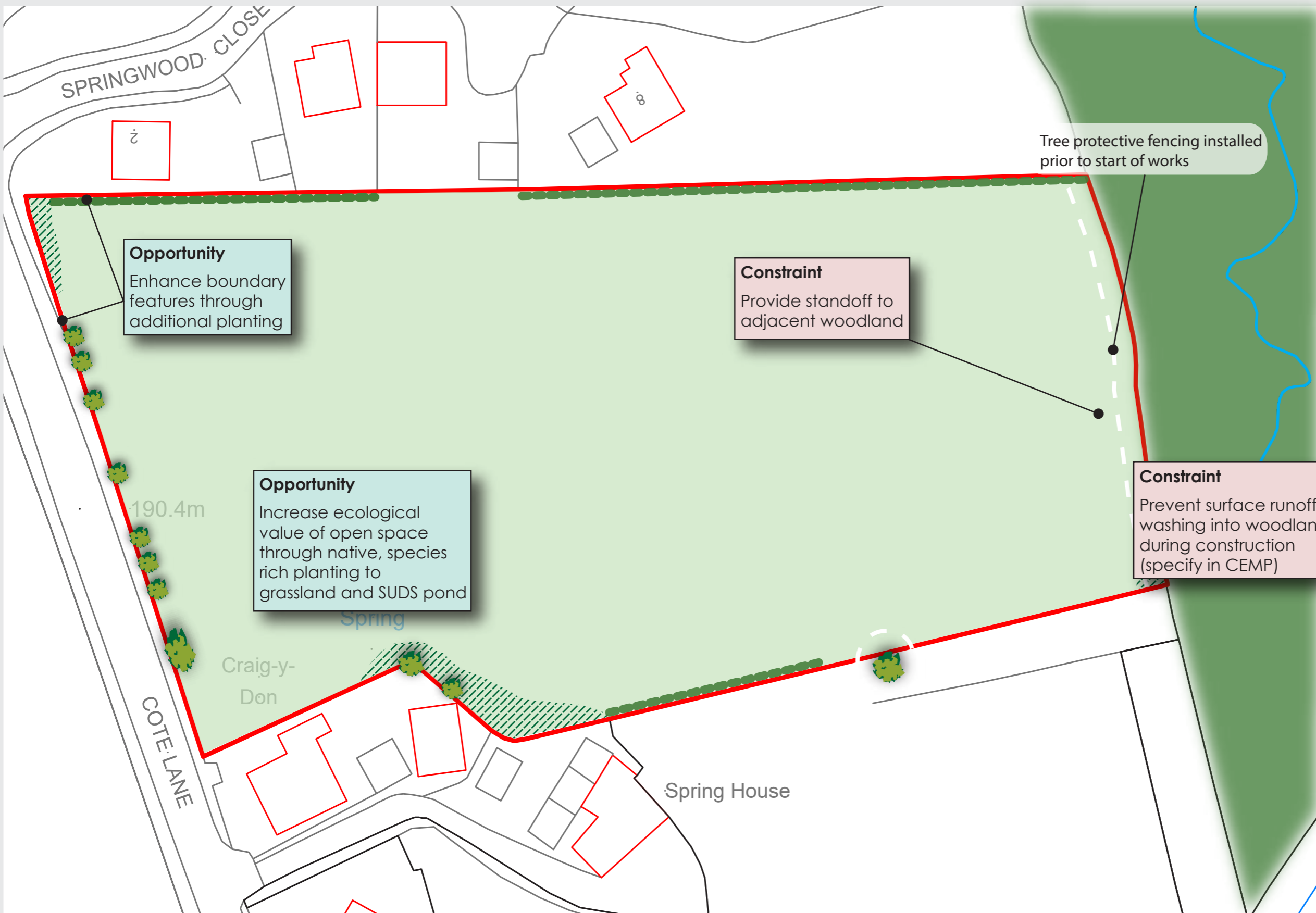
Appendix 1 – Extended Phase 1 Habitat Plan



-  Improved grassland
-  Scrub
-  Hedgerow
-  Trees
- Offsite habitat**
-  Broadleaved woodland
-  Water course



Appendix 2 – Ecological Constraints and Opportunities Plan



Project: Cote Lane, Thurgoland

Title: Ecological Constraints and Opportunities Plan

Drawing Number: D-2524-01.2

Scale: Do not scale Date: March 2016

Revision:



Appendix 3 – Explanatory Notes and Resources Used

Site context

70. Aerial photographs published on commonly used websites were studied to place the site in its wider context and to look for ecological features that would not be evident on the ground during the walkover survey. This approach can be very useful in determining if a site is potentially a key part of a wider wildlife corridor or an important node of habitat in an otherwise ecologically poor landscape. It can also identify potentially important faunal habitat (in particular ponds) which could have a bearing on the ecology of the application site. Ponds may sometimes not be apparent on aerial photographs so we also refer to close detailed maps that identify all ponds issues and drains. We use Promap Street + scale maps for this purpose.

Designated Sites

71. A search of the MAGIC (Multi-Agency Geographic Information for the Countryside) website was undertaken. The MAGIC site is a Geographical Information System that contains all statutory (e.g. Sites of Special Scientific Interest [SSSI's]) as well as many non-statutory listed habitats (e.g. ancient woodlands and grassland inventory sites). It is a valuable tool when considering the relationship of a potential development site with nearby important habitats. In addition, information from the local record holders was referred to on locally designated sites.

Functional linkage with off-Site habitats

72. When assessing these we consider whether the Site could be functionally linked to them, considering links such as;
- Hydrological links - is the Site upstream downstream, or could ground water issues affect it?
 - Physical links - is the site in close proximity and could it be directly or indirectly affected by construction and operational effects? Conversely it may be that despite proximity major barriers separate the two.
 - Recreational links - Do footpaths and roads make it likely that increased recreational pressure could be felt?
 - Habitat links - Is the site part of a network of similar habitat types in the wider area? These could be joined by linear corridors or could simply be 'stepping stones of habitat of similar form or function.

Method

73. Phase 1 habitat survey methodology (JNCC, 2010). This involves walking the site, mapping and describing different habitats (for example: woodland, grassland, scrub). The survey method was "Extended" in that evidence of fauna and faunal habitat was also recorded (for example droppings, tracks or specialist habitat such as ponds for breeding amphibians). This modified approach to the Phase 1 survey is in accordance with the approach recommended by the Guidelines for Baseline Ecological Assessment (IEA, 1995) and Guidelines for Preliminary Ecological Appraisal (CIEEM 2012).

Faunal appraisal

74. This section first looks at the types of habitat found on Site or within the sphere of influence of potential development, then considers whether these could support protected, scarce or NERC Act 2006 Section 41 species (referred to collectively as 'notable species').

75. Records of notable species supplied from a 2km area of search by Sheffield Biological Record Centre (SBRC) are used to inform this appraisal.
76. We discuss further only notable species or groups which could be a potential constraint due to the presence of suitable habitat and their presence (or potential presence) in the wider area. We screen out and do not present accounts of notable species or groups which do not meet these criteria – in some cases it may be necessary to explain this reasoning.

Evaluation

77. In evaluating the site the ecologist will take into account a number of factors in combination, such as;
- the baseline presented above,
 - the site's position in the local landscape,
 - its current management and
 - its size, rarity or threats to its integrity.
78. There are a number of tools available to aid this consideration, including established frameworks such as Ratcliffe Criteria or concepts such as Favourable Conservation Status. Also of help is reference to Biodiversity Action Plans in the form of the Local BAP and Section 41 of the NERC Act (2006) to determine if the site supports any Priority habitats or presents any opportunities in this respect.
79. The assessment of impacts considers the generic development proposals from which potential effects include:
- Vegetation and habitat removal
 - Direct effects on significant faunal groups or protected species
 - Effects on adjacent habitats or species such as disturbance, pollution and severance
 - Operation effects on wildlife such as noise and light disturbance
80. Consideration is given to the Local Biodiversity Action Plan (LBAP), which for this site is the '**Barnsley Biodiversity Action Plan**'.

Species/group	Habitat
Hedgehog	Upland Oakwood
Bats	Lowland Mixed Deciduous Woodland
Water Vole	Wet Woodland
Otter	Wood Pasture and Parkland
Grey Partridge	Hedgerows
Bittern	Arable Field Margins
Kestrel	Floodplain Grazing Marsh
Little Ringed Plover	Lowland Meadows
Lapwing	Lowland Dry Acidic Grassland
Barn Owl	Lowland Heathland
Skylark	Upland Heathland
Tree Sparrow	Blanket Bog
Twite	Purple Moor Grass and Rush Pasture
Great Crested Newt	Reedbeds
Salmon	Ponds
Bullhead	Rivers
White-clawed Crayfish	Open Mosaic Habitats on Previously Developed Land
Glow Worm	
Dingy Skipper	
Bluebell	

Appendix 4 – Bat Activity Survey Rationale

81. The Bat Conservation Trust Guidelines (BCTG) (Hundt 2012) is now widely accepted as providing a basis and rationale for scoping and conducting bat surveys. It is acknowledged that the guidelines provide a wealth of background and are a very useful tool in standardising approaches to survey, it is also felt that an over reliance on some of the tables (such as Table 7.2) within this document can result in the provision of complicated surveys where they have significant consequences for the cost, or timescale of a large project, but could never deliver positives for bat conservation.
82. Taking the BCTG document as a whole, Chapter 2 helps the reader understand whether or not surveys are required, and that in the context of planning and development survey is required in relation to ensure;
- the avoidance of legal offences, and;
 - the provision of a sufficient level of information - such that will allow the Local Planning Authority to make an informed decision on the proposals and their potential impacts on the Favourable Conservation Status (FCS) of bats.
83. Attendance at seminars presented by, and discussions with, those involved in production of the BCTG document has emphasised the point that it is within the remit of the consultant ecologist to make a decision on the necessity and scope of surveys - they will use the guidelines in doing so but are not in any way bound by them: this is reflected in Section 1.1 of the guidelines.

The guidance should be interpreted and adapted on a case-by-case basis, according to the expert judgement of those involved. There is no substitute for knowledge and experience in survey planning, methodology and interpretation of findings, and these guidelines are intended to support these. Where examples are given they are descriptive rather than prescriptive.

84. Such decisions require a consideration of the potential of the project to impact on bat habitat, alongside analysis of the value of habitat on and around the site and of local records and the likelihood that bats might occur in significant numbers. Our reports aim to present information on how we have arrived at our decision on the site, what assumptions we have based this on, and where further survey is recommended we indicate what the objective of this survey should be and how best this would be achieved.
85. At this Site the key habitat likely to be used by bats is associated with woodland found immediately beyond the eastern boundary which will obviously be retained, however evidence will be needed to demonstrate that development of the application site will not affect the conservation status of bats.
86. Collection of baseline data on the assemblage of bats using the Site is recommended through seasonal (spring summer and autumn) transects and remote monitoring of key features. This will allow thorough assessment of the potential impacts of development and allow informed mitigation to be designed into the layout.
87. Objectives of these surveys should be:
- confirm levels of use and the assemblage of bats present on the site generally
 - confirm patterns of activity and identify key features
 - identify levels of use of the affected foraging or commuting features to be and inform levels of mitigation required (if any).

Appendix 5 Wildlife Legislation, Policy and Guidance

This is not an exhaustive list but sets out briefly the relevance of Legislation, Policy and Guidance in terms of planning applications and this assessment.

Legislation

Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (EC Habitats Directive).

Provides framework at an international (EU) level for the consideration / protection of European Protected Species (EPS), and habitats through the designation of sites.

Council Directive 79/409/EEC on the Conservation of wild birds (EC Birds Directive) and The Ramsar Convention on Wetlands of International Importance (1971)

Provides framework at an international (EU) level for the consideration / protection of important bird populations and the sites on which they are dependant.

The Conservation of Habitats and Species Regulations (2010)

This transposes 1) into UK law and provides the basis on which all EPS are protected and impacts on them can be licensed in the UK.

The Wildlife and Countryside Act (1981) as amended

This provides the basis on which UK species are legally protected or restricted and confers protection on Sites of Special Scientific Interest SSSIs. It contains annexes of plants and animals which are legally protected as well as those which are considered to be invasive or harmful. It provides the basis on which impacts on such species can be licensed in the UK and provides controls on work on or near SSSIs.

The Countryside and Rights of Way Act 2000 (CRoW)

Provides a statutory basis for nature conservation, strengthens the protection of SSSIs and UK protected species and requires the consideration of habitats and species listed on the UK and Local Biodiversity Action Plans (UKBAP / LBAP).

Natural Environment and Rural Communities Act 2006 (NERC)

Sets out the responsibilities of Local Authorities in conserving biodiversity. Section 41 of the Act requires the publishing of lists of habitats and species which are "of principal importance for the purpose of conserving biodiversity". At present these largely reflect those making up the UKBAP lists.

Hedgerows Regulations (1997)

Define and provide protection for Important Hedgerows.

Protection of Badgers Act (1992)

Protects badgers from persecution, this includes excavation / development in the proximity of setts.

Protected Sites

Statutory EU / International Protected Sites

Special Areas of Conservation (SACs); and Special Protection Areas (SPAs) and Ramsar Sites contain examples of some of the most important natural ecosystems in Europe. Work on or near these sites is strictly protected and Local Authorities will be expected to carry out 'Appropriate Assessment' of development in proximity of them. In this case there is often an increased burden on the developer in relation to provision of information and assessment.

Statutory UK Protected Sites

Local Nature Reserves (LNRs); National Nature Reserves (NNRs); Sites of Special Scientific Interest (SSSIs) all receive strict protection under UK legislation. Work in or in proximity to these sites would be restricted with any needing to be agreed with Natural England. Natural England now provide guidance on the nature of development which could impact on SSSIs through Impact Risk Zones.

Locally Protected Sites

Local Authorities have a variety of protected wildlife sites designated at a local or regional level. These are gradually being brought under the banner of Local Wildlife Sites (LWS) but at present a plethora of different designations exist - all subject to local policy.

Protected Species

European Protected Species

A number of species (most relevantly bats, great crested newts [GCN], and otters) receive strict protection from killing, injury and disturbance under The Conservation of Habitats and Species Regulations (2010). Protection is also conferred on the habitats on which they rely such as roost space in the case of bats and ponds and fields etc. in the case of GCN.

UK Protected Species

A number of species (including bats, GCN, water vole and white clawed crayfish) are strictly protected under The Wildlife and Countryside Act (1981) as amended, from killing, injury, disturbance and damage or destruction of their resting places etc. Certain species (such as reptiles) and some birds (such as barn owl) receive partial protection e.g. at certain times of the year or from certain activities only. All nesting bird species are protected from damage or destruction of their nests - whilst active.

Invasive species

Schedule 9 of the Wildlife and Countryside Act (1981) as amended, lists these species and makes it an offence to cause or allow their spread in the wild. This often has impacts on development and planning in relation to the presence of invasive plant species such as: himalayan balsam (*Impatiens glandulifera*), japanese knotweed (*Fallopia japonica*) and giant hogweed (*Heracleum mantegazzianum*).

Planning Policy / Guidance

The National Planning Policy Framework (NPPF)

The National Planning Policy Framework was published in 27 March 2012 replacing the majority of previous Planning Policy Guidance notes (PPGs) and Planning Policy Statements (PPSs). The most relevant paragraphs from the NPPF are set out below.

The general approach to assessing the natural environment is now embedded within the definition of what 'sustainable development' is. Paragraph 7 (P7) of the NPPF states that sustainable development should "contribute to protecting and enhancing our natural environment" and "help to improve biodiversity". There is also a need for positive inclusion of the natural environment in development design and "moving from a net loss of bio-diversity to achieving net gains for nature" (P9). P14 sets out the Frameworks presumption in favour of sustainable development.

The natural environment is stated within the NPPF core principles: development should "recognise the intrinsic character and beauty of the countryside" and contribute to conserving and enhancing the natural environment and reducing pollution. Allocations of land for development should, "prefer land of lesser environmental value, where consistent with other policies in this Framework" (P17).

Section 11 of the NPPF details the approach to the natural environment. The Framework states that development should "minimise impacts on biodiversity and provide 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" (P109).

The Framework sets out ways to minimise the impacts on biodiversity through "promoting 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" (P117).

The NPPF requires the consideration of the impacts of development on the natural environment. The Framework also encourages "opportunities to incorporate biodiversity in and around developments" (P118). Importantly this paragraph (P118) sets out the hierarchy of avoiding, mitigating and compensating harm from development - plans should ensure that they can demonstrate engagement with this hierarchy when required.

Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services.

This strategy builds on the Natural Environment White Paper (June 2011) - The Natural Choice: securing the value of nature. Setting out the current UK Government's approach to nature conservation. It promotes a more coherent and inclusive approach to conservation and the valuing in economic and social terms of economic resources.

The strategy promotes initiatives such as Biodiversity Offsetting, Nature Improvement Areas and a focus on well-connected natural networks and introduces the concept of securing a 'no net loss' situation with regard to UKBAP / Section 41 habitats and species.

ODPM circular 06/05 (2005) Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System

Provides guidance to Local Authorities on their obligations to biodiversity – particularly in relation to assessing planning applications and ensuring the adequacy of information.

BSI (2013) British Standards Institute BS 42020:2013 Biodiversity — Code of Practice for Planning and Development.

Provides a standard for the biodiversity assessment and development industries and decision makers such as Local Planning Authorities to work to.