
The Beeches, Steeple Aston (ECO5843)

Biodiversity Impact Assessment

Date: 27th March 2020

1. Introduction

- 1.1. Mr. Adrian Shooter has submitted a planning application for the development of eight residential units located to the south of the village of Steeple Aston centred at grid reference SP 4771 2522, hereafter referred to as the site.
- 1.2. Aspect Ecology has been commissioned to undertake a Biodiversity Impact Assessment to demonstrate measurable biodiversity net gains provided by the scheme. The DEFRA 2.0 Biodiversity Impact Calculation Tool has been used to conduct the BIA as Cherwell District Council does not currently have its own calculator. This briefing note accompanies the BIA Calculator and provides a summary of the results and justifies the choice of habitat definitions, distinctiveness, target habitat conditions and temporal factors where appropriate.

2. Biodiversity Impact Assessment

- 2.1. The information obtained from the Phase 1 habitat survey (pre-development – as set out within the Ecological Appraisal produced in June 2019 [see Appendix 5843/1] by a third part consultancy and confirmed by a 2020 update survey conducted by Aspect Ecology) and the Landscape Strategy Plan (post-development) (see Appendix 5843/2) have been input into the most up to date version of the DEFRA 2.0 Biodiversity Impact Assessment Calculator Tool. This enables the change in ‘biodiversity units’ for both ‘Habitat units’ and ‘Hedgerow units’ and ‘River units’ pre- and post-development to be measured.
- 2.2. This section references, justifies and discusses the habitat categories and their condition chosen from the drop-down menus of the BIA Calculator.

Existing Site Habitats (Pre-development)

- 2.3. **‘Grassland – Modified grassland’**. An area of grassland at the west of the site has been attributed to this category. The survey work undertaken by the third-party consultancy and Aspect Ecology found the grassland to be improved grassland dominated by common grass and herb species. Under the DEFRA 2.0 BIA metric, improved grassland is categorised as ‘modified grassland’ of ‘fairly poor condition’. A small area of grassland identified as ‘semi-improved neutral grassland’ is also classed as ‘modified grassland’ for the purposes of the BIA calculations and is of ‘moderate’ condition. The grassland within the site supports a low diversity of common and widespread species and, although occasional indicators of higher quality grassland are present, the grassland is not considered to form an important ecological feature.
- 2.4. **‘Urban – Amenity Grassland’** – condition ‘poor’. The main garden associated with the existing residential building and an additional area to the west of the site were identified as amenity grassland in the 2019 Ecological Assessment Report and during the Phase 1 survey undertaken in 2020 by Aspect Ecology. This grassland appears to be subject to frequent management through mowing and comprises a low diversity of common and widespread species. Accordingly,

the amenity grassland is not considered to form an important ecological feature and is considered to be of 'poor' quality for the purposes of the BIA calculations.

- 2.5. **'Heathland and shrub – Mixed Scrub'** – condition 'fairly poor'. The dense scrub at the site comprises a limited range of native species and non-native species that are common and widespread in the local and national context. This habitat does not meet the 'high environmental value' categorisation defined in the FEP Manual. The scattered scrub is of local level value only and is not an important ecological feature, and overall is considered to be in 'fairly poor' condition for the purposes of the BIA calculations.
- 2.6. **'Sparsely vegetated land – Ruderal / Ephemeral'** – condition 'poor'. The tall ruderal and the ephemeral / short perennial habitat within the site have been attributed to this category under the DEFRA 2.0 Metric. These habitats comprise a limited range of species that are common and widespread in the local area and the national context. The tall ruderal and ephemeral / short perennial do not form an important ecological feature and overall is considered to be in 'poor' condition for the purposes of the BIA calculations.
- 2.7. **'Woodland and Forest – Other Woodland; mixed'** – condition 'fairly poor'. An area of mixed plantation woodland is present at the north and east of the site. The mixed plantation woodland comprises a limited range of species that are common and widespread in the local area. Additionally, the mixed plantation woodland has a sparse understorey and limited ground flora. This woodland is considered to form an important ecological feature and has been categorised as of 'fairly poor' condition for the purposes of the BIA calculation.
- 2.8. **'Woodland and Forest – Other Coniferous Woodland'** – condition 'poor'. A belt of plantation coniferous woodland is present along the northern boundary of the site. A second smaller area was noted in the centre of the site between the two storage buildings. The plantation coniferous woodland comprises a limited range of species that are common and widespread in the local area and the national context and is not considered to form an important ecological feature. For the purposes of the BIA calculation, it has been attributed a condition of 'poor' as the coniferous woodland is species-poor and dense Laurel is present in the understorey.
- 2.9. **'Urban – Vacant/derelict land/bare ground'** – condition 'poor'. Several areas of bare ground are present within the site. The bare ground within the site is largely devoid of vegetation and does not form an important ecological feature and overall is considered to be in 'poor' condition for the purposes of the BIA calculations.
- 2.10. **'Urban – Developed land; sealed surface'** – condition 'N/A-other'. The remainder of the site is comprised of a residential property, ancillary buildings and hardstanding which are largely devoid of vegetation and do not form an important ecological feature. For the purposes of the BIA calculations, the condition of this category is not required.

Habitat Creation (Post-development)

- 2.11. **'Urban – Developed Land; sealed surface'** – condition 'N/A – other'. This habitat includes all new buildings, roads, parking and tarmac footpaths and, as such, is not assigned a condition under the DEFRA 2.0 metric.
- 2.12. **'Urban – Amenity Grassland'** – condition 'poor'. The poor condition is based on the new amenity grassland forming residential gardens.
- 2.13. **'Urban – Introduced Shrub'** – condition 'fairly poor'. Areas of introduced shrub planting are to be included within the proposed development, forming the frontages of the residential

properties. For the purposes of the BIA calculations, the introduced shrub has been attributed a condition of 'fairly poor' based on the new shrubs being species of value to wildlife, such as varieties listed on the RHS' 'Plants for Pollinators' database, providing a nectar source for bees and other pollinating insects.

- 2.14. '**Grassland – Modified Grassland**' – condition 'fairly poor'. This habitat includes areas of open grassland to be created as part of the proposals (not including new residential gardens) using a flowering lawn mixture. The 'fairly poor' condition is based on these areas of grassland comprising of a flowering lawn mixture, and therefore having a higher species diversity than standard amenity grassland and regular management to a low sward height.
- 2.15. '**Heathland and Shrub – Mixed Scrub**' – condition 'moderate'. This habitat includes the large area of scrub planting to be created at the centre and east of the site in addition to the areas of scrub proposed along the western site boundary. The proposed mixed scrub planting will comprise a high diversity of native species, some of which is to have a wildflower grassland ground flora and will be of benefit to biodiversity. This scrub will be allowed to develop over time and the tree species will be allowed to grow thereby further enhancing the structural diversity of this habitat. These areas have therefore been categorised as of 'moderate' condition under the BIA calculations.

Habitat Enhancement (Post-development)

- 2.16. '**Woodland and forest – Other Coniferous Woodland**' – condition 'fairly poor'. This refers to the existing area of coniferous plantation woodland at the northern boundary of the site which is to be subject to management as part of the landscape strategy. The aim of this management strategy will be to create a higher quality woodland managed for the benefit of biodiversity. A sensitive management strategy shall be adopted in order that over time (10 years) the existing condition of the coniferous plantation woodland will be raised from 'poor' to 'fairly poor'. This timeline is considered realistic based on the nature of the existing woodland and its likely ability to respond favourably to positive management.
- 2.17. '**Woodland and forest – Other woodland: mixed**' – condition 'moderate'. This refers to the existing area of woodland at the east and centre of the site which is to be subject to management as part of the landscape strategy. This management strategy will aim to create a high-quality woodland managed for the benefit of biodiversity, informed by sensitive management to ensure that over time (15 years) the existing condition of the mixed plantation woodland will be raised from 'fairly poor' to 'moderate'. This timeline is deemed realistic based on the nature of the existing woodland and its likely ability to respond favourably to positive management.

Habitat Succession (Post-development)

- 2.18. An area of retained grassland (**Grassland – Modified Grassland**) at the south-western corner of the site is to be retained and allowed to succeed to the habitat '**Woodland and Forest – Other woodland mixed**'. New native trees with a minimum girth of 100mm will be planted to assist with the succession. The grassland in the area will be sensitively managed over a period of over 25 years to increase diversity whilst allowing the new trees to grow and succession to take place.

Habitat Biodiversity Impact Score

- 2.19. The BIA calculator computes a Habitat Biodiversity Impact Score for the proposals of **+1.34 units**, a gain of **37.22%**.

3. Hedgerow Impact Assessment

Existing Hedgerows (Pre-development)

- 3.1. **'Native Hedgerow'** – condition 'moderate'. This includes the hedgerows located at the east and west boundaries of the site. Both hedgerows contain one of two native species and are not considered species rich. The hedgerows are well established however and has been categorised as 'moderate' condition for the purposes of the BIA calculation.
- 3.2. **'Native Species Rich Hedgerow with trees'**– condition 'moderate'. This habitat refers to the hedgerow forming the southern boundary of the site. The hedgerow was noted to be dense in structure and contains >5 native woody species within, and several standard trees. As such, it has been categorised as 'native species rich hedgerow with trees' under the BIA hedgerow categories. The moderate condition refers to the well-established nature of the hedgerow.
- 3.3. **'Hedger Ornamental Non Native'** – condition 'poor'. A single length of Cherry Laurel hedgerow is located at the east of the site and has been categorised as 'poor' condition for the purposes of the BIA calculation.

New Hedgerows (Post-development)

- 3.4. **'Native Hedgerow'** – condition 'moderate'. Several new hedgerows comprising Hornbeam are to be created within the site, mostly forming the boundary between the new residential properties and the new road.
- 3.5. **'Native Species Rich Hedgerow'** – condition 'moderate'. Several new hedgerows comprising native species are to be created within the site, mostly forming the south and south east boundary of the site and between garden boundaries for the new residential properties.

Hedgerow Enhancement (Post-development)

- 3.6. All of the hedgerows within the site are to be retained under the proposals. The retained hedgerows are all to be subject to a sensitive management regime to increase their value for biodiversity. As such, it is considered that the condition of the retained hedgerows will be increased from 'moderate' to 'good' for the purposes of the BIA calculation.

Hedgerow Biodiversity Impact Score

- 3.7. The BIA calculator computes a Hedgerow Biodiversity Impact Score for the proposals of **+1.35 units**, a gain of **77.04%**.

4. Summary & Conclusion

- 4.1. A Biodiversity Impact Assessment calculation has been carried out. The BIA calculates that a net gain of +1.34 habitat units and +1.35 hedgerow units is achievable under the proposed development, subject to the recommendations set out above and within the third party Ecological Impact Assessment (June 2019). This represents a biodiversity gain of 37.22% for habitat units and 77.04% for hedgerow units. In conclusion, the proposed development will deliver a measurable net gain in biodiversity.

Appendices:

Appendix 5843/1 – Phase 1 Habitat Map January 2019 (Ecolocation)

Appendix 5843/2 – Landscape strategy plan (Proposals)

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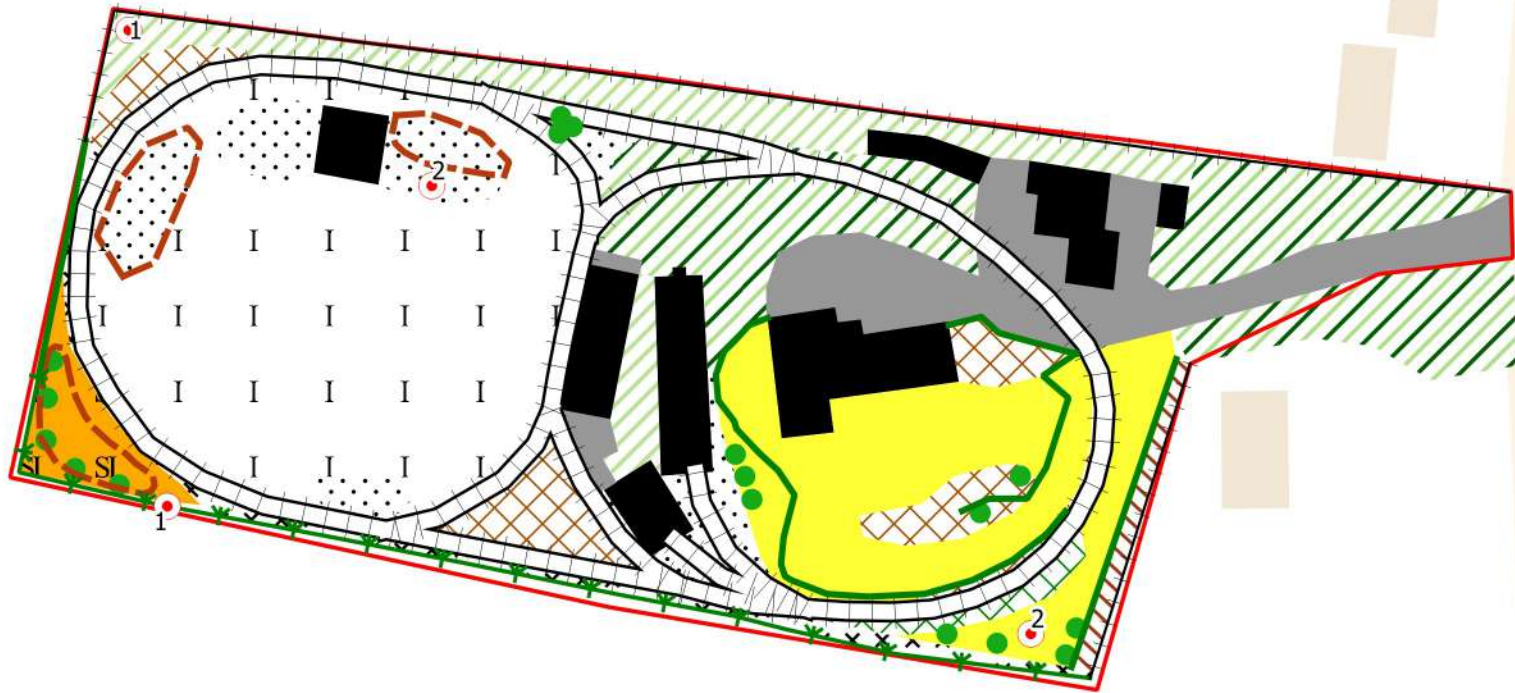
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Phase 1 Habitat Map January 2019

Land at The Beeches, Steeple Ashton

2019-01(03)



Key

- Site boundary
- Coniferous plantation woodland
- Mixed plantation woodland
- Dense/continuous scrub
- Semi-improved neutral grassland
- Improved grassland
- Tall ruderal vegetation
- Amenity grassland
- Ephemeral/short perennial vegetation
- Introduced shrubs
- Buildings
- Bare ground
- Hard standing
- Bund
- Species rich intact hedge
- Species poor intact hedge
- Fence
- Tree
- Railway line
- Target note

Target notes:

1. Mammal path.
2. Pile of chippings and brash

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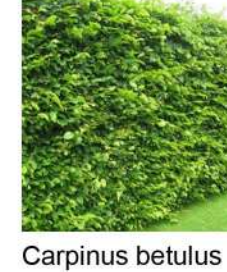


Street + Feature Trees

- Magnolia Kobus
- Prunus avium 'Plena'
- Prunus cerasifera 'Pisardii'
- Malus spp
- Acer lobellii
- Fagus sylvatica purpurea



Hornbeam Hedge



Carpinus betulus

Native Hedge Mix



- Crataegus monogyna
- Ilex aquifolium
- Corylus avellana
- Ligustrum vulgare
- Prunus spinosa
- Viburnum opulus

Native Shrub Mix



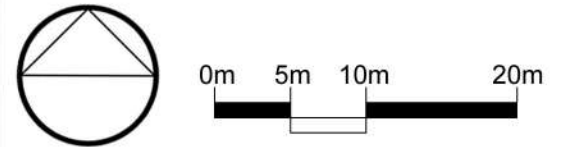
- Cornus sanguinea
- Corylus avellana
- Prunus spinosa
- Rhamnus cathartica
- Viburnum lanata
- Viburnum opulus

Native Open Space and Boundary Trees



- Acer campestre
- Betula pendula
- Quercus robur
- Sorbus aria
- Sorbus aucuparia

NOTES:
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- Key:**
- Site Boundary
 - Existing Vegetation Retained
 - Proposed Native Open Space and Boundary Trees
 - Proposed Feature Beech Tree
 - Proposed Street Trees
 - Proposed 1.5m Hornbeam Hedge
 - Proposed 1.5m Native Hedge
 - Proposed Ornamental Shrub
 - Proposed Native Shrub
 - Proposed Flowering Lawn
Emorsgate EL1 sown at 40kg/ha
 - Proposed Understorey
Wildflower Grass Mix
Emorsgate EM2 sown at 40kg/ha
 - Private Gravel Driveway
 - Existing Access Drive.
 - Permeable Road Surface

Existing planting on western boundary enhanced with proposed native tree and shrub planting.

Ornamental shrub and tree planting surrounding the frontages of the built forms. Planting pallet of pinks, purples and whites have been selected to provide both visual and ecological value aesthetics.

Proposed native tree planting and existing grassland retained and allowed to develop to enhance biodiversity.

Proposed posted rail fencing to maintain 3m buffer to site boundary in accordance with Ecologist's recommendations.

Formal 1.5m high Hornbeam hedge planting to plot frontages.

Proposed area of open space planted with native tree and shrub planting to encourage biodiversity. Pockets of flowering lawn and bulb planting fill the space to add seasonal interest.

Replacement trees for T60 and T61

Access reformatted to Country Highways requirements and existing driveway widened

Replacement trees for T13

Proposed posted rail fence to existing house boundary with new screen planting.

Feature specimen Beech tree added to connect with existing entrance beech and site name.

Proposed native specimen tree planting planted in blocks and underplanted with shade wildflower mix.

Ornamental Planting Mix

- Lavandula angustifolia 'Hidcote'
- Lavandula angustifolia 'Rosea'
- Salvia purpurea
- Cistus corbariensis
- Potentilla fruticosa 'Abbotswood White'
- Hebe 'Nicola's Blush'
- Fuschia 'Mrs Popple'
- Spiraea nipponica 'Snowmound'
- Escallonia 'Apple Blossom'
- Weigela 'Mount Blanc'
- Euonymus fortunei 'Silver Queen'
- Clematis Montana
- Phormium tenax 'Purpureum'
- Hydrangea aspera
- Prunus laurocerasus 'Otto luyken'



REV	DATE	NOTE	DRAWN	CHKD
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TITLE
**The Beeches, Steeple Aston
Landscape Strategy Plan**

CLIENT
A.Shooter

SCALE: 1:500 @ A2 DATE: MAR 2020 DRAWN: SB CHKD: CJ

DRAWING NUMBER: 7140 / ASP3 REVISION: