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Biodiversity Net Gain Report

Client

Avant Homes Yorkshire

Project

Thurnscoe Bridge Lane,

Thurnscoe

Date

October 2025

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Rev	Issue Status	Prepared/Date	Reviewed/Date	Approved/Date
-	Draft	SJH / 01.11.2024	JDH / 01.11.2024	JD / 05.11.2024
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1.0 INTRODUCTION

1.1 This report has been prepared by FPCR Environment and Design Ltd on behalf of Avant Homes and provides a Biodiversity Net Gain (BNG) assessment on land off Thurnscoe Bridge Lane, Thurnscoe (Ordnance Survey Grid Reference SE 45397 04894), herein referred to as the 'Site'.

1.2 This report has been prepared with reference to the TPM Landscape Masterplan (Drawing Ref: 4532-101, Rev F, September 2025).

Site Context

1.3 The Site is approximately 9.92ha and located on land off Thurnscoe Bridge Lane to the south of Thurnscoe and north-west of Goldthorpe, Barnsley. The Site is surrounded by residential development to the north and south; a railway line, industrial buildings and Phoenix Park to the east; and arable land to the west. Further afield, 1.9km to the southeast, lies RSPB Dearne Valley and 2.5km to the south-west is RSPB Old Moor.

1.4 The Site consists predominantly of arable land with a large parcel of modified grassland in the west of the Site, whilst tall forbs, mixed scrub and modified grassland are present within the Site along the north and eastern Site boundaries, associated with adjacent hedgerows and trees.

1.5 An area of wider land ownership lies southwest of the Site and is comprised solely of arable land. The parcel as shown by the blue line in the associated figures and is to be used for BNG offsetting where required.

Proposals

1.6 Proposals for the Site entail the construction of a residential development comprising 289 dwellings with associated gardens, car parking, access roads and footpaths. Green infrastructure proposed includes the creation of a sustainable urban drainage systems (SuDS), public open space (POS) which will comprise semi-natural habitats, and native tree and hedgerow planting.

Aims and Objectives

1.7 This BNG Report is broadly based on the Chartered Institute of Ecology and Environmental Management (CIEEM) guidance[1]. The scope and objectives of this report are to:

- Summarise the results of the baseline habitat survey[2] and habitat condition assessment survey following the Defra Statutory Biodiversity Metric (hereafter referred to as 'the Metric').
- Provide an overview of the proposed habitats following completion of the scheme.
- Present the results of the Metric assessment completed for the proposals.
- Assess the feasibility of the proposals to achieve a net gain in biodiversity through the Metric.

[1] CIEEM (2021) Biodiversity Net Gain Report and Audit Templates Chartered institute of Ecology and Environmental Management, Winchester, UK.
[2] UKHab Ltd (2023) UK Habitat Classification Version 2.0 (at http://www.ukhab.org)PX

- Recommendations for the proposals to maximise their biodiversity potential.

Biodiversity Impact Assessment Strategy

1.8 The Lawton Review[3] summarises that that improvements for biodiversity in the UK need to be

"more, bigger, better and joined up".

1.9 Specifically, with regards to biodiversity offsetting for developments it recommends that

"Opportunities should be taken to pool habitat compensation from different developments so that larger habitat blocks can be created".

1.10 Following this guidance, a coherent, cumulative strategy is proposed to provide quality habitats which connect into existing ecological networks.

1.11 Through utilising a biodiversity metric, conservation activities can be designed to deliver measurable biodiversity benefits in compensation for losses. This provides a traceable record to track cumulative impacts and delivered biodiversity benefits.

1.12 Using the biodiversity metric means that a developer employs a standardised formula to calculate the number of biodiversity 'units' to be lost as a result of their development, based on the habitat(s) affected, their condition and extent. The developer then provides an 'offset' (where necessary) to deliver an equivalent number of biodiversity units.

1.13 Biodiversity offsetting is used only to compensate for adverse impacts on biodiversity identified after appropriate avoidance, minimisation and on-site rehabilitation measures have been undertaken, according to the mitigation hierarchy as required by National Planning Policy Framework (NPPF, 2024)[4].

[3] Lawton, J.H et al., (2010) Making Space for Nature: a review of England's wildlife sites and ecological network. Report to Defra. _http://archive.defra.gov.uk/environment/biodiversity/documents/201009space-for-nature.pdf

[4] Department for Levelling Up, Housing & Communities, National Planning Policy Framework (2024) available at: https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf

2.0 LEGISLATION

Legislative and Policy Context

The Environment Act 2021

2.1 In England, biodiversity net gain is now required under statutory frameworks introduced by Schedule 7A of the Town and Country Planning Act 1990[5] (inserted by the Environment Act 2021[6]). Under this framework, every grant of planning permission will be deemed to have been granted subject to a general biodiversity gain condition. This requires developments to deliver at least a 10% increase in biodiversity value relative to the pre-development biodiversity value of all onsite habitats.

2.2 This is a pre-commencement condition requiring the provision of a Biodiversity Gain Plan to be submitted and approved before works can be commenced, but after planning permission has been granted.

2.3 In principle, the grant of planning permission is not within the scope of BNG, however it is important to consider as part of the consenting body's decision-making process how a scheme will be able to demonstrate BNG after permission is granted. Therefore, this BNG report presents the results of a BNG assessment that has been completed in order to demonstrate how the proposals will be compliant with the requirements of the Environment Act.

Biodiversity Net Gain Hierarchy

2.4 The statutory framework allows for the 10% biodiversity gain to be delivered through onsite biodiversity gains, registered offsite biodiversity gains or statutory biodiversity credits. However, as set out in Articles 37A and 37D of the Town and Country Planning[7] (Development Management Procedure) (England) Order 2015, development must consider the biodiversity net gain hierarchy when designing scheme proposals. This sets out hierarchy of actions as follows:

- First, for all medium, high and very high distinctiveness habitats, the avoidance of any adverse effects.
- Where these can't be avoided, mitigating any adverse effects on medium, high and very high distinctiveness habitats.
- Then, for all onsite habitats (including low distinctiveness), adverse effects should be compensated by in accordance with the following hierarchy:
  i. Prioritising the enhancement of existing habitats; then
  ii. Creation of onsite habitats;
  iii. Allocation of registered offsite unit gains; then
  iv. Purchase of biodiversity credits

2.5 Proposals must demonstrate how the biodiversity hierarchy has been applied to or provide the reasons for any deviation. This biodiversity net gain hierarchy is distinct from the mitigation

[5] Town and Country Planning Act 1990, c.8 available at: https://www.legislation.gov.uk/ukpga/1990/8/contents
[6] Environment Act 2021 c. 30 available at: https://www.legislation.gov.uk/ukpga/2021/30/contents
[7] Town and Country Planning (Development Management Procedure) (England) Order 2015, No 595 available at: https://www.legislation.gov.uk/uksi/2015/595/contents/made

hierarchy set out in paragraph 193(a) of the National Planning Policy Framework (2024)[8] which is addressed in the accompanying Ecological Appraisal where relevant.

National Planning Policy Framework (2024)

2.6 The NPPF (2024) in particular seeks to ensure that the planning system contributes to and enhances the natural and local environment, protect and enhance biodiversity and geodiversity by:

"187. d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures and incorporating features which support priority or threatened species such as swifts, bats and hedgehogs;…;

192. b) 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."

Barnsley Council Local Policy

2.7 The Site lies within the administrative area of Barnsley Council and is covered by the Local Plan[9] (adopted in 2019) which is further supplemented by the Biodiversity and Geodiversity Supplementary Planning Document (SPD)[10] (adopted in March 2024).

2.8 Within the Local Plan and SPD, the following policies may be relevant to the provision of BNG:

- **Policy BI01 'Biodiversity and Geodiversity'**– Development will be expected to conserve and enhance the biodiversity and geological features of the borough and encourages maximising biodiversity and geodiversity opportunities in and around new developments.
- **Policy GI1 'Green Infrastructure'** – Development will protect, maintain, enhance and create an integrated network of connected and multi-functional Green Infrastructure in Barnsley.
- **Policy GS1 'Green Space'** – Improve existing green space which are valuable for amenity, recreation, wildlife or biodiversity.
- **Policy CC1 'Climate Change'** – Seek to reduce the causes of and adapt to the future impacts of climate change by promoting the use of SuDS and promoting investment in Green Infrastructure to promote and encourage biodiversity gain.
- **Policy CC4 'Sustainable Drainage Systems (SuDS)'** – All major development will be expected to use SuDS to manage surface water drainage, unless it can be demonstrated that all types of SuDS are inappropriate.

2.9 Additionally, the SPD states the following: "Development proposals will have due regard to the baseline biodiversity value of a development site and landscaping plans should identify

[8] Department for Levelling Up, Housing & Communities, National Planning Policy Framework (2024) available at: https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf
[9] Barnsley Local Plan (Adopted January 2019). Available at: https://www.barnsley.gov.uk/media/17249/local-plan-adopted.pdf
[10] Barnsley Local Plan, Supplementary Planning Document, Biodiversity and Geodiversity (Adopted March 2024). Available here: https://www.barnsley.gov.uk/media/uqcn3wiv/biodiversity-and-geodiversity-spd-2024.pdf

opportunities to retain and maximise the provision for biodiversity within the new development. Minimum 10% Biodiversity Net Gain based on baseline ecological assessment should be achieved."

3.0 METHODOLOGY

Desktop Study

3.1 In order to compile existing baseline information for the study area, relevant ecological information was requested from Sheffield Biological Records Centre (SBRC) and Doncaster Local Records Centre (DLRC).

3.2 In addition, the following publicly available resources were interrogated for information and context:

- Multi Agency Geographic Information for the Countryside (MAGIC) website[11];
- OS base maps[12];
- Imagery from Google Earth[13].

3.3 The geographical extent of the search area for biodiversity information was related to the significance of sites and species and potential zones of influence which might arise from development within the Site. The consultation exercise was completed using the following scales, considered to be appropriate:

- 10km around the Site boundary for sites of International Importance (e.g. Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar wetlands);
- 2km around the Site boundary for statutory sites of National or Regional Importance (e.g. Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR));
- 1km from the centre for statutory designated sites of County/Local Importance (e.g. Local Nature Reserves (LNR)), Local Wildlife Sites (LWS), sites listed in the Ancient Woodland Inventory (AWI), and other sites of conservation importance).

3.4 The MAGIC website was consulted to establish whether the Site lay within an Impact Risk Zone (IRZ). IRZs have been developed by Natural England to provide an initial assessment of the potential risk to statutory designated sites from development proposals. These zones are defined around statutory designated sites to reflect their sensitivity. A citation is given for each IRZ, indicating the types of development which could potentially have adverse impacts on the statutory designated site.

3.5 The MAGIC website was also consulted to establish whether any Habitats of Principal Importance (HPI) listed within Section 41 of the NERC Act 2006 lay within or immediately adjacent to the Sites.

[11] [Online]. http://www.magic.gov.uk/
[12] [Online]. www.ordnancesurvey.co.uk
[13] [Online]. www.maps.google.co.uk

Baseline Habitat Assessment

3.6 An assessment of the baseline habitats was undertaken initially on 11th January 2024 by an ecologist with a FISC Level 3 qualification, which was subsequently updated on 5th June 2024 during the optimal survey season. Habitats were identified and mapped broadly following the UKHab 2.0 classification system[14] and assessed for their condition using methodology as detailed within the Statutory Biodiversity Metric Technical Annex 1: Condition Assessment Sheets and Methodology (July 2024)[15].

3.7 Vascular plant nomenclature followed Stace (2019)[16]. Representative plant species lists were compiled for each habitat mapped, with an assessment of abundance made using the DAFOR scale. Quadrat data was used for grassland habitats to ensure a robust condition assessment, with all vascular plants recorded within each quadrat.

Statutory Biodiversity Metric

3.8 DEFRA's published Statutory Biodiversity Metric as an MS Excel spreadsheet that is used to quantify the predicted net-change in biodiversity value ("biodiversity units") of a proposed development site before and after development. It treats the flat "habitats" and linear features "hedgerows" separately, and is based on pre-determined values, along with published written guidance, set by a team of experts.

3.9 To facilitate this, the Site has been mapped and digitised using the Statutory Biodiversity Metric QGIS Template, with the existing habitats identified and areas automatically generated. In accordance with the Metric User Guide, habitats have been defined under UK Habitat 2.0 Classification. The indicative layout proposals for the Site were then uploaded into the QGIS template, mapped and digitised to generate areas for development and proposed open space.

3.10 These pre- and post-development areas were then inputted into the Metric Calculation tool. Pre-development habitats were grouped into their habitat type and condition based on the results of the UKHab and condition assessment surveys. The areas to be developed have been mapped to enable an understanding of habitat losses and enable recommendations to be made.

3.11 The strategic significance of the habitats was also assessed for the post-development habitats based on the location of the Site, its proximity to existing areas of biodiversity interest and its setting within wider habitat corridors. In the absence of a Local Nature Recovery Strategy for the area, strategic significance has been applied in accordance with that set out in the Statutory Biodiversity Metric – User Guide[17].

3.12 Full details of the calculation methodology used is provided in the Statutory Biodiversity Metric – User Guide.

[14] UKHab Ltd (2023). *UK Habitat Classification Version 2.0* (Available at: http://www.ukhab.org)

[15] *DEFRA (2024). Statutory Biodiversity Metric Technical Annex 1: Condition Assessment Sheets and Methodology v1.0.2 (Available at* https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guideS)

[16] Stace, C (2019) New Flora of the British Isles. 4th edn. C&M Floristics

[17] DEFRA, Statutory biodiversity metric: draft user guide (2024) Available at: https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides

Limitations

3.13 The western grassland within the Site had been heavily cut prior to the June 2024 survey visit, with some small patches of uncut vegetation remaining, as such the habitat was assessed based on uncleared areas which were still present and compared to evidence from the initial survey in 2023. The characteristics of the grassland were further compared during survey visits to assess the presence of protected species during 2024. A review of all the above information was used to classify the habitat type and condition/distinctiveness and is not considered to be a significant limitation to the assessment.

3.14 The UKHab habitat map has been reproduced from detailed field notes and informed by aerial imagery, OS mapping and site maps provided by the client. The accuracy of this figure is therefore ultimately guided by the accuracy of these sources and can only be relied upon to a certain degree of resolution.

3.15 Natural ecological communities are susceptible to change; at times this change can be rapid as a result of internal and external environmental factors. The biodiversity offsetting calculations are based on ecological assessments of habitats carried out in June 2024; as a result, changes which may affect the conclusions of this report may occur, if a prolonged period of time elapses prior to the commencement of the project.

3.16 No other limitations specific to this report influenced this assessment.

4.0 BASELINE CONDITIONS

Desktop Study

4.1 A summary of the relevant information from the desktop study has been provided below.

Designated Sites of Nature Conservation Importance

4.2 No statutory sites of International Importance are located within 10km of the Site boundary.

4.3 One statutory site of National Importance was returned within 2km of the Site boundary: Dearne Valley Wetlands SSSI. The site as a whole comprises a number of separate areas, the nearest of which is located approximately 2km south-east of the Site. The SSSI is designated for the following nationally important features:

- Breeding gadwall *Mareca strepera*, shoveler *Spatula clypeata*, garganey *Spatula querquedula*, pochard *Aythya ferina*, bittern *Botaurus stellaris*, black-headed gull *Chroicocephalus ridibundus* and willow tit *Poecile montanus klienschmidti*.
- Non-breeding gadwall and shoveler.
- Diverse assemblages of breeding birds of Lowland damp grasslands, Lowland scrub and a mixed assemblage of Lowland open waters and their margins and Lowland fen.

4.4 No statutory sites of County/Local Importance or sites listed under the AWI were returned within 1km of the Site boundary.

Impact Risk Zones (IRZ)

4.5 The proposed Site lies within four Natural England's SSSI IRZ, of which the following development categories are of relevance to the Site proposals (and therefore requires consultation as part of planning with Natural England) as follows:

- Residential: Residential development of 100 units or more.
- Discharge: Any discharge of water or liquid waste of more than 2m^3/day that is discharged to ground (i.e. to seep away) or to surface water, such as a beck or stream.

Dearne Valley Green Heart Nature Improvement Area

4.6 The Site lies fully within the Dearne Valley Green Heart Nature Improvement Area (NIA). The NIA is a nature conservation designation aimed at improving biodiversity at a landscape scale. As presented in the Local Plan Biodiversity and Geodiversity SPD the vision of the NIA partnership is "*to restore and enhance the ecological networks in the valley and at its core will be areas of reedbeds, fen, wet grassland, wet woodland and woodland buffered by areas of farmland, amenity grasslands, parklands and reclaimed industrial areas, whose biodiversity value will be enhanced*".

Habitats of Principal Importance

4.7 One stretch of native hedgerow runs along the eastern boundary, which is a habitat of principal importance. Additionally, two parcels of deciduous woodland lie immediately adjacent to the southern Site boundary.

UKHab and Condition Assessment Survey

4.8 The Site is represented by the red line boundary which reflects areas impacted by the proposals, whilst the blue line boundary represents wider land ownership to be used for BNG offsetting (see associated figures).

4.9 The habitats on-Site comprise cereal crops, modified grassland, tall forbs, mixed scrub, native and non-native hedgerows, a line of trees and individual trees. The off-Site area is comprised solely of cereal crops.

4.10 A description of the baseline habitats and their corresponding condition assessment scores are provided below and are depicted on Figures 1 and 2. The full condition assessment results and species lists are provided in Appendix A.

Cereal Crops

4.11 Both the Site and the land within the blue line are dominated by arable land in the form of UKHab classification 'cereal crops'. The condition assessment of the habitat is 'not applicable' under the Metric.

Modified Grassland

4.12 There was one large compartment of 'modified grassland' in the west of the Site, as well as along field margins on the eastern boundary of the Site. The larger grassland compartment was recently cleared at the time of the June 2024 survey, leaving only small areas of uncleared grassland. The species composition comprised abundant perennial rye-grass *Lolium perenne* and false oat-grass *Arrhenatherum elatius*, frequent cock's-foot *Dactylis glomerata*, whilst Italian rye-grass *Lolium multiflorum*, rough meadow-grass *Poa trivialis and* Yorkshire fog

Holcus lanatus were occasionally encountered. Rarely recorded grass species included brome *Bromus sp*., meadow foxtail *Alopecurus pratensis* and wall barley *Hordeum murinum*, as well as some ruderal/ephemeral species at field margins as listed in Appendix A.

4.13 The grassland was noted to lack variation in the sward height based on the initial habitat survey and during subsequent unrelated ecological survey visits, was noted to be species-poor (3.33 species per m^2), with limited scrub encroachment, and a lack of bracken and invasive non-native species (INNS). The grassland parcels were assessed as being in poor condition.

Mixed Scrub

4.14 There was a stretch of scrub habitat along the eastern Site boundary which comprised bramble *Rubus fruticosus* agg. and woody species blackthorn *Prunus spinosa*, hawthorn *Crataegus monogyna*, hazel *Corylus avellana* and oak saplings *Quercus sp*, as well as some ruderal/ephemeral species as listed in Appendix A.

4.15 The habitat has been categorised as UKHab 'mixed scrub' and scored poor in the condition assessment due to the lack of mature specimens (although semi-mature specimens were noted), the lack of a well-developed edge, and absence of any clearings/glades/rides.

Tall Forbs

4.16 Tall ruderal vegetation was associated with the rough track within the north-eastern area of the Site. The habitat has been classified as UKHab 'tall forbs' and was largely comprised of taller species such as willowherb *Epilobium sp*., common nettle *Urtica dioica*, broad-leaved dock *Rumex obtusifolius*, lesser burdock *Arctium minus*, mugwort *Artemisia vulgaris*, and rough chervil *Chaerophyllum temulum*, whilst also including white dead-nettle *Lamium album*, common comfrey *Symphytum officinale*, perennial sow-thistle *Sonchus arvensis*, creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare* and smooth hawk's-beard *Crepis capillaris.* Grasses were noted to be limited in diversity, and some scrub species were rarely encountered within the habitat (further detailed in Appendix A).

4.17 The habitat was assessed as being in good condition due to its diversity in vegetation structure and species composition, and the absence of INNS.

4.18 A second, much smaller parcel of tall forbs was associated with the eastern boundary and dominated by common nettle. The habitat was assessed as being in poor condition given a single structural component accounting for more than 80% of the total area, and the lack of species diversity.

Bare Ground

4.19 There was an unvegetated rough track forming a public footpath along the northern boundary from the north-eastern corner of the Site. The habitat overall lacked species diversity and vegetation structure and therefore was assessed as in poor condition.

Ruderal/Ephemeral

4.20 A small patch of predominantly bare ground was located along the northern boundary, with perennial grass species comprising less than 50% of the total area and short ephemeral species covering approximately 5%. The vegetation present lacked species diversity and vegetation structure and therefore was assessed as poor condition.

Developed Land; Sealed Surface

4.21 A small area of hardstanding comprising a public footpath was located in the eastern area within the blue line boundary. The hardstanding has been classified as 'developed land; sealed surface' under UKHab and a condition assessment of the habitat is 'not applicable'.

Individual Trees

4.22 Three individual trees were identified along the rough track in the north-east of the Site, and one within the open space of the arable field, ranging from small to very large in size and a mix of native/archaeophyte, and non-native specimens: pedunculate oak *Quercus robur,* sycamore *Acer pseudoplatanus* and turkey oak *Quercus cerris*. The trees correspond to the trees labelled as T14 and T33-35 on the Tree Survey Plan (FPCR, January 2024).

4.23 The trees have been classified as 'rural tree' under UKHab and scored good in the condition assessment, T35 only failing criterion A as a non-native, whilst trees T33-34 only failed criterion E for lacking ecological niches.

4.24 In addition, there are scattered trees along the eastern boundary which form a linear habitat and have been assessed individually within the Metric, given that some will be lost to the proposals. The trees along this boundary are largely mature specimens, or otherwise established specimens, and include a total of fifteen trees including turkey oak, sycamore, common lime *Tilia x europaea*, beech *Fagus sylvatica*, ash *Fraxinus excelsior,* and English elm *Ulmus procera.* The trees correspond to T1-8 and G2 within the Tree Survey Plan.

4.25 The trees have been classified as 'urban tree' under UKHab since they were located adjacent to an urban street. Trees T1-4 and T8 scored good condition, whilst T5-7 and the elm trees (G2) scored moderate condition. There was a mix of criterions which were failed including: criterion A - non-native origin, criterion C - not being a mature specimen and/or criterion F - the tree canopy did not over-sail more than 20% of vegetation.

Ecologically Valuable Line of Trees

4.26 Along the eastern boundary was a line of trees approximately 30m in length and comprised of multiple trees (T9-13, as well as two additional trees not provided in the Tree Survey Plan). Two of the trees were noted to be mature and therefore the linear habitat meets the UKHab definition of 'ecologically valuable line of trees'. The species composition included turkey oak, sycamore, pedunculate oak, ash, and horse chestnut *Aesculus hippocastanum* trees. Ash dieback was observed in the single ash tree present, accounting for 14% of the trees being impacted by disease.

4.27 The line of trees was assessed to be in poor condition, failing due to being comprised of less than 80% native species, the presence of diseased trees, and the lack of naturally vegetated strips on either side of the trees.

Native Hedgerows

4.28 One UKHab 'native hedgerow' is present along the eastern Site boundary. The hedgerow was dominated by native species comprising only of hawthorn *Crataegus monogyna*. The hedgerow was sparse in sections, with some gaps present. It is considered that the hedgerow likely receives regular management/trimming, reducing its ecological value. The hedgerow was assessed as being in poor condition due to being less than 1.5m in height and width, evidence of species indicative of nutrient enrichment, and lateral gaps comprising >10%.

5.0 PROPOSED DESIGN

5.1 Habitat proposals have been informed by the TPM Landscape Masterplan (Drawing Ref: 4532-101, Rev F, September 2025).

5.2 Proposals for the Site include the construction of a residential development comprising 289 dwellings with associated gardens, car parking, access roads and footpaths. Green infrastructure proposed includes the creation of a sustainable urban drainage systems (SuDS), public open space (POS) which will comprise semi-natural habitats, and native tree and hedgerow planting.

5.3 The wider land ownership shown by the blue line boundary will be used for biodiversity offsetting where required.

Retained Habitats

5.4 Habitat retention is illustrated in Figure 3.

5.5 The line of trees is to be retained in full, whilst partial areas of the mixed scrub and native hedgerow along the eastern boundary of the Site will be retained, with some areas of these habitats to be breached for the provision of an access road. Six individual trees in total are to be retained, whilst 12 will be lost for the access road along the eastern boundary.

5.6 All other habitats are assumed to be lost to facilitate the development, or for habitat creation.

Enhanced Habitats

5.7 No habitats will be targeted for enhancement.

Habitat Creation

5.8 Proposed habitats and their corresponding condition and distinctiveness groups are illustrated in Figures 4 and 5. This includes the following:

- Other neutral grassland – poor/moderate condition on Site; moderate condition off Site.
- Modified grassland – poor/moderate condition on Site.
- Mixed scrub – poor/moderate condition on Site; moderate condition off Site.
- SuDS –moderate condition on Site.
- Introduced shrub – on Site (condition assessment not applicable).
- Individual trees – poor/moderate condition on Site; moderate condition off Site.
- Native hedgerows – poor condition on Site.
- Non-native ornamental hedgerows – poor condition on Site.

Table 1 below provides a summary of how the proposed habitats can achieve their target condition through creation/management.

Table 1: Summary of Proposed Habitat Management

Habitat (UKHab Type)	Targets for Creation/Management	Target Condition	Distinctiveness
Other neutral grassland	Grassland areas within the POS areas on Site and within the wider land ownership will receive the same management, however smaller areas which are in the proximity of developed land and likely to receive higher levels of footfall have been targeted at poor condition as a precautionary measure, whilst the larger areas are more likely to be guaranteed to achieve moderate condition through prescribed management. The grassland will be mown for amenity value where it is near footpaths and the residential development, and thus more disturbed, whilst other areas will be less intensively managed to allow increased biodiversity value through diverse species and structural composition. The following management measures will be employed: • Using a native species rich seed mix to achieve a diverse sward (e.g. Emorsgate EM2, or other similar mix, to achieve at least 10 species per m^2); follow supplier's instructions for initial establishment. • Once established, cut annually in late summer or autumn, with selected patches of grassland left unmown (approximately 20% of total area) and especially the grassland at the bases of the trees being left longer. Cutting dates and un-cut areas should be varied year-year to promote structural complexity. If grasslands display vigorous grass growth, a second early season cut in March/April might be required to increase the abundance of flowering plants. • During the summer period, mown pathways should be created through the sward, creating variation in sward height, and promoting interest for Site users. • Promote a low nutrient environment by removing cuttings. Collected cuttings can be taken to green waste facilities for compost production or left in dedicated areas to rot down and provide habitat piles. • Reseed any areas of failed establishment; and • Remove undesirable species including INNS, thistles and docks before seeding; and • Cut back any scrub encroachment.	Poor / Moderate	Medium
Modified grassland	Areas of grassland will be formally managed for amenity value and thus potentially heavily disturbed. Some smaller areas have been targeted to poor condition as a precaution based on the small extent of the area. All areas will be managed using the same prescription below (where feasible). Management will focus on maximising biodiversity to create a diverse sward by employing the following management measures:	Poor / Moderate	Low

Habitat (UKHab Type)	Targets for Creation/Management	Target Condition	Distinctiveness
	• Using an appropriate native species rich seed mix equivalent grassland mix to achieve a more diverse sward to achieve 6-8 species per m^2 (e.g. Emorsgate EM1); reseeding any areas of failed establishment / damage. • Regular removal of any bracken, scrub and invasive species. • The majority of the grassland is likely to be mown, however, to promote diversity in the sward height selected patches of grassland should be left unmown (at least 20% of total area), especially around the bases of the trees. • Reseeding any areas of failed establishment/damage.		
Mixed scrub	Mixed scrub will provide a woodland edge habitat both on and off Site to the adjacent priority deciduous woodland which will be targeted to achieve moderate condition through the below management prescription. Mixed scrub will also be planted along the eastern boundary of the Site to plug any gaps and increase the extent of the retained vegetation present to maintain connectivity as a wildlife corridor to the adjacent woodland, as well as across the POS areas in proximity to the urban development; targeted to achieve poor condition but will undergo the same management as below (where feasible): • No one species should comprise more than 75% of the cover, and all species should be of native origin. They should be planted in clumps with gaps between to achieve a mosaic habitat. Management should create and maintain a range of features; a diversity of age and structure is essential. This can be achieved through rotationally creating cleared areas (glades) to allow space for seedlings. • Rotational cutting / strimming of vegetation is recommended. Small clearings should be cut every 1-2 years. The marginal scrub may need cutting on a rotation of up to 12 years to avoid it developing into woodland. After cutting, any arisings should be left for at least one week and a proportion of the material can be left in the developed scrub area to decay and provide dead wood habitat, the rest can be removed from site. • An edge habitat will be developed which will create a transitional area with habitat niches between scrub and the adjacent grassland areas with scattered woody species from the scrub and tall grasses, and herbs allowed to encroach and colonize from the grassland. The scrub edge should be cut every 3-7 years depending on growth rates. Scrub edge should be cut in a scalloped manner, rather than as a continuous edge, to provide shelter opportunities for wildlife. • Any INNS which appear are to be treated and removed as required, with management established to prevent it from spreading.	Poor / Moderate	Medium

Habitat (UKHab Type)	Targets for Creation/Management	Target Condition	Distinctiveness
Sustainable urban drainage	An attenuation basin will be created within the southern area of the Site. It is proposed the SuDS is designed with the following in mind to achieve moderate condition: • To be planted with a variation of vegetation structure and plants which are beneficial for wildlife, provides nectar sources at different times of the year, and provides opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type should not account for more than 80% of the total habitat area. For example, planting with a variety of marginal aquatic species (e.g. common reed *Phragmites australis*, water mint *Mentha aquatica*, yellow iris *Iris pseudacorus*, brooklime *Veronica beccabunga*, water forget-me-not *Myosotis scorpioides*, yellow loosestrife *Lysimachia vulgaris*, etc.) which degrades into wet-tolerant grassland (e.g. Emorsgate EP1 Pond Edge Mixture, EM8 Meadow Mixture for Wetlands, or similar). Seeding should follow the manufacturer's instructions. The management of the habitat should encourage a range of flowering species in order to meet the BNG habitat condition requirements for SUDS. • It is also anticipated that some species of damp/wet grassland may colonise naturally and will be allowed to remain to provide additional habitat diversity and structure (e.g. soft rush Juncus effusus). • Should any species with invasive tendencies colonise (e.g. reedmace *Typha latifolia*) or any species which are considered to be detrimental to native wildlife, these species should be removed during annual maintenance or managed to prevent spreading. Any invasive non-native species will not be allowed to establish and will be treated and/or removed as required. • The species planted should be of native origin and be suitable to wetland or riparian situations. • Any cutting of marginal planting or mowing should be avoided from February to August to avoid amphibian and breeding bird season. • Relaxed management of the grassland area should be employed to provide variety in the sward height for the benefit of biodiversity and wildlife, with selected patches of grassland left unmown. Cutting dates and un-cut areas should be varied year-year to promote structural complexity.	Moderate	Low
Introduced shrub	Small areas of introduced shrub planting is proposed in the POS area, comprised of largely ornamental species. There is no specific management of this habitat required, however the species planted will be such that there will not be any detrimental effect to wildlife and species will provide beneficial opportunities for invertebrates, including pollinators.	N/A	Low

Habitat (UKHab Type)	Targets for Creation/Management	Target Condition	Distinctiveness
Individual trees	A total of 223 new trees are proposed to be planted across the Site and wider land ownership plot, of which 33 are proposed within the public residential streets of the new development, 174 within the POS areas of the Site, and 16 trees within the blue line area. Predicted tree size has been restricted to small, and consequently there is no requirement for a particular size of tree standard to be utilized. Each individual tree will receive the same management prescription as below, however the residential street planted trees will be targeted to poor condition as a precautionary measure, whilst all other trees are targeted to moderate condition: • All trees should be native species; • If planted in groups, the distance between centres should be set such that the expected canopies should be less than 5m apart; • If individual trees are to be planted in proximity to a hedgerow, the trees will be planted so that the nearest point of the tree trunk is at least 1m from the edge of the woody canopy of the hedgerow; • Relaxed management removing only branches that pose a risk to Site users such that trees retain more than 75% of the expected canopy size for the corresponding age; • Planted within areas of green infrastructure (other neutral grassland) such that at least 20% of the ground beneath each tree is vegetated (only applicable for the trees planted within the POS areas and the off Site land); and • Replacement of failed specimens on a like-for-like basis.	Poor / Moderate	Medium
Native hedgerows	Native hedgerow planting is proposed within the POS areas of the Site. Management of the new hedgerow will target poor condition, although the management provisions below will likely result in moderate condition. Management will include the following measures: Hedgerow planting will use only native species; • Failed specimens will be replaced during establishment on a like-for-like basis; • Hedgerows will be managed to encourage tall, wide, and bushy features with only one side of hedgerows cut each year. • Fertiliser use will be prohibited within grasslands that are adjacent to hedgerows to reduce nutrient enrichment. • Relaxed management of grassland within 1m of the hedgerow base for >90% of its length to allow a natural edge habitat to form. • Any invasive non-native species are to be removed if present.	Poor	Low

Habitat (UKHab Type)	Targets for Creation/Management	Target Condition	Distinctiveness
Non-native ornamental hedgerows	Small stretches of non-native ornamental hedgerows are proposed within the POS areas of the Site. The condition of these hedgerows default to poor condition, however the management will follow the same provisions as provided for the native hedgerows. The species planted will be such that there will not be any detrimental effect to wildlife and species will provide beneficial opportunities for invertebrates, including pollinators.	Poor (by default)	Very Low

Strategic Significance

5.9 The Barnsley Metropolitan Borough Council is working with the South Yorkshire Mayoral Combined Authority (SYMCA), other South Yorkshire Local Planning Authorities and partners to develop a Local Nature Recovery Strategy (LNRS) and Nature Recovery Network (NRN). Since there currently is no adopted LNRS or NRN that has been published at the time of writing, the strategic significance of the Site has been determined in accordance with guidance set out in the metric user guide using the Barnsley Council Local Plan[22], supplemented by the Biodiversity and Geodiversity SPD[23], and the Barnsley Biodiversity Action Plan (LBAP)[24].

5.10 The Site lies within the Dearne Valley Green Heart Nature Improvement Area (NIA), which is formally identified in the Local Plan and SPD. The vision of the NIA is to predominantly restore, enhance and provide better connectivity to wetland habitats and woodland.

5.11 The following proposed habitats have been assigned as 'Formally identified within local strategy' (high significance) within the Metric as they are either considered to provide ecological value and connectivity within the NIA, and/or is listed within the UKBAP or LBAP as a local priority habitat:

- Other neutral grassland – listed within the LBAP and is to be managed for biodiversity and to provide beneficial value to local wildlife;
- Modified grassland – although the habitat will provide amenity value, it will also be managed to support biodiversity and therefore meeting the reason for inclusion within the LBAP;
- Mixed scrub – considered to enhance the woodland edge of the adjacent priority deciduous woodland and managed to increase value to local wildlife and biodiversity. Scrub habitats listed under the Barnsley LBAP as '*recognised locally as sometimes being important for biodiversity*';
- SuDS – planting to include wet grassland and marginal aquatic vegetation which includes common reed, and therefore considered to meet the vision of the NIA;
- Individual trees – considered to provide ecological value and connectivity within the NIA; and
- Native hedgerows – listed under UKBAP and LBAP as a priority habitat.

5.12 All other proposed habitats are not listed as a priority habitat or considered to meet the vision of the NIA and therefore are considered to have lower strategic significance and have been classified as 'Area/compensation not in local strategy/ no local strategy' (low significance) within the Metric.

[22] Barnsley Local Plan (Adopted January 2019). Available at: https://www.barnsley.gov.uk/media/17249/local-plan-adopted.pdf
[23] Barnsley Local Plan, Supplementary Planning Document, Biodiversity and Geodiversity (Adopted March 2024). Available here: https://www.barnsley.gov.uk/media/uqcn3wiv/biodiversity-and-geodiversity-spd-2024.pdf
[24] barnsleybiodiversity.org.uk/biodiversityplan.html [accessed 02 October 2024]

6.0 BIODIVERSITY NET GAIN (BNG) METRIC

The habitat retention and creation proposals highlighted within this report have all been inputted into the Statutory Biodiversity Metric. Table 2 provides a summary of the headline results. The full metric has been provided in Appendix B.

Table 2: Biodiversity Metric Headline Results

	Habitats	Hedgerows
On Site		
Baseline Units	23.62	0.42
Post-Intervention Units	24.50	3.01
Total Net Unit Change	**+0.88**	**+2.59**
Total Net Percentage Change	**+3.74%**	**+616.27%**
Off Site		
Baseline Units	2.63	0.00
Post-Intervention Units	10.35	0.00
Total Net Unit Change	**+7.72**	0.00
Total Net Percentage Change	**+293.65%**	0.00
Combined		
Baseline Units	26.25	0.42
Post-Intervention Units	34.85	3.01
Total Net Unit Change	**+8.61**	**+2.59**
Total Net Percentage Change	**+36.44%**	**+616.27%**

6.1 The assessment has demonstrated that the proposals (including both on Site and off Site habitats) will achieve a combined net gain of 8.61 area-based habitat units resulting in an overall 36.44% biodiversity net gain, and a 3.01 hedgerow unit gain resulting in an overall 616.27% gain.

Habitat Trading

6.2 All trading rules have been satisfied through the proposals.

6.3 No high or very high distinctiveness habitats or hedgerows are present within the Site.

6.4 No medium distinctiveness hedgerows are present within the Site.

6.5 Two medium distinctiveness habitats are present at the Site (rural and urban trees) which require compensation via the provision of habitat of the same broad group e.g. one type of grassland for that or a different type of grassland. The current proposals for the Site satisfy the required provisions for medium distinctiveness habitat types through compensation both on and off Site.

6.6 Low distinctiveness habitats (e.g. cereal crops, modified grassland, ruderal/ephemeral, tall forbs, bare ground) can be compensated for by the creation of any habitat type. As long as the proposals deliver an overall gain in biodiversity units the trading requirements are automatically met for such habitat types, as is the case under these proposals.

6.7 A native hedgerow which is of low distinctiveness is present within the Site. Low distinctiveness hedgerows can be compensated via the provision of hedgerows with the same distinctiveness or better. The current proposals for the Site satisfy the required provision for low distinctiveness hedgerow types.

6.8 No very low distinctiveness hedgerows are present within the Site.

6.9 Very low distinctiveness habitats (such as developed land; sealed surface) do not require compensation within the Metric.

6.10 Table 3 below provides a summary of the habitat trading results for the Site under the proposed design.

Table 3: Habitat Trading Summary

Trading Summary			
Distinctiveness Group	**Area-base Habitat Trading Rule**	**Hedgerow Trading Rule**	**Trading Satisfied?**
Very High	Bespoke compensation likely to be required	Same habitat required	N/A
High	Same habitat required	Like for like or better	N/A
Medium	Same broad habitat or a higher distinctiveness habitat required	Same distinctiveness or better habitat required	Yes
Low	Same distinctiveness or better habitat required	Same distinctiveness or better habitat required	Yes
Very Low	N/A	Same distinctiveness or better habitat required	Yes

Biodiversity Net Gain Principles

6.11 The above has been guided by CIEEM's Good Practice Principles for Development[25]. Table 4 lists all of the principles, with a description of how the principles have been applied to this assessment.

Table 4: Application of the Biodiversity Net Gain Principles to the Proposals

Principle	Indicators
Principle 1: Apply the Mitigation Hierarchy	Biodiversity losses are largely affecting habitats of limited ecological/biodiversity value and do not affect any high or very high distinctiveness habitats. Losses are compensated for on Site where feasible, with adjacent off Site land used to meet the required gains.
Principle 2: Avoid losing biodiversity that cannot be offset by gains elsewhere	No irreplaceable habitats are proposed to be affected.
Principle 3: Be inclusive and equitable	The proposals have aimed to provide realistically achievable benefits for nature conservation within the confines and proposed use of the Site, based on sound ecological judgement and experience and in the context of the local planning and policy guidance.
Principle 4: Address risks	

[25] CIEEM. Biodiversity net gain. Good practice principles for development. CIRIA C776a, London 2019

Principle	Indicators
Principle 5: Make a measurable Net Gain contribution	A 10% net gain that meets the metric requirements has been achieved as set out in the report. Strategic significance has been considered, as set out in this report. Habitats will be created that are suitable and appropriate for the use of the Site and its surrounding context.
Principle 6: Achieve the best outcomes for biodiversity	
Principle 7: Be additional	Proposals include new habitat creation and changes in habitat management.
Principle 8: Create a Net Gain legacy	Proposals are appropriate to the Site and its context. This document will inform future management provision for the Site. Management provision should be secured in the long-term to ensure that the target conditions can be achieved.
Principle 9: Optimise sustainability	
Principle 10: Be transparent	

7.0 CONCLUSIONS

7.1 A Biodiversity Net Gain assessment has been undertaken and used to inform the habitat creation proposals for the proposed development and to guide decisions around additional habitat provision off Site. The approach to habitat management will aim to maximise and enhance the biodiversity value of the Site and adjacent wider land ownership and should be secured through the provision of a Habitat Management and Monitoring Plan (HMMP).

7.2 The results of the assessment demonstrate that the current proposals produce appropriate gains for biodiversity in line with legislative requirements.

APPENDIX A – CONDITION ASSESSMENTS AND SPECIES LIST

Condition Assessment Results

Modified Grassland

Condition Criteria	
A- There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (these may include those listed in Footnote 1). Note - this criterion is essential for achieving Moderate or Good condition. Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m^2 (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.	Fail
B- Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	Fail
C- Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Pass
D- Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Fail
E- Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	Pass
F- Cover of bracken *Pteridium aquilinum* is less than 20%.	Pass
G- There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	Pass
Total Fails	3
Condition	Poor (fails essential criterion A)

Mixed Scrub

Condition Criteria	
A- The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range). - At least 80% of scrub is native, - There are at least three native woody species, - No single species comprises more than 75% of the cover (except hazel *Corylus avellana*, common juniper *Juniperus communis*, sea buckthorn *Hippophae rhamnoides* or box *Buxus* sempervirens, which can be up to 100% cover).	Pass
B- Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.	Fail
C- There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA5) and species indicative of sub-optimal condition make up less than 5% of ground cover.	Pass
D- The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	Fail
E- There are clearings, glades or rides present within the scrub, providing sheltered edges.	Fail
Total Fails	3
Condition	Poor

Urban (Tall Forbs, Bare Ground)

Condition Criteria	Tall Forbs (Northern Boundary)	Tall Forbs (Eastern Boundary)	Bare Ground	Ruderal/ Ephemeral
A- Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	Pass	Fail	Fail	Fail
B- The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	Pass	Fail	Fail	Fail
C- Invasive non-native plant species (listed on Schedule 9 of WCA) and others which are to the detriment of native wildlife (using professional judgement) cover less than 5% of the total vegetated area. Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).	Pass	Pass	Pass	Pass
Total Fails	0	2	2	2
Condition	Good	Poor	Poor	Poor

Individual Trees

Condition Criteria	Arb Report Tree Ref.						
	T1, T35	T2, T3, T14	T4	T5-7	T8	G2	T33, T34
A- The tree is a native species (or at least 70% within the block are native species).	Fail	Pass	Pass	Fail	Pass	Pass	Pass
B- The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Pass	Pass	Pass	Pass	Pass	Pass	Pass
C- The tree is mature (or more than 50% within the block are mature).	Pass	Pass	Fail	Pass	Pass	Fail	Pass
D- There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Pass	Pass	Pass	Pass	Pass	Pass	Pass
E- Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	Pass	Pass	Pass	Pass	Pass	Pass	Fail
F- More than 20% of the tree canopy area is oversailing vegetation beneath.	Pass	Pass	Pass	Fail	Fail	Fail	Pass
Total Fails	1	0	1	2	1	2	1
Condition	Good	Good	Good	Moderate	Good	Moderate	Good

Line of Trees

Condition Criteria	
A- At least 70% of trees are native species.	Fail (57%)
B- Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Pass
C- One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	Pass
D- There is an undisturbed naturally vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice.	Fail
E- At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Fail (ash dieback in 14% of trees)
Total Fails	3
Condition	Poor

Hedgerows

Condition Criteria	Arb Report Ref.
	H1
A1 Height - >1.5 m average along length	Fail
A2 Width - >1.5 m average along length	Fail
B1 Gap – hedge base - Gap between ground and base of canopy <0.5 m for >90% of length	Pass
B2 Gap – hedge canopy continuity - Gaps make up <10% of total length; and no canopy gaps >5 m	Fail
C1 Undisturbed ground and perennial vegetation - >1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: - Measured from outer edge of hedgerow; and - Is present on one side of the hedgerow (at least).	Pass
C2-Nutrient-enriched perennial vegetation - Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	Fail
D1 Invasive and neophyte species - >90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on schedule 9 of WCA3) and recently introduced species.	Pass
D2 Current damage - >90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	Pass
Total Fails	4
Condition	Poor (fails both A1 and A2)

Species List

Modified Grassland

Common Name	Scientific Name	DAFOR	Quadrat (%)		
			Q1	Q2	Q3
Perennial rye-grass	*Lolium perenne*	A			
False oat-grass	*Arrhenatherum elatius*	A	75	95	80
Cock's-foot	*Dactylis glomerata*	F	1		15
Italian rye-grass	*Lolium multiflorum*	O	1		
Rough meadow-grass	*Poa trivialis*	O	10		
Yorkshire fog	*Holcus lanatus*	O	15	5	
Broad-leaved dock	*Rumex obtusifolius*	R			
Brome	*Bromus sp.*	R			
Cleavers	*Galium aparine*	R			
Common nettle	*Urtica dioica*	R			
Cow parsley	*Anthriscus sylvestris*	R			
Creeping thistle	*Cirsium arvense*	R			
Meadow foxtail	*Alopecurus pratensis*	R			15
Spear thistle	*Cirsium vulgare*	R			
Wall barley	*Hordeum murinum*	R			
Total species per m^2 = 3.33					

Mixed Scrub

Common Name	Scientific Name
Blackthorn	*Prunus spinosa*
Bramble	*Rubus fruticosus* agg
Broad-leaved dock	*Rumex obtusifolius*
Cleavers	*Galium aparine*
Creeping thistle	*Cirsium arvense*
English elm	*Ulmus procera*
Hawthorn	*Crataegus monogyna*
Hazel	*Corylus avellana*
Mugwort	*Artemisia vulgaris*
Oak (saplings)	*Quercus sp.*
Woundwort	*Stachys sp.*

Tall Forbs

Common Name	Scientific Name
Bramble	*Rubus fruticosus* agg
Broad-leaved dock	*Rumex obtusifolius*
Brome	*Bromus sp.*
Cherry laurel	*Prunus laurocerasus*
Cleavers	*Galium aparine*
Cock's-foot	*Dactylis glomerata*
Common comfrey	*Symphytum officinale*
Common nettle	*Urtica dioica*
Creeping thistle	*Cirsium arvense*
False oat-grass	*Arrhenatherum elatius*
Hedge bindweed	*Calystegia sepium*
Horse chestnut (saplings)	*Aesculus hippocastanum*
Lesser burdock	*Arctium minus*
Mugwort	*Artemisia vulgaris*
Perennial rye-grass	*Lolium perenne*
Perennial sow-thistle	*Sonchus arvensis*
Rough chervil	*Chaerophyllum temulum*
Smooth hawk's-beard	*Crepis capillaris*
Spear thistle	*Cirsium vulgare*
Sycamore (saplings)	*Acer pseudoplatanus*
Wall barley	*Hordeum murinum*
White dead-nettle	*Lamium album*
Willowherb	*Epilobium sp.*

Individual Trees

Common Name	Scientific Name
Pedunculate oak	*Quercus robur*
Sycamore	*Acer pseudoplatanus*
Turkey oak	*Quercus cerris*

Line of Trees

Common Name	Scientific Name
Ash	*Fraxinus excelsior*
Beech	*Fagus sylvatica*
Common lime	*Tilia x europaea*
Horse chestnut	*Aesculus hippocastanum*
Pedunculate oak	*Quercus robur*
Sycamore	*Acer pseudoplatanus*
Turkey oak	*Quercus cerris*

Hedgerows

Common Name	Scientific Name
H1	
Hawthorn	*Crataegus monogyna*
H2	
Bramble	*Rubus fruticosus* agg
Broad-leaved dock	*Rumex obtusifolius*
Cleavers	*Galium aparine*
Common nettle	*Urtica dioica*
Cotoneaster	*Cotoneaster sp.*
Creeping thistle	*Cirsium arvense*
Dogwood	*Cornus sanguinea*
Elder	*Sambucus nigra*
Fruit trees (likely apple or pear)	*Prunus sp.*
Hawthorn	*Crataegus monogyna*
Holly	*Ilex aquifolium*
Leyland cypress	*Cupressocyparis leylandii*
Privet	*Ligustrum ovalifolium*
Red currant	*Ribes rubrum*
Rose	*Rosa spp.*
Sycamore	*Acer pseudoplatanus*

FPCR Environment and Design Ltd
Registered Office: Lockington Hall, Lockington, Derby DE74 2RH
Company No. 07128076. [T] 01509 672772 [E] mail@fpcr.co.uk [W] www.fpcr.co.uk