Barnsley Road, Denby Dale

Ecological Impact Assessment

23/05/2023

Strata Homes Ltd.

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Report duration	In accordance with CIEEM (2019), unless otherwise stated the findings of this report remain valid for a period of 18 months. After this period advice should be sought on the scope of any updating work required.

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Summary

The Site is primarily occupied by low distinctiveness habitats, consisting of improved agricultural grassland. A small watercourse and Tanner Wood, running along the eastern boundary of the Site, are of higher ecological value, with the latter recently being designated an Ancient Woodland; proposals retain these features and include a buffer area of retained and enhanced habitat.

Using the Defra Metric 4.0 Calculator tool, the scheme is expected to result in a net gain in Habitat and Hedgerow Units, with Watercourse Units remaining the same.

Measures have been recommended to mitigate residual significant effects; these measures are set out in the documents specified below, which have been produced to accompany this application.

- A BS:42020 Biodiversity Management Plan (BMP).
- A BS:42020 Construction Environmental Management Plan (CEMP: Biodiversity)

Introduction

1. Brooks Ecological Ltd was commissioned by Strata Homes Ltd. to carry out an Ecological Impact Assessment (EcIA) for their proposed development at Barnsley Road, Denby Dale.
2. The British Standard BS:42020 recommends that a proportional assessment of ecological impacts should be made - such that decision making relating to the NPPF 'mitigation hierarchy', the planning balance', and the use of conditions is suitably informed.
3. The purpose of the EcIA report is to use the information gathered, alongside the proposals for the Site, to:
    - identify any significant effects associated with the proposed development,
    - set out any mitigation (including monitoring) required to address these effects, and to ensure compliance with legislation and policy,
    - identify suitable enhancement,
    - identify measures required to secure mitigation and enhancement,
    - identify and assess any residual effects and their legal, policy and development management consequences.
4. This report adapts the format set out in the Chartered Institute for Ecology and Environmental Management (CIEEM) guidelines for Ecological Report Writing (December 2017).

CIEEM

Ecological Impact Assessment (EcIA) Checklist

ALGE Association of Local Government Ecologists

	EcIA Criteria (to ensure decisions are based on adequate information in accordance with Clauses 6.2 and 8.1 of BS42020:2013)	Yes No n/a	Paragraph reference number(s)
Pre-app/ scope	1. Where pre-application advice has been received from the Local Planning Authority and/or an NGO and/ or statutory body (e.g. NE DAS, NRW DAS)[i], it has been fully accounted for in the EcIA		
	2. The scope, structure and content of the EcIA is in accordance with published good practice[ii, iii and iv]		
Surveys, Sites, Species and Habitats	3. Adequate[v] and up-to-date[vi]: a. Desk study has been undertaken[vii] b. Phase 1 habitat survey (or equivalent) has been undertaken[vii] c. Phase 2 ecology surveys have been undertaken (where necessary)[viii]		
	4. All statutory and non-statutory sites likely to be significantly affected are clearly and correctly identified		
	5. All protected or priority species and priority habitats[ix] likely to be significantly affected are clearly and correctly identified, and adequate surveys have been undertaken to inform the baseline		
	6. Any invasive non-native plant species present are clearly and correctly identified		
	7. Where a separate PEA Report states that Phase 2 ecology surveys are required, these have been undertaken in full and results submitted with the application (or lack of such surveys is justified)		
Impacts and Effects	8. The assessment is based on clearly defined development proposals along with relevant drawings/plans (and any plans used are the same version number as those submitted with the application) or 9. The residual ecological effects are considered to be not significant at any geographical scale irrespective of the detailed development proposals, and the assessment is based on a worst-case-scenario		
	10. The report describes and assesses all likely significant ecological effects (including cumulative effects) clearly stating the geographical scale of significance (where relevant)		
Mitigation, Compensation and Enhancement	11. The mitigation hierarchy has been clearly followed[x]		
	12. The report: a. Clearly identifies the proposed mitigation and compensation measures, and explains how these will adequately address all likely significant adverse effects b. Includes, where necessary, proposals for post-construction monitoring c. Recommends how proposed measures may be secured through planning conditions/obligations and/ or necessary licences		
	13. A summary table of proposed mitigation and compensation measures has been provided		
	14. The need for any mitigation licences required in relation to protected species is clearly identified		
	15. Proposals to deliver ecological enhancement/Biodiversity Net Gain have been provided		
Competence/Good Practice	16. Limitations[xi] of the ecological work have been correctly identified and the implications explained		
	17. All relevant key timing issues (e.g. site vegetation clearance or roof removal) that may constrain or adversely affect the proposed timing of development have been identified		
	18. All ecological work and surveys accord with published good practice methods and guidelines OR deviation from such guidelines is made clear and fully justified, and the implications for subsequent conclusions and recommendations made explicit in the report[xii]		
	19. All ecologists and surveyors hold appropriate species licences (where relevant) and/or have all necessary competencies to carry out the work undertaken		
Conclusions	20. The report clearly identifies where the proposed development complies with relevant legislation and policy, highlighting any possible non-compliance issues, and highlighting circumstances where a conclusion cannot be drawn as it requires an assessment of non-ecological issues (such as socio-economic ones)		
	21. The report provides a clear summary of losses and gains for biodiversity, and a justified conclusion of an overall net gain for biodiversity		
	22. Justifiable conclusions[xiii] based on sound professional judgement[xiv] have been drawn as to the significance of effects on any designated site, protected or priority habitat/species or other ecological feature, and a justified scale of significance has been stated		

Method

Scope of Assessment

5. The application site 'the Site' encompasses a parcel of primarily agricultural grassland. The extent of this assessment is the development area within the red line boundary defined in Figure 1, opposite.

6. The assessment uses a 2 km area of search around the Site for records of protected and notable species and locally or nationally designated wildlife sites.

7. Ecological surveys and reports informing this assessment comprise of the following:

    - Preliminary Ecological Appraisal, Brooks Ecological. Project Reference: ER-5319-02
    - Updating Preliminary Ecological Appraisal, Brooks Ecological. Project Reference ER-6857-01A. May 2023.
    - Bat Survey Report, Brooks Ecological. Project Ref. ER-5319-03.2. August 2021.
    - Badger survey site inspection reports. Brooks Ecological project reference: SI-5319-01 and SI-5319-03.
    - Woodland Flora Survey. Brooks Ecological project reference: SI-5319-02.
    - Biodiversity Management Plan. Brooks Ecological project reference: ER-6857-03A
    - CEMP (Biodiversity). Brooks Ecological project reference:ER-6857-04A

Field Survey

8. Full details of the methodologies used, and the results obtained are contained in the relevant documents referenced above. Unless stated otherwise, these followed the relevant survey guidelines refenced in reports.

Desk Study

9. A full desk study including consideration of local biological records, aerial photographs, local designations, and planning guidance has been carried out.

Figure 1 Site area under assessment (red line)

Assessment Method

10. In assessing the significance of effects, we refer to Section 5 of CIEEM (2018) - that a 'significant effect' is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. In relation to ecological features, we consider the following factors in combination, including;
    - the feature's value on an ascending scale, from Site to international value,
    - the site's position in the local landscape,
    - its current management, and
    - its size, rarity, or threats to its integrity
11. There are several 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 Habitats of Principal Importance, or presents any opportunities in this respect.
12. The assessment considers the development proposals set out below, from which the potential impacts can be summarised as:
    - Vegetation and habitat removal
    - Disturbance, pollution, or interference arising from the Site's construction
    - Disturbance, pollution, or interference arising from the Site's operation
13. This report deals with any significant effects potentially arising from these impacts. It looks at how the mitigation hierarchy can be applied to any effects and the implications of any residual significant effects.

Ecology Baseline

14. A *summary* of the points salient to this assessment are set out below:

Designated Sites and Conservation Areas

15. Impacts on both Statutory (International and National) and Non-Statutory designations or their interests have been ruled out at PEA Stage.

Habitats

16. The original Site baseline was established by brooks ecological using DEFRA Metric 2.0 in August 2021. This has been updated to Metric 4.0 based on existing habitats in the updating PEA ER-6857-01A.

17. The planning application for the Site was submitted in May 2023, prior to the Statutory Biodiversity Metric coming into force, and is therefore exempt from a legal requirement to use it. Consequently, updates to the calculations will continue to be carried out in Metric 4.0

Potential future changes to the baseline

18. The Site's use and ecological baseline will likely be unchanged until the time of the proposed development.

19. In the absence of re-development, it is assumed that grassland would be unmanaged and become rank and tussocky in nature, eventually succumbing to scrub encroachment. Edge habitats such as trees and woodland would continue to mature.

Figure 2 The Site's habitat baseline (Brooks Ecological Report May 2022)

20. The table below sets out the habitats at this Site and their relevance in this assessment. Those highlighted are of relevance to the Site and are referenced later in the assessment.

Table 1 Site Habitats Summary

Codes	Habitat Feature	**Notes**	**Valued at what scale**
g4 Modified Grassland, 231 Garden, Line of Trees, Ornamental Hedgerow	Habitats of Low or Very Low Distinctiveness.	The vast majority of the site is occupied by modified grassland with some trees and a small area of garden with associated garden hedgerows. Modified grassland is still managed for agricultural purposes and supports a sward of common grasses. These habitats have relevance to biodiversity at this site on the basis of their extent – mitigation / compensation for any loss of these habitats is dealt with through the Biodiversity Net Gain process and they are not considered further in the EcIA process.	Negligible
1170	Trees	A small collection of young to early mature trees around the site peripheries.	Site Level
g3c	Other Neutral Grassland	Field margins support a less intensively managed sward though still considerably affected by adjacent agricultural practices. It supports a similar array of grasses and a limited number of common competitive forbs. Towards the woodland edge in the north east of the Site, the lack of management is becoming increasingly evident due to encroachment from scrub species. Loss will be mitigated / compensated through the Biodiversity Net Gain process - which will need to target grassland habitat on/off site.	Site Level
w1f	Lowland mixed deciduous woodland (Tanner Wood)	Habitat which is important in a district context, supporting established oak dominated woodland. This appears to be largely unmanaged, in a semi-natural state supporting woodland ground flora, dead wood and regeneration of native saplings. The woodland is retained through development with a sizeable buffer of retained and enhanced habitat included, however specific mitigation will be required to mitigate potential impacts.	**District Level**
R9	Streams (Other)	A small stream flowing though the adjacent woodland, this is off-site but immediately adjacent the eastern boundary. It has been culverted and straightened in some areas. The channel is largely unvegetated whilst banks support a mix of woodland and wetland associated vegetation.	**Local Level**

21. The table below shows the site's habitats in terms of their measured Extent (ha or km) and Biodiversity Value (Habitat Units)- this is an excerpt from the DEFRA Biodiversity Metric 4.0 Spreadsheet Calculator.

Figure 3 Site Habitats as defined in Biodiversity Net Gain calculations – Site Baseline[1].

	Existing area habitats			Distinctiveness		Condition		Strategic significance			Required Action to Meet Trading Rules	Ecological baseline
Ref	Broad Habitat	Habitat Type	Area (hectares)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic Significance multiplier		Total habitat units
1	Grassland	Modified grassland	1.4273	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required ≥	2.85
2	Grassland	Modified grassland	0.4387	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required ≥	0.88
3	Grassland	Other neutral grassland	0.1008	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required (≥)	0.40
4	Grassland	Other neutral grassland	0.0276	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required (≥)	0.11
5	Grassland	Other neutral grassland	0.0269	Medium	4	Poor	1	Formally identified in local strategy	High strategic significance	1.15	Same broad habitat or a higher distinctiveness habitat required (≥)	0.12
6	Grassland	Other neutral grassland	0.0004	Medium	4	Poor	1	Formally identified in local strategy	High strategic significance	1.15	Same broad habitat or a higher distinctiveness habitat required (≥)	0.00
7	Urban	Vegetated garden	0.0082	Low	2	Condition Assessment N/A	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required ≥	0.02
8	Woodland and forest	Lowland mixed deciduous woodland	0.2688	High	6	Moderate	2	Formally identified in local strategy	High strategic significance	1.15	Same habitat required =	3.71
9	Individual trees	Rural tree	0.0081	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required (≥)	0.06
10	Individual trees	Rural tree	0.0733	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required (≥)	0.59
11												
12												
13												
14												
15												
		Total habitat area	2.38									8.75
		Site Area (Excluding area of Individual trees and Green walls)	2.30									

[1] Our report provides an estimate of the sites value in Biodiversity Units. This is based on thorough assessment at the time of survey and using the information available at this time. In this assessment we have used the latest version of DEFRA's Biodiversity Metric Tool, the UK Habitats Classification and relevant guidance. This assessment requires subjective judgments to be made in terms of habitat type and condition and could be open to other interpretations. Reliance on the Unit Score, or conversion of this into a monetary value, would be at the developer's own risk. Where conversion to monetary value is required, it is always advisable to get calculations checked independently.

	Existing hedgerow habitats			Distinctiveness	Condition	Strategic significance	Required Action to Meet Trading Rules	Ecological baseline
Baseline ref	Hedge number	Hedgerow type	Length (km)	Distinctiveness	Condition	Strategic significance		Total hedgerow units
1		Non-native and ornamental hedgerow	0.082	V.Low	Poor	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band	0.08
2		Line of trees	0.038	Low	Poor	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band	0.08
3								
4								
5								
			0.12					0.16

Existing watercourse type			Distinctiveness	Condition	Strategic significance	Watercourse encroachment	Riparian encroachment	Required Action to Meet Trading Rules	Ecological baseline
Baseline ref	Watercourse type	Length (km)	Distinctiveness	Condition	Strategic significance	Extent of encroachment	Extent of encroachment for both banks		Total watercourse units
1	Other rivers and streams	0.252	High	Moderate	Formally identified in local strategy	No Encroachment	No Encroachment/ No Encroachment	Same habitat required =	3.48
2									
3									
4									
5									
		0.25							3.48

Species and Species Groups

22. Potential constraints relating to relevant groups were investigated through the surveys listed above. Those highlighted are of relevance to the Site and are referenced later in the assessment.

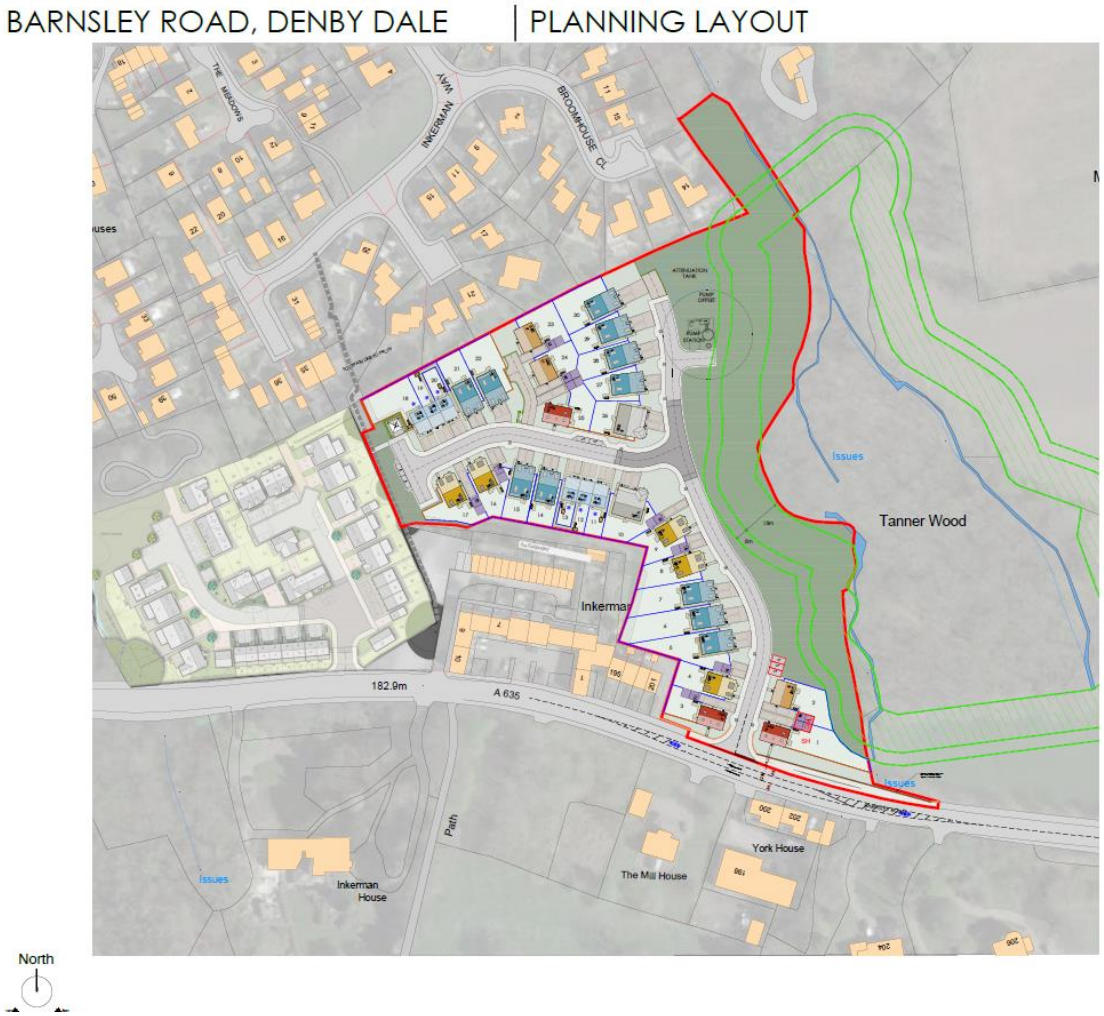
Table 2 Summary of relevant faunal and INNS issues

Species/ Group (Feature)	Notes	Valued at what scale
Badgers	A small amount of evidence of badger activity was noted off site in Tanner Wood, consisting of latrines and snuffle holes. Disused sett entrances were noted. There is limited evidence that badgers are regularly using the Site itself. Standard precautions apply regarding clearance of vegetation and during construction. This should include a pre-commencement survey.	**Site Level**
Bats	Seasonal activity surveys carried out confirmed low level foraging by common species, focussed around the woodland edge and northern boundary. Two trees with low bat roost suitability and two trees with moderate suitability were noted during the survey. These will all be retained as part of the scheme. Site is of low importance to bats.	**Local Level**
Invasive non-native plant species	Small amounts of Crocosmia have been identified. Standard precautions apply regarding clearance of vegetation.	**Site level**

Description of the Proposed Development

23. Proposals are for the Site's re-development to residential use.
24. Proposals have had the opportunity to respond to the findings of the PEA and consultation responses associated with a previous application, as such current proposals have built in all potential avoidance - in terms of layout. The following sections examine impacts resulting from the proposals which could not be avoided.
25. Impacts are assessed on the basis of the effects impacting the valued habitats, species, or sites which have been identified above.
26. The following plans have been provided by the client to inform this assessment:
    - Planning Layout 21-CL2-SEGD-BRDD-01 rev. N, Strata Homes Limited, November 2024.
    - Landscape Masterplan P20-1107.001 rev. I, Pegasus Group, December 2024.

Figure 3 Site Layout (as shown in Planning Layout)



Impacts and Effects of Development

27. Figure 5 shows the development footprint (black hatch) in relation to the mapped habitats.
28. The development footprint shows the sum extent of proposed built development and associated clearance works.

Figure 4 Development footprint in relation to existing on-Site habitats

29. Figures 5 summarises the impacts of development on existing vegetation.
30. Areas shown in red will be cleared of existing vegetation and subject to extensive earthworks, which will result in the permanent loss of baseline habitats.
31. Areas marked red will then be built out, either as residential units or sealed surfaces (roads, footpaths, parking, play areas), and private gardens.
32. The remaining areas will be retained in situ and protected from development within a 'No Works Area'. This is detailed within the Construction Environment Management Plan (CEMP: Biodiversity).

Figure 5 Summary of impacts on existing habitats

Table 3 lists the anticipated Impacts and Effects associated with the proposals.

	Impacts during Site Clearance	**Stage**
1	**Habitat will be removed** from the Site by clearance and soil stripping using heavy machinery.	*Clearance*

	Significant Effects - in the absence of mitigation	**Acting on**	**Acting at scale (Maximum)**
1a	**Direct habitat loss**. There will be a loss of habitat generally which will be managed through the Biodiversity Net Gain process. Habitat loss will affect connectivity through and around the Site. Habitat loss will be likely to affect identified features of the Site.	Low value habitats Other Neutral Grassland Bats	Site
1b	**Damage to retained habitat**, including Tanner Wood, such as by storage of clearance machinery or materials in these areas.	Grassland Lowland Mixed Woodland	District
1c	**Disturbance**. The noise and activity at the Site will render it and areas immediately off-site inhospitable to wildlife during this period. Wildlife in this area is likely to be habituated to noise levels associated with the urban fringe.	Bats Badger	Site
1d	**Pollution**. There is the potential for sediment, air borne pollutants such as dust or chemicals to be released from the Site, or into retained habitat such as Tanner Wood during this stage.	Lowland Mixed Woodland Grassland Stream	District
1e	Potential effects on **Protected Species**. Precautions will be required to ensure that impacts on badgers, nesting birds, and the spread of Invasive Non-Native Species (INNS) can be avoided.	Badger Nesting birds INNS	Criminal Offence

	Impacts during Construction	Stage
2	**Construction activities** will take place over a 1-2 year period. Construction of roads and sewers will be followed by footings and then above ground construction of buildings.	*Construction*

	Significant Effects - in the absence of mitigation	Acting on	Acting at scale (Maximum)
2a	**Damage to retained habitat**, including Tanner Wood, such as by storage of machinery or materials in these areas, or further earthworks. In the absence of a well-defined and enforceable 'No Works Area' area shown as retained on planning drawings could be damaged or destroyed by contractors working on Site.	Modified grassland Stream Lowland Mixed Woodland	District
2b	**Disturbance**. The noise and activity at the Site will render it and areas immediately off-site inhospitable to wildlife during this period. However, the Site lies within an urban fringe setting; wildlife in this area is therefore likely to be habituated to a certain level of background noise and the effects of disturbance from this development site is unlikely to be significant.	Nesting Birds Bats	Site
2c	**Pollution**. There is a very low potential for sediment, airborne dust or chemicals to be released from the Site, or into retained habitat during this stage.	Retained habitat (Lowland Mixed Woodland, Stream and grassland)	District

	Impacts during Construction	Stage
3	**Landscaping activities** will take place period during the construction period and will, be phased around completion of roads and housing.	*Construction*

	Significant Effects - in the absence of mitigation	Acting on	Acting at scale (Maximum)
3a	**Damage to retained habitat,** including Tanner Wood, such as by storage of machinery or materials in these areas. Access will be required to retained areas to commence management and in itself could result in damage.	Retained habitats (Lowland Mixed Woodland, Stream and grassland)	District
3b	**Pollution**. There is the potential for hazardous chemicals (i.e. herbicides, insecticides, fertilisers) to be used on retained habitats by landscape contractors. This could lead to increased mortality of retained vegetation or make it harder for retained habitats to be enhanced in line with the Defra Metric.	Retained habitats (Lowland Mixed Woodland, Stream and grassland)	District
3c	**Inappropriate habitat creation** or management techniques could mean that the proposals fail to deliver on BNG commitments	All habitats and species	Local

	Impacts during Operation	**Stage**
4	**The Site will be populated.** Houses will be inhabited, and traffic and services will access the Site regularly. Pedestrian access across the Site and along rights of way will increase. Presence of domestic pets will increase. Retained and created habitat will be managed by the Site Management Company.	*Operation*

	Significant Effects - in the absence of mitigation	**Acting on (feature)**	**Acting at scale (Maximum)**
4a	**Damage to retained and created habitat,** including Tanner Wood, such as by inappropriate use, littering, release of invasive species.	New and retained habitats (Lowland Mixed Woodland, Stream and grassland)	District
4b	**Disturbance**. Noise, lighting and increased human activity at the Site will be present of a lower order and will likely be tolerable to species habituated to the sub- urban conditions prevailing locally. The presence of dogs and cats will result in some predation and displacement, but this area will already be affected by these species to a lesser degree.	Nesting birds Bats Badger	Site Off-site
4c	**Disturbance of Tanner Wood.** The woodland already receives some disturbance from local walkers/ amenity use with informal access paths evident.	Lowland Mixed Woodland	District
4d	In the **absence of correct management** retained and created habitats will not provide the necessary biodiversity units committed to through the BNG process.	New and retained habitats	Local

Mitigation & Residual Effects

33. Where feasible, the **avoidance** of unnecessary impacts has been considered at the design stage and worked into the Site Layout plan. The proposals will incorporate the following **mitigation** in relation to the identified **effects** above, as set out in the table below.
34. Habitat creation and management will need to be applied to the proposals to achieve the calculated BNG position are set out (and committed to) in the plan below. These themes would need to be the subject of a suitable Biodiversity Management which would provide a means of achieving the required habitats and condition.
35. Achieving the required Biodiversity Net Gain position will ensure that effects relating to habitat loss are addressed - both in respect of the habitats identified as valued features, and also the lower value habitats which would previously have been scoped out of Impact Assessments. Our impact assessment therefore only highlights where habitats present place a particular constraint on the protection of, or delivery of habitats on Site; or on off-set agreements.
36. Thee following documents have been produced in support of the mitigation set out below:
    - A BS:42020 Biodiversity Management Plan (BMP).
    - A BS:42020 Construction Environmental Management Plan (CEMP: Biodiversity)

Table 4 lists the mitigation put in place to address the effects identified in table 5.1

	Mitigation during Site Clearance	**Stage**
1	**Habitat will be removed** from the Site by clearance and soil stripping using heavy machinery.	*Clearance*

	Significant Effects - in the absence of mitigation	**Mitigation / Compensation**	**Residual Magnitude**
1a	**Direct habitat loss**.	Kirklees Council require all developments schemes to demonstrate a 10% net gain in biodiversity. By complying with the Biodiversity Net Gain policy, the scheme will ensure that overall, the impacts of habitat loss will be fully addressed on site. The BMP will detail the creation and management of new habitats, ensuring on-site habitats meet their target habitat types and condition scores, as shown in the Defra Metric. The BMP will also detail the provision of faunal features, such as bird nesting and bat roosting boxes, and hedgehog access through gardens.	Major Positive
1b	**Damage to retained habitat**, including Tanner Wood, such as by storage of clearance machinery or materials in these areas.	The CEMP will detail the installation of barrier fencing around the 'No Works Area' to protect retained habitat. This will include tree protection and silt trap fencing. Tree protection ay be screened if there is a risk of airborne dust due to ground conditions and to further reduce disturbance.	Neutral

	Significant Effects - in the absence of mitigation	Mitigation / Compensation	Residual Magnitude
1c	**Disturbance**. The noise and activity at the Site will render it, and areas immediately off-Site, inhospitable to wildlife during this period.	The main contractors CEMP will detail time limits to work on Site and the installation of screened fencing to limit visual disturbance of sensitive habitat. However, some level of disturbance it unavoidable. The CEMP (Biodiversity) includes provision for dark zones to limit light spill to the benefit of Bats and Badger.	Minor Negative
1d	**Pollution**. There is the potential for sediment, airborne pollutants or chemicals to be released from the Site, or into retained habitat, such as Tanner Wood, during this stage.	The CEMP will detail the installation of barrier fencing and silt fencing around the 'No Works Area' to protect retained habitat. Bunded compounds will be used for storage of machinery and materials. If conditions require additional measure to reduce airborne dust such as water spraying and/ or wheel washing may be employed or reduce the impacts of dust such as screened tree fencing.	Neutral
1e	Potential effects on **Protected Species**. Precautions will be required to ensure that impacts on badgers, nesting birds, and the spread of Invasive Non-Native Species (INNS) can be avoided.	The CEMP will detail necessary pre-works checks for badgers, nesting birds and INNS.	Avoided entirely.

	Mitigation during Construction	Stage
2	**Construction activities** will take place over a 1-2 year period. Construction of roads and sewers will be followed by footings and then above ground construction of buildings.	*Construction*

	Significant Effects - in the absence of mitigation	Mitigation / Compensation	Residual Magnitude
2a	**Damage to retained habitat,** including Tanner Wood, such as by storage of machinery or materials in these areas.	The CEMP will detail the installation of barrier fencing around the 'No Works Area' to protect retained habitat. This will include tree protection and silt trap fencing. There will be a minimum of 18m standoff from any construction activities to Tanner Wood.	Neutral
2b	**Disturbance**. The noise and activity at the Site will render it, and areas immediately off-Site, inhospitable to wildlife during this period.	The main contractors CEMP will detail time limits to work on Site and the installation of screened fencing to limit visual disturbance	Minor Negative

	Significant Effects - in the absence of mitigation	Mitigation / Compensation	Residual Magnitude
		of sensitive habitat such as Tanner Wood. However, some level of disturbance it unavoidable. The CEMP (Biodiversity) includes provision for dark zones to limit light spill.	
2c	**Pollution**. There is the potential for sediment, air borne pollutants or chemicals to be released from the Site, or into retained habitat during this stage.	The CEMP will detail the installation of barrier fencing around the 'No Works Area' to protect retained habitat. Bunded compounds will be used for storage of machinery and materials, away from any retained habitat areas. Screened barriers and the large woodland buffer or retained habitats will reduce the risk of pollution of Tanner Wood.	Neutral

	Mitigation during Construction	Stage
3	**Landscaping activities** will take place period during the construction period and will, be phased around completion of roads and housing.	*Construction*

	Significant Effects - in the absence of mitigation	Mitigation / Compensation	Residual Magnitude
3a	**Damage** to retained habitat, including Tanner Wood, such as by storage of machinery or materials in these areas. Access will be required to retained areas to commence management, and in itself could result in damage.	The CEMP will detail the installation of barrier fencing around the 'No Works Area' to protect retained habitat by preventing access. Any access by maintenance contractors will be appropriately sealed upon leaving the area.	Neutral
3b	**Pollution**. There is the potential for hazardous chemicals (i.e. herbicides, insecticides, fertilisers) to be used on retained habitats by landscape contractors. This could lead to increased mortality of retained vegetation, or make it harder for retained habitats to be enhanced in line with the Defra Metric.	The BMP will specify preparation and establish work's for all new and retained habitats covered by the Defra Metric. This will detail where hazardous chemicals can and can not be used.	Neutral
3c	**Inappropriate habitat creation** or management techniques could mean that the proposals fail to deliver on BNG commitments	The BMP will specify preparation and establish work's for all new and retained habitats covered by the Defra Metric. This will detail where hazardous chemicals can and can not be used.	Neutral

	Mitigation during Operation	Stage
4	**The Site will be populated.** Units will be inhabited, and traffic and services will access the Site regularly. Pedestrian access across the Site and along rights of way will increase. Presence of domestic pets will increase.	*Operation*

	Significant Effects - in the absence of mitigation	Mitigation/Compensation	Residual Magnitude
4a	**Damage to retained and created habitat,** including Tanner Wood, such as by inappropriate use, littering, release of invasive species.	Landscaping has been designed to accommodate public access where necessary and the buffering of sensitive habitats has been designed in, such as screening of Tanner Wood by scrub planting which will also reduce accessibility.	Neutral
4b	**Disturbance of wildlife**. The noise and activity at the Site will be present of a lower order and will likely be acceptable to species habituated to sub urban conditions prevailing locally. The presence of dogs and cats will result in some predation and displacement.	Landscaping is designed to maximise the amount of habitat which groups such as birds can use for cover, foraging and to provide connectivity. New nesting (for birds), accessibility for badgers/ hedgehogs and measures to encourage bat roosting have been included to encourage continued activity.	Neutral
4c	**Disturbance of Tanner Wood.** The woodland already receives some disturbance from local walkers/ amenity use with informal access paths evident.	Landscaping will attempt to reduce accessibility to Tanner Wood, with scrub planting along the woodland boundary. An increase in walkers may still be expected though the woodland is already adapted to seeing some disturbance. There are already several 'private property/ no entry' signs in the woodland, these should be made clear along the woodland edge where it overlaps with the Site to further dissuade access.	Minor Negative
4d	In the **absence of correct management** retained and created habitats may not provide the necessary biodiversity units committed to through the BNG process.	The BMP will provide full details of habitats to be created and their suitable management suitable management The BMP will include monitoring so that evidence can be provided, or remedial action can put in place as required.	Neutral

Biodiversity Net Gain

37. There will be a requirement for the proposals to secure a **Biodiversity Net Gain (BNG)** (in accordance with BS:8683) at a level determined by the Local Planning Authority (LPA in line with their own policies and guidance in the NPPF). In Kirklees, this is a 10% net gain.

38. Any shortfall in Units would need to be off-set through the creation of Units off-Site by direct works, or through contribution to a strategic fund operated by the LPA or a third party. An agreement detailing any off-setting required would be the subject of a condition of planning.

39. Calculations setting out the position of the proposals in relation to BNG are set out below. These are based on the Planning Site Layout and Landscape Masterplan plan available at this time. Habitat types which will need to be applied to the proposals to achieve the calculated BNG position are set out (and committed to) in the plan opposite. These are considered realistic and achievable. Measures to ensure habitats created or enhanced attain the habitat types and condition scores outlined in the plan opposite and the Defra Metric, are covered by the Biodiversity Management Plan.

40. Achieving the required Biodiversity Net Gain position will ensure that effects relating to habitat loss are addressed - both in respect of the habitats identified as valued features, and also the lower value habitats which would historically have been scoped out of Impact Assessments.

Net Gain Calculations

41. The proposals will lead to an overall gain of 1.70 Habitat Units, equivalent to a 19.46% increase in units.

42. A net gain of 0.39 Hedgerow Units has also been achieved, equivalent to a 247.44% increase.

43. The watercourse has been retained and will be untouched during the development as such no change in ecological value has been anticipated. The woodland buffer zone also ensures supporting bankside vegetation is retained.

44. The client has been provided with a full copy of the Biodiversity Metric 4.0 Calculation Tool.

Figure 6 Post development habitat types

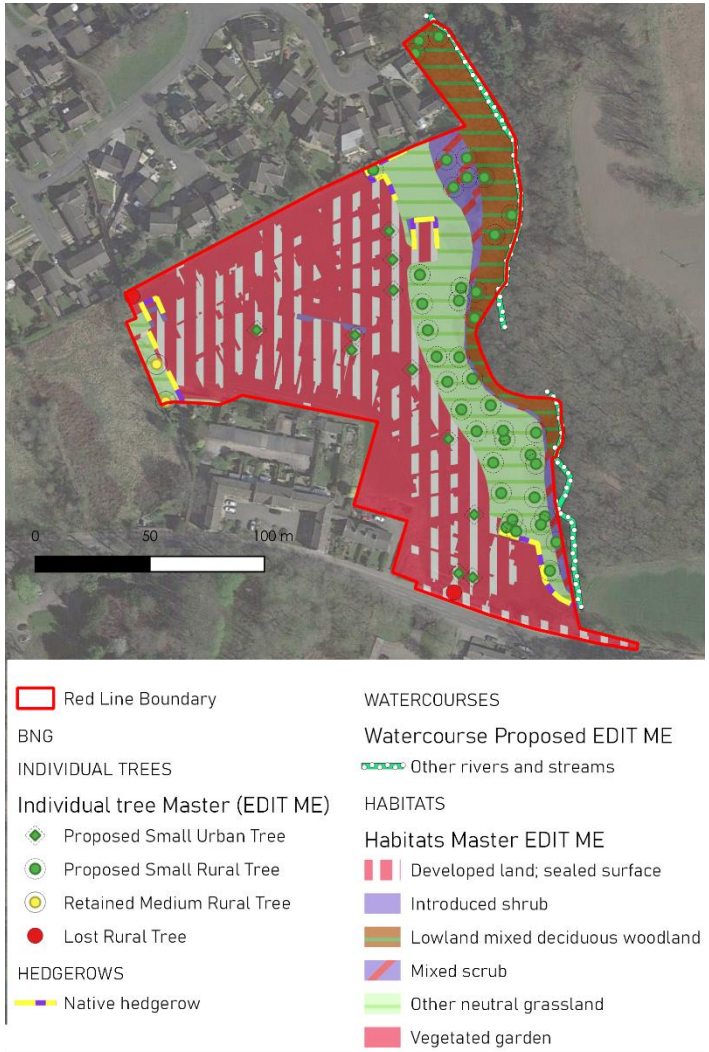


Figure 7 Headline Summary extracted from Biodiversity Metric 4.0 Calculator tool

On-site baseline	*Habitat units*	8.75
	Hedgerow units	0.16
	Watercourse units	3.48
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	10.45
	Hedgerow units	0.55
	Watercourse units	3.48
On-site net change (units & percentage)	*Habitat units*	1.70
	Hedgerow units	0.39
	Watercourse units	0.00

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	1.70
	Hedgerow units	0.39
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	19.46%
	Hedgerow units	247.44%
	Watercourse units	0.00%
Trading rules satisfied?	Yes ✓	

Timing Issues

45. Standard constraints will apply to nesting birds and vegetation clearance.

Cumulative Effects

46. No in-combination effects have been identified.

Offsite Measures or Compensation

47. The scheme is expected to result in significant net gains in both habitat and hedgerow units and as such it is not anticipated off site measures will be required.
48. There is no change in watercourse units anticipated.

Enhancement

49. Opportunities to provide enhancement are detailed in the Biodiversity Management Plan and Landscaping Plan documents. Both have been produced in support of this document.

Monitoring

50. The CEMP document details the role of an Ecological Clerk of Works (ECoW) in overseeing protection measures.
51. The BMP document identifies management specific monitoring which is required in respect of habitat enhancement proposed. The LPA will require regular Monitoring Reports for the Site, to demonstrate that on-site habitats are meeting the condition scores targeted.

Policy and Legislation

52. Given the implementation of the mitigation set out above, it is anticipated that the proposals will comply with the relevant policy and legislation relating to wildlife and ecology.

Conclusion

53. Avoidance and mitigation already factored into the proposed layout and landscaping plan, and specified in the CEMP (Biodiversity) and BMP have addressed most significant effects resulting from the development.
54. Assuming the correct implementation of new and enhanced habitats, proposals will deliver a significant net gain in both Habitat and Hedgerow Units.
55. It is anticipated there will be some increased ongoing disturbance of the woodland in relation to the current baseline, despite mitigation. This is unlikely to be significant given the existing setting with adjacent houses and low level disturbance, and size of proposed development.

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