Ecological Impact Assessment

Lindley Moor, Huddersfield

Martin Walsh Architectural

Report Reference: ER-4823-02.2

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Report Title:	Ecological Impact Assessment Lindley Moor, Huddersfield
Report Reference:	ER-4823-02.2
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Summary

The proposals have engaged with the NPPF Mitigation Hierarchy and have been able to avoid most potential significant effects at the Site.

Residual significant effects can be mitigated and compensated and secured via standard conditions provided in the British Standard BS:42020.

Based on the mitigation and compensation strategy, the proposed development will result in a net gain for biodiversity in habitat units, with a large net gain in hedgerow units also anticipated.

1. Introduction

1.1.1. Brooks Ecological Ltd was commissioned by Martin Walsh Architectural to carry out an Ecological Impact Assessment (EcIA) for a Site referred to as land at Lindley Moor, Huddersfield.

1.1.2. 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.

1.1.3. 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.

1.1.4. This report adapts the format set out in the Chartered Institute for Ecology and Environmental Management (CIEEM) guidelines for Ecological Report Writing (December 2017).

Ecological Impact Assessment (EcIA) Checklist

	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[viii] 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		

2. Method

Scope of Assessment

2.1.1. The application site 'the Site' comprises a small number of interconnected fields located towards the north-western periphery of Huddersfield at Lindley Moor. It is on an open and exposed hillside flanked by other development and infrastructure. The extent of this assessment is the development area within the red line boundary defined in Figure 2.1, overleaf.

2.1.2. 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.

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

- A Preliminary Ecological Appraisal (PEA) carried out by Brooks Ecological in September 2020. ER-4823-01A, October 2020
- Landscape Masterplan Revision B carried out by Brooks Ecological in April 2022. DR-4823-01

Desk Study

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

Field Survey

2.1.5. Following the PEA, the Site was found to be of low ecological value and no further surveys were recommended.

Figure 2.1 *Site area under assessment (red line)*

Assessment Method

2.1.6. 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

2.1.7. 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.

2.1.8. 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

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.

3. Ecology Baseline

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

Designated Sites and Conservation Areas

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

Habitats

3.1.3. The Site comprises habitats mapped opposite and described in the table overleaf.

Potential future changes to the baseline

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

3.1.5. In the absence of re-development, it is assumed that the Site would revert back to being used as agricultural grassland.

3.1.6. If left un-managed/un-grazed, the habitats on site would likely succeed to taller ruderal vegetation and scrub over time.

Figure 3.1 The Site's habitats

3.1.7. The table below sets out the habitats at this Site and their relevance in this assessment.

Table 3.1 Site Habitats Summary

Codes	Habitat Feature	Notes	Valued at what scale
g4 u1b	Modified Grassland	The Site is almost entirely comprised of species poor, agricultural modified grassland of limited ecological value. The Site appears to have been three individual, smaller pastures but now functions as a large single field with only a remnant, defunct hedgerow left. As such the fields all appear to be of the same character with some previous agricultural improvement likely and are currently similarly well grazed. This is a highly disturbed and agriculturally improved pasture with low species diversity and unlikely to support any scarce or notable species. A small area of recently cleared ground was noted, with a variety of temporary cabins associated with nearby construction works.	Site
1170	Trees	A small number of young self-set ash (Fraxinus excelsior) are present along the periphery of the east corner of the Site. The trees are young and being adjacent to a roadside area highly disturbed. They are considered to be of limited value.	Site
h2a	Hedgerows	A defunct hedgerow entirely consisting of hawthorn (Crataegus monogyna) with large gaps and now more reminiscent of a line of individual plants. There is no distinct understory within the grassland continuing through the field layer of the hedgerow.	Site

3.1.8. The table overleaf shows the Site's habitats in terms of their measured extent (ha or km) and Biodiversity Value in Habitat Units. This is an excerpt from the DEFRA Biodiversity Metric 2.0. Spreadsheet Calculator. Although The DEFRA Biodiversity Metric 3.0 was released during production of this report, the Site's assessment and design has all been based on the categories and values in DEFRA 2.0.

3.1.9. 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 2.0 Spreadsheet Calculator.

Figure 3.2 Site Habitats as defined in Biodiversity Net Gain calculations – Site Baseline[1].

	Habitats and areas			Habitat distinctiveness	Habitat condition	Ecological connectivity	Strategic significance	Suggested action to address habitat losses	Ecological baseline
Ref	Broad Habitat	Habitat type	Area (hectares)	Distinctiveness	Condition	Ecological connectivity	Strategic significance		Total habitat units
1	Grassland	Grassland - Modified grassland	6.4152	Low	Poor	Low	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required	12.83
2	Urban	Urban - Street Tree	0.0224	Low	Moderate	Low	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required	0.09
3	Urban	Urban - Vacant/derelict land/ bareground	0.0157	Low	Poor	Low	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required	0.03
4									
5									
6									
7									
8									
		Total site area ha	6.43					Total Site baseline	12.95

	UK Habitats - existing habitats			Habitat distinctiveness	Habitat condition	Ecological connectivity	Strategic significance		Ecological baseline
Baseline ref	Hedge number	Hedgerow type	length KM	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Suggested action to address habitat losses	Total hedgerow units
1		Native Hedgerow	0.319	Low	Poor	Low	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.638
2									
3									
4									
5									
6									
		Total Site length/KM	0.32					Total Site baseline	0.64

[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.

Species and Species Groups

3.1.10. 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 3.2 Summary of relevant faunal issues

Species/ Group (Feature)	Notes	Valued at what scale
Nesting Birds	Despite the low value of habitats there is still the potential for them to support a variety of common garden/ rural fringe bird species.	Site

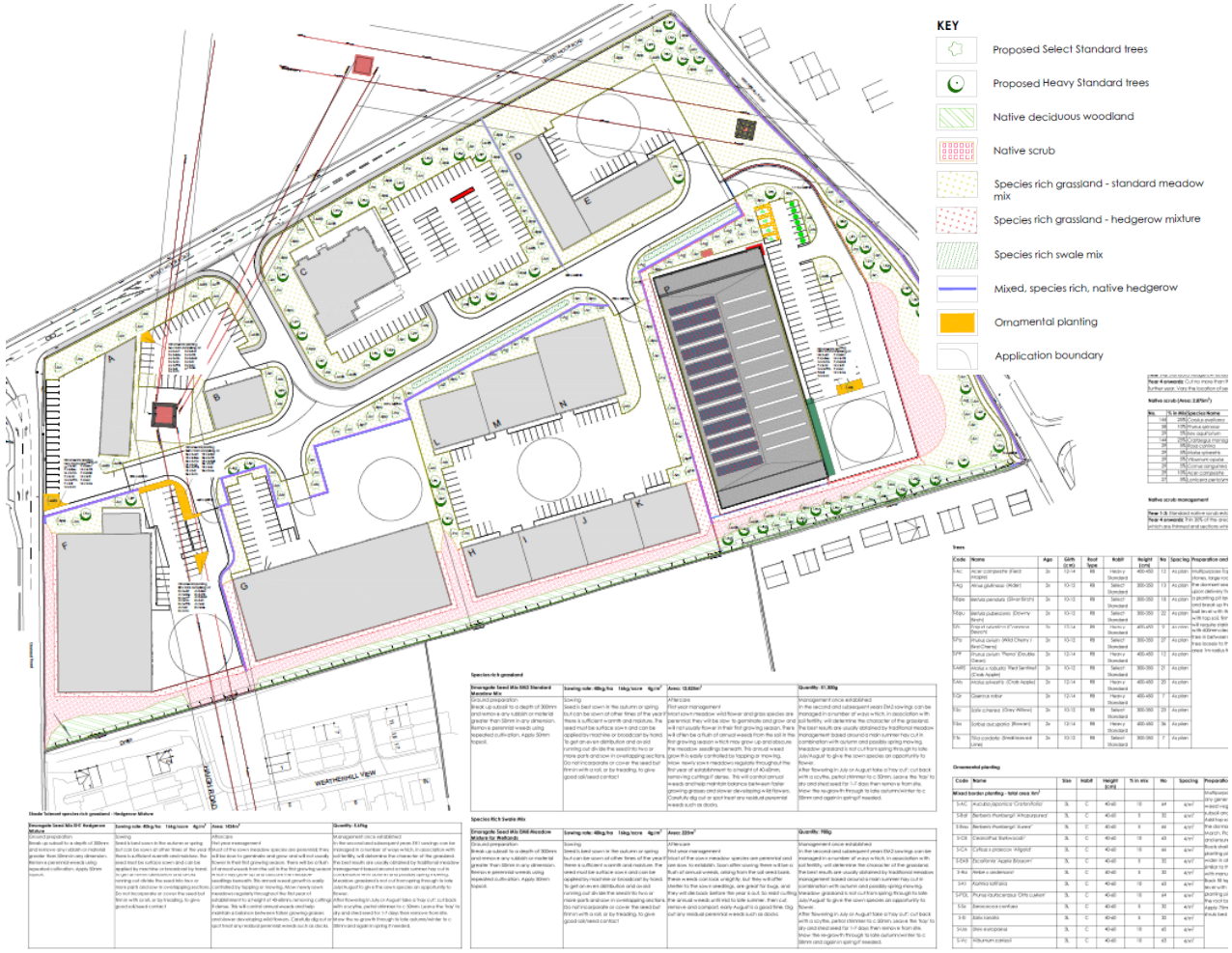
4. Description of the Proposed Development

4.1.1. Planning application seeking outline permission for various commercial and light industrial units.

4.1.2. This will incorporate associated access and infrastructure as well as amenity landscaping. Landscaping has been designed where possible to maximise its ecological value.

4.1.3. Impacts are assessed on the basis of the effects on the valued habitats, species, or sites which have been identified above.

Figure 4.1 Landscape Masterplan Revision E DR-4823-01



5. Impacts and Effects of Development

5.1.1. Figure 5.1 shows the development footprint (black hatch) in relation to the mapped habitats.

5.1.2. The development footprint shows the sum extent of proposed built development and associated clearance works.

5.1.3. It is anticipated the Site will be cleared in its entirety to facilitate development.

Figure 5.1 Development footprint in relation to existing on-Site habitats

Table 5.1 lists the anticipated Impacts and Effects associated with the proposals.

	Impact	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.	Modified grass Trees Native Hedgerow Nesting birds	Local
1b	**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.	Nesting birds	Site
1c	**Pollution**. There is the potential for sediment or chemicals to be released from the Site, or into retained habitat during this stage.	Off-site farmland	Local
1d	Precautions will be required to ensure that impacts on **nesting birds** can be avoided.	Low value habitats can still support nesting birds	Criminal Offence

	Impact	Stage
2	**Construction activities** will take place over a 2-3 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	**Disturbance**. The noise and activity at the Site will render it and areas immediately off-site inhospitable to wildlife during this period.	Low value habitats	Site
2b	**Pollution**. There is the potential for sediment or chemicals to be released from the Site during this stage.	Off-site	Local

	Impact	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	Pollution. There is the potential for sediment or chemicals to be released from the Site during this stage.	Off-site	Local
3b	Inappropriate habitat creation or management techniques could mean that the proposals fail to deliver on BNG commitments	All habitats and species	Site

	Impact	Stage
4	**The Site will be used.** 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. 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 created habitat such as by inappropriate use, littering, release of invasive species.	Newly created habitats	Site
4b	Disturbance. The noise and activity at the Site will be present of a lower order and will likely be tolerable to species habituated to the urban conditions prevailing locally. Collisions with birds and terrestrial mammals will likely slightly increase above existing levels due to increased traffic.	Birds Terrestrial mammals	Local Off-site
4c	In the absence of correct management retained and created habitats will not provide the necessary biodiversity units committed to through the BNG process.	Newly created habitats	Site

6. Mitigation & Residual Effects

6.1.1. 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 illustrated below and set out in Table 6.1 overleaf.

6.1.2. 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.

6.1.3. 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.

6.1.4. Planning permission for the Site would be anticipated to be subject to standard conditions requiring the production of the following documents:

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

Table 6.1 lists the mitigation put in place to address the effects identified in table 5.1

	Impact	**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**.	Slight gain in habitat units and a gain in hedgerow units The BMP will detail the provision and management of connective habitat, including access features for small animals such as hedgehog. The BMP will detail the provision bird nesting and bat roosting features.	**Minor Negative**

	Significant Effects - in the absence of mitigation	Mitigation / Compensation	Residual Magnitude
1b	**Disturbance**. The noise and activity at the Site will render it, and areas immediately off-Site, inhospitable to wildlife during this period.	The main contractor CEMP will detail time limits to work on Site.	**Minor Negative**
1c	**Pollution**. There is the potential for sediment or chemicals to be released from the Site, or into retained habitat during this stage.	The CEMP (Biodiversity) will detail silt fencing to protect retained habitat and watercourses and the location of bunded compounds for storage of machinery and materials	Neutral
1d	Potential effects on **Protected Species**. Precautions will be required to ensure that impacts on **nesting birds** are avoided.	Impacts upon protected species are not anticipated. The CEMP will detail necessary pre-works checks for nesting birds.	Avoided entirely

	Impact	Stage
2	**Construction activities** will take place over a 2-3 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	**Disturbance**. The noise and activity at the Site will render it, and areas immediately off-Site, inhospitable to wildlife during this period.	The CEMP will detail time limits to work on Site.	**Minor Negative**
2b	**Pollution**. There is the potential for sediment or chemicals to be released from the Site during this stage.	The CEMP will detail silt fencing to protect retained habitat and watercourses and the location of bunded compounds for storage of machinery and materials	Neutral

	Impact	Stage
3	**Landscaping activities** will take place 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	Inappropriate habitat creation or management techniques could mean that the proposals fail to deliver on BNG commitments	The BMP will detail; the planting and management required to achieve BNG commitments. This will include monitoring so that evidence can be provided, or remedial action can put in place as required.	**Neutral/ Minor Negative**

	Impact	Stage
4	**The Site will be populated.** Units will be used, and traffic and services will access the Site regularly. Pedestrian access across the Site and along rights of way will increase.	*Operation*

	Significant Effects - in the absence of mitigation	Mitigation/Compensation	Residual Magnitude
4a	Disturbance. The noise and activity at the Site will be present of a lower order and will likely be acceptable to species habituated to the urban conditions prevailing locally.	Landscaping is designed to maximise the amount of habitat which groups such as birds can use for cover, and to provide connectivity and habitat diversity.	**Minor beneficial**
4b	In the absence of correct management 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
4c	Exclusion of wildlife from the developed Site – physically or through the lack of provided habitat	BMP will detail access for hedgehog in any boundary fences/ walls. Bird and bat boxes will be included within the design.	Neutral

7. Biodiversity Net Gain

7.1.1. A gain in habitat units has been achieved via the creation of semi-natural habitats and a large amount of tree planting. As such offsetting would not be expected in this instance.

7.1.2. Calculations setting out the position of the proposals in relation to BNG are set out below. These are based on the landscape 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.

7.1.3. Achieving the required Biodiversity Net Gain position will factor in the effects relating to habitat loss on the lower value habitats which would historically have been scoped out of Impact Assessments.

Net Gain Calculations

7.1.4. The proposals will lead to an overall net gain in habitat units, with a small gain of 0.44 Habitat Units (+3.4%) predicted.

7.1.5. A large gain in hedgerow units of +2.82 units is anticipated.

7.1.6. The client has been provided with a full copy of the Biodiversity Metric 2.0 Calculation Tool.

Figure 7.1 Post development habitat types

Table 7.1 Headline Summary extracted from Biodiversity Metric 2.0 Calculator tool

On-site baseline	*Habitat units*	12.96
	Hedgerow units	0.64
	River units	0.00
On-site post-intervention (Including habitat retention, creation, enhancement & succession)	*Habitat units*	13.40
	Hedgerow units	3.45
	River units	0.00
Off-site baseline	*Habitat units*	0.00
	Hedgerow units	0.00
	River units	0.00
Off-site post-intervention (Including habitat retention, creation, enhancement &	*Habitat units*	0.00
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention/creation)	*Habitat units*	0.44
	Hedgerow units	2.82
	River units	0.00
Total net % change (including all on-site & off-site habitat creation + retained habitats)	*Habitat units*	3.40%
	Hedgerow units	441.34%
	River units	0.00%

8. Timing Issues

8.1.1. Other than the standard constraint surrounding nesting birds and vegetation clearance, no specific timing issues are foreseen.

9. Cumulative Effects

9.1.1. No in-combination effects have been identified.

10. Offsite Measures or Compensation

10.1.1. The scheme is expected to result in a small net gain for biodiversity on-site, and as such it is unlikely off-site measures of compensation would be required by the LPA.

11. Enhancement

11.1.1. Opportunities to provide enhancement, and how to secure this, have been identified Table 6.1 above and will be detailed in the BMP and Landscaping Plan documents to be produced as a standard condition of planning.

12. Monitoring

12.1.1. The CEMP document will detail the role of an Ecological Clerk of Works (ECoW) in overseeing habitat creation is adequate.

12.1.2. The BMP document will identify any management specific monitoring which might be required in respect of habitat enhancement proposed.

13. Policy and Legislation

13.1.1. 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.

14. Conclusion

14.1.1. Mitigation to be agreed by standard conditions of planning will be able to address all significant effects resulting from the development.

14.1.2. The scheme is able to deliver a net gain for biodiversity on site for habitats and as such off-site mitigation is not anticipated.

14.1.3. A net gain in hedgerow units is also anticipated and further action in this regard would not be required.

References

Andrews H. L. (2011) *A habitat key for the assessment of potential bat roost features in trees.*

Bat Conservation Trust (2016*) Bat Surveys for Professional Ecologists* – Good Practice Guidelines

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

CIEEM (2017) *Guidelines for Ecological Report Writing* 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.

CIEEM (2017) *Guidelines for Preliminary Ecological Appraisal*, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal*, 3rd edition. Chartered Institute of Ecology and Environmental Management, Winchester

DEFRA (2021) Biodiversity Metric 2.0 Auditing and accounting for biodiversity Calculation tool macro free

DEFRA (2021) Biodiversity Metric 2.0 Technical Supplement (1)

DEFRA (2021) Biodiversity Metric 2.0 User Guide

English Nature (2004) *Bat Mitigation Guidelines*. English Nature, Peterborough.

Harris S, Jefferies D, Cheeseman C and Booty C (1994). *Problems with Badgers*, revised 3rd Edition. *RSPCA*, ISBN 0-901098-04-3

Gent T and Gibson S, 2003, *Herpetofauna Workers' Manual*, JNCC

IEA. (1995). *Guidelines for Baseline Ecological Assessment*. Chapman and Hall

Hill et al. 2005, *Handbook of Biodiversity Methods*. Cambridge

JNCC (2004) *The Bat Workers Manual*. 3rd Edition.

JNCC (2010). *Handbook for Phase 1 Habitat Survey: A technique for environmental audit*.

Ratcliffe, D.A. (1977) *A Nature Conservation Review*, Cambridge University Press