Ecological Impact Assessment of Final Design for Land at Hart Road, Thundersley

Proposed Development at:

Hart Road, Thundersley

OS 2244-21-Doc 6

December 2021

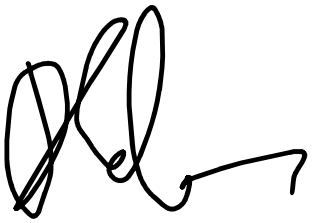
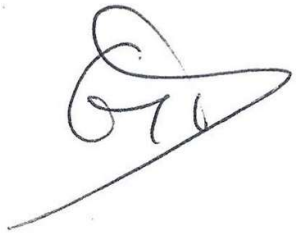
Open Spaces
Landscape Architects
LANDSCAPE ARCHITECTURE – TREES – ECOLOGY

Ecological Impact Assessment of Final Design

for

Proposed Development at:

Hart Road, Thundersley

Written by:		Approved by:	
Signature:		**Signature:**	
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EXECUTIVE SUMMARY

The site contains mainly poor-quality modified grassland, with some habitats of value around the site edges. Much of the site is also part of a Local Wildlife Site (Thundersley Plotlands). There is also potential for and evidence of protected species on site, as well as the presence of an invasive species (Himalayan balsam).

The development overall, will have a likely minor positive impact on biodiversity overall, provided recommendations within the site Preliminary Ecological Appraisal, CEMP and invasive species survey report are followed and habitats and enhancements added as proposed.

Although areas within the Local Wildlife Site will be developed, these were assessed as being grassland of low ecological value, with habitats of higher value such as hedgerows are being retained, enhanced and added to. New higher quality grassland areas will be added.

A Biodiversity Net Gain calculation for the site gave a net gain in Habitat Units of 2.94% of habitat units and a net gain in Hedgerow Units of 96.51%

Protected species such as reptiles, hedgehogs, badgers and nesting birds will be protected through precautionary clearance methods and habitats of most value to them will be retained. Although there will be some loss of foraging grassland for badgers, compensation for this will be added in the form of new grassland areas and berry bearing and fruit bearing bushes and trees. Hedges which might be used by foraging bats will be retained and a lighting scheme added which will avoid increasing lightfall onto these areas.

An infestation of Himalayan balsam in the south of the site will be controlled by a management programmes designed to eradicate or reduce this species as much as possible.

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1.0 INTRODUCTION

1.1 Ecological Impact Assessment Brief

Open Spaces Landscape & Arboricultural Consultants Ltd (**Open Spaces**) was commissioned by Legal and General Affordable Homes to undertake an Ecological Impact Assessment at Land at Hart Road, Thundersley.

Details of the ecological vectors that would be impacted by the development are included in a Preliminary Ecological Appraisal report for the site and this should be referred to for details of these. In addition, the completed Biodiversity Net Gain Metric table for the site should be referred to for details of areas and habitats used to determine the change in site ecological value. Further details of mitigation measures and enhancements are included in the following reports and plans which should also be referred to:

Brooks Ecological (2021) – Preliminary Ecological Appraisal Report – Hart Road, Thundersley

Ebsford Environmental (2020) - Invasive Species Management Plan, Hart Road Thundersley

Open Spaces (2021) – Soft Landscape Plan OS 2244-21.3 30/11/2021

Open Spaces (2021) – Biodiversity Management Plan OS 2244-21 Doc 3

1.2 Development Proposals & Planning Context

Proposals are for the construction of housing on site.

1.3 Copyright

2.0 ECOLOGICAL VECTORS ON SITE

2.1 Summary of ecological vectors with potential to be impacted by the development

Below are listed the ecological vectors on site that might be impacted by the development, as determined by the PEA report for the site:

- Local Wildlife Site
- Habitats of value
- Nesting birds
- Reptiles
- Badgers
- Himalayan Balsam

2.2 Local Wildlife Site/Habitats of value

The site includes part of a Local Wildlife Site (Thundersley Plotlands) CPT23.

This was designated under Essex Local Wildlife Criteria HC28 and HC31, which are shown below:

Habitat Criterion 28 (HC28) – Small-Component Mosaics "A site comprising two or more sub-habitats, each of which just fails to be selected as a Site within its own main habitat criterion group or on species grounds, will be eligible for selection".

Guidance: The component sub-habitats should be readily identifiable as comprising the key habitats covered by the main habitat criteria e.g. wet woodland, lowland fen and reedbed. The component habitats should have some identifiable ecological connectivity, as is the case with these three wetland habitats. Incongruous mosaics, such as reedbed adjacent to lowland mixed deciduous woodland should be excluded. The extent of such sites should take into account the relative abundance of each of the component sub-habitats in that part of the county.

Habitat Criterion 31 (HC31) – Accessible Natural Greenspace 57 "A site that comes close to qualifying under other selection criteria can be eligible for selection based upon its amenity, cultural and/or education value close to a centre of population.

The site ecological survey found that although over half the site is within the Local Wildlife Site, it consisted mainly of low-quality modified grassland and therefore would no longer qualify under Criteria 28. As for Criteria 31, the site currently has no amenity access or education value, presumably it has some cultural value as an example of Plotlands.

The loss of part of the Local Wildlife Site would usually be a major negative impact, however the decline in value of the site area has occurred prior to the proposed development and if reviewed it is likely the area of the site would be deselected. Therefore, the impact of developing the already degraded habitat on site, while retaining the habitats of value around the boundaries could be said to be a minor negative impact. The loss of degraded habitats is partly compensated for by addition of new areas of meadow grassland and a small woodland area likely to be of more value than the grassland lost.

2.3 Site Habitats of Value

The PEA for the report found that the only habitats of value were present around the boundaries of the site, and these consisted of boundary hedges and a ditch along the southern site edge. These are being retained, and where necessary hedges will be infilled to enhance them. In addition, rough grass and meadow grassland habitats will be added adjacent to them, forming buffers between them and housing. New native species rich hedgerows with trees will be added to the site adjacent to grassland areas.

The development will have a moderate positive impact on the habitats of value on site, by adding to them and improving them by infilling and adding other habitats of value adjacent to them

2.4 Biodiversity Net Gain

A Biodiversity Net Gain calculation was carried out for the site. Annex Based on the information input into the Metric the proposed development and proposed landscaping would result in:

A net gain in Habitat Units of 0.10, or net gain of 2.94% of habitat units

A net gain in Hedgerow Units of 2.02, or a net gain of 96.51% hedgerow units

The Metric table shows the details of areas and habitats/linear features included in the calculation. Calculations assume that landscaping will be carried out as advised, to include the following:

The calculation for the Habitat Units assumes:

- Areas of meadow grassland are added beside the site entrance road and adjacent to the southern edge of the site.
- Eastern and western site edges contain rough grassland acting as a buffer between gardens and adjacent existing on and offsite hedges.

The calculation for the Hedgerow Units assumes:

- Existing on site hedgerows are retained and enhanced by infilling where required.
- New native species rich hedges with trees are added in the south and north of the site, with ornamental hedges added around new houses.

There will be a net gain of **Area Based Habitat Units** of 2.94%, however due to the nature of the proposal (housing development) a significant proportion of the site will be hardstanding and buildings or no ecological value. Despite this the proposal involves making optimum use of available site areas with habitats of value added to any areas where space allows.

For **Hedgerow Units** (Linear features) it has been possible to retain the existing hedgerows and also add 222 m of new species rich native hedgerow with trees, as well as 410 m of new ornamental hedges. This gives a net gain for Hedgerow Units of 2.02, equating to an increase of 96.51%.

Although there is an increase in area-based habitat units, the Metric Trading Summary shows that 0.72 units of scrub have been lost and not replaced. Ideally where scrub is removed it would

be replaced with scrub or heathland or the same or higher distinctiveness. Due to the limited scope for fitting both housing and habitats on to site this has not been possible, although a net gain has successfully been achieved overall

2.5 Nesting birds

The initial ecology survey found potential for common bird species to nest on site. The CEMP for the site includes a requirement to check for nesting birds before clearance if clearance is to take place within the nesting season.

The habitats where birds will mainly nest on site are being retained (hedgerows and trees). Therefore, there will be no significant loss of nesting habitat. Although there may be a temporary reduction in level of nesting on site during construction.

The enhancements for the site include addition of nest boxes, so opportunities for nesting will be higher after development than before.

Overall, there is unlikely to be any residual negative impact on nesting birds due to development, with a possible minor positive impact due to an increase in the nesting opportunities on site.

2.6 Reptiles

The site consists mainly of grazed fields, unsuitable for reptiles except for at the site boundaries, where narrow strips of ungrazed scrub and hedge bases are present. Reptiles might be disturbed during clearance, but clearance of suitable habitats will be carried out using phased clearance to deter reptiles and be under supervision of an ecologist. The boundary habitats were reptiles might be present are being retained and it is unlikely the any population of reptiles in boundary habitats would be impacted in the long term. Impacts during clearance will be minimised using the methods described. Habitats after development will be similar in size after development than before, with a possible small increase in area, as some rough grassland habitat is being added.

Overall, there is unlikely to be any residual long term negative impact on reptiles on site.

2.7 Badgers

Badgers were found to use the site for access and for some foraging, although the site has damaged soils, and the ecological survey found the earthworm density was likely to be low. Badger tracks were found along the eastern edge of the site, but they are likely to cross the site also.

The development will result in a reduction in grassland, likely to be of low value for foraging, and may also limit access for badgers through the site.

The loss of foraging habitat is inevitable, but this can be partly compensated for by addition of fruit and berry bearing trees and shrubs on site as an alternative food source, the addition of meadow grassland and amenity grassland areas will also partly compensate for the loss of grassland on site.

Fencing on site in public areas can be installed as post and rail fencing or another type of fencing with an open lower section, so that badgers can easily cross through the fencing.

Overall, there is likely to be a minor negative impact on badger foraging and access, partly compensated for by addition of fruit and berry bearing planting and new grassland areas, along with suitable fencing which allows access.

2.8 Bats

The PEA survey found no buildings on site with bat roost potential, and no trees with roost potential. The proposal includes addition of bat nest boxes. Bats were considered likely to forage along site boundary habitats, but these are all being retained. A bat friendly lighting scheme will be used on site. This will minimise light spill onto boundary habitats.

Overall, the development will have no impact on roosting bats as none will be present, but addition of bat roost boxes will provide new roosting opportunities for bats. Provided a suitable lighting scheme is included will have no significant impact on foraging bats.

2.9 Himalayan Balsam

Himalayan Balsam was found growing along the ditch at the front of the site and this is a negative ecological vector. Works on site could spread this offsite if not controlled properly. By following measures given in the site CEMP, including supervised clearance of infested areas risk of spread will be minimised. A planned control programme for the species on site will result in removal or reduction of this species on site.

Overall, providing a control programme will be carried out the development would result in a moderate to high positive residual impact by reducing or eradicating this species from site.

3.0 CONCLUSION

3.1 Summary

The site contains mainly poor-quality modified grassland, with some habitats of value around the site edges. Much of the site is also part of a Local Wildlife Site (Thundersley Plotlands). There is also potential for and evidence of protected species on site, as well as the presence of an invasive species (Himalayan balsam),

The development overall will have a likely minor positive impact on biodiversity overall, provided recommendations within the site Preliminary Ecological Appraisal, CEMP and invasive species survey report are followed and habitats and enhancements added as proposed.

Although areas within the Local Wildlife Site will be developed, these were assessed as being grassland of low ecological value, with habitats of higher value such as hedgerows are being retained, enhanced and added to. New higher quality grassland areas will be added.

A Biodiversity Net Gain calculation for the site gave a net gain in Habitat Units of 2.94% of habitat units and a net gain in Hedgerow Units of 96.51%

Protected species such as reptiles, hedgehogs, badgers and nesting birds will be protected through precautionary clearance methods and habitats of most value to them will be retained. Although there will be some loss of foraging grassland for badgers, compensation for this will be added in the form of new grassland areas and berry bearing and fruit bearing bushes and trees. Hedges which might be used by foraging bats will be retained and a lighting scheme added which will avoid increasing lightfall onto these areas.

An infestation of Himalayan balsam in the south of the site will be controlled by a management programmes designed to eradicate or reduce this species as much as possible.

4.0 REFERENCES

Castle Point Borough Council (2019) - Local Wildlife Site Review Field Notes

Brooks Ecological (2021) – Preliminary Ecological Appraisal Report – Hart Road, Thundersley

Ebsford Environmental (2020) - Invasive Species Management Plan, Hart Road Thundersley

Essex Local Wildlife Sites Partnership Revised January 2016 LOCAL WILDLIFE SITE SELECTION CRITERIA

Natural England Joint Publication JP039 (2021) – The Biodiversity Metric 3.0 - auditing and accounting for biodiversity TECHNICAL SUPPLEMENT

Natural England Joint Publication JP039 (2021) – The Biodiversity Metric 3.0 - auditing and accounting for biodiversity USER GUIDE

Open Spaces (2021) – Biodiversity Management Plan OS 2244-21 Doc 3

Open Spaces (2021) – Soft Landscape Plan OS 2244-21.3 30/11/2021

The UK Habitat Classification Working Group (May 2018) – Habitat Definitions Version 1.0

5.0 ANNEXES

Annex 1 – Plan Showing Current Site Habitats

Annex 2 – Proposed Site Layout

Annex 3 – Details of Biodiversity Net Gain Calculation

Annex 1 – Plan Showing Current Site Habitats (Extracted from Brooks Ecological report)

Map Data from Google

Annex 2 – Proposed Site Layout

Annex 3 – Details of Biodiversity Net Gain Calculation

6.0 Net Gain Calculation Method

A Biodiversity Net Gain Calculation was carried out in December 2021 for the site, the calculation covered the proposed development area. The calculation was made using the Biodiversity Metric 3.0, which was published by Natural England in 2021.

- Information on habitat types and areas on site prior to and post development were input into the metric. This information was obtained from the following sources:
- Preliminary Ecological Assessment of the site carried out by Brooks Ecology in 2021
- Calculations of total areas of each habitat type on site prior to development were included in the ecological report produced by Brooks Ecology.
- Information on site area, habitat types and areas of each habitat type post development was supplied by the landscape architect and these details were used to calculate estimated areas and linear feature lengths after development.

6.1 Result of Net Gain Calculation

Based on the information input into the Metric the proposed development and proposed landscaping would result in:

A net gain in Habitat **Units of 0.10, or net gain of 2.94% of habitat units**

A net gain in Hedgerow Units of 2.02, or a net gain of 96.51% hedgerow units

The Metric table shows the details of areas and habitats/linear features included in the calculation. Calculations assume that landscaping will be carried out as advised, to include the following:

The calculation for the Habitat **Units assumes:**

- Areas of meadow grassland are added beside the site entrance road and adjacent to the southern edge of the site.
- Eastern and western site edges contain rough grassland acting as a buffer between gardens and adjacent existing on and offsite hedges.

The calculation for the Hedgerow **Units assumes:**

- Existing on site hedgerows are retained and enhanced by infilling where required.
- New native species rich hedges with trees are added in the south and north of the site, with ornamental hedges added around new houses.

7.0 Discussion

There will be a net gain of **Area Based Habitat Units** of 2.94%, however due to the nature of the proposal (housing development) a significant proportion of the site will be hardstanding and buildings or no ecological value. Despite this the proposal involves making optimum use of available site areas with habitats of value added to any areas where space allows.

For **Hedgerow Units** (Linear features) it has been possible to retain the existing hedgerows and also add 222 m of new species rich native hedgerow with trees, as well as 410 m of new ornamental hedges. This gives a net gain for Hedgerow Units of 2.02, equating to an increase of 96.51%.

Although there is an increase in area-based habitat units, the Metric Trading Summary shows that 0.72 units of scrub have been lost and not replaced. Ideally where scrub is removed it would be replaced with scrub or heathland or the same or higher distinctiveness. Due to the limited scope for fitting both housing and habitats on to site this has not been possible, although a net gain has successfully been achieved overall

8.0 Details of completion of the Metric

8.1 Factors to be included in calculation of the Metric

- To carry out a Biodiversity Net Gain calculation with the biodiversity metric there are a number of factors which need to be included.
- The area of each habitat needs to be calculated and the length of any linear features such as hedgerows
- The strategic significance of the habitat needs to be recorded (within area formally identified in local strategy, location ecologically desirable but not in local strategy or area/compensation not in local strategy/ no local strategy
- The condition of each habitat parcel based on criteria listed in the Metric. Habitats are recorded as poor, fairly poor, moderate, fairly good, or good condition, with a few habitats of no ecological value not given a condition.

8.2 Explanation of calculation of data included in the Metric

Sources of information for the Metric - Information on habitats prior to development was calculated using:

- Information for the most recent Preliminary Ecological Assessment survey reports for the site (Brooks Ecology 2021). From this habitats on site are known and their condition and other features could be assessed based on species and features present in each habitat type.
- The total site area was also provided by the client.

Information on habitats post development was calculated using:

- Information provided by the site landscape architect, including details of planting and enhancement features to be added as well as the total areas of each type of habitat on site.

8.3 Details of data input into the Metric

The Metric includes specific habitat types which can be chosen. In cases where the habitat to be input does not appear to specifically match any of the habitats in the Metric or appears to match more than one, Habitat Definitions Version 1.0 (2018) is examined for a detailed definition of the habitats given in the Metric and the habitat in question is input as that with the detailed description most closely matching the habitat on site.

Table 1: Development Site - Details of information input for calculation of baseline habitat and hedgerow units

Habitat type on metric table	Area	Condition	Details of retention or removal of habitat
Modified grassland	Area taken from PEA report	Assessed using grassland habitat types condition sheet. Given poor condition.	All of this habitat will be cleared.
Artificial unvegetated, unsealed surface	Area taken from PEA report	Not assessed, this habitat is not given a condition, condition input in table is N/A – Other, with score for condition of 0 as per Metric rules	All of this habitat will be cleared.
Developed land; sealed surface	Area taken from PEA report	Not assessed, this habitat is not given a condition, condition input in table is N/A – Other, with score for condition of 0 as per Metric rules	All of this habitat will be cleared.
Vegetated garden	Area taken from PEA report	Not assessed, this habitat is automatically given poor condition	All of this habitat will be cleared.
Bramble scrub	Area missing from PEA report calculated by taking total area of other habitats from total site area	Assessed using scrub and heathland habitat types condition sheet. Given poor condition.	All of this habitat will be cleared.

Linear habitat type on metric table	Length	Condition	Details of retention or removal of habitat
Native species rich hedgerow with trees –with ditch	Length provided in PEA report.	Assessed using hedgerows and lines of trees condition table. Assessed as Moderate condition.	This habitat is all being retained
Native hedgerow with trees	Length provided in PEA report.	Assessed using hedgerows and lines of trees condition table. Assessed as Poor condition.	This habitat is all being retained and enhanced with gaps being filled

Table 2: Development Site - Details of information input for calculation of post-development habitat and hedgerow units

Grassland - Other neutral grassland (Meadow area)	Area provided by Landscape Architect	Management would aim for a moderate condition	This habitat is rough grassland forming buffer between hedges and housing.
Grassland - Other neutral grassland (Meadow area)	Area provided by Landscape Architect	Likely to achieve poor condition	This habitat is flowering meadow, cut to encourage flowering plants
Grassland – modified grassland	Area provided by Landscape Architect	Amenity grassland likely to achieve moderate condition	Will be added – lawns and amenity grassland
Urban - Developed land; sealed surface	Area provided by Landscape Architect	Not assessed, this habitat is not given a condition, condition input in table is N/A – Other, with score for condition of 0 as per Metric rules	To be created – houses, roads, pavements, etc.
Woodland and forest – Other woodland; broadleaved	Area provided by Landscape Architect	Likely to achieve poor condition	This habitat is an area of “mini forest”
Urban - Street Tree	Number of trees to be added supplied by Landscape Architect	Likely to achieve poor condition	Small and medium trees (128) added over the site.

Urban – Introduced shrub	Area provided by Landscape Architect	Not assessed, automatically allocated a condition of Poor according to Metric rules	Will be created
Linear habitat type on metric table	**Length**	**Condition**	**Details of retention or removal of habitat**
Native species rich hedgerow with trees	Length provided by Landscape Architect	Moderate condition likely to be achieved.	277 m to be added in south and north of the site.
Hedge Ornamental Non-Native	Length provided by Landscape Architect	Not assessed, automatically allocated a condition of Poor according to Metric rules	497 m to the added around houses.