HONDA HERITAGE PARK
HIGHWORTH ROAD, SOUTH MARSTON

BIODIVERSITY NET GAIN ASSESSMENT

A Report to: Honda of the UK Manufacturing

Report No: RT-MME-156261-01 Revision A

Date: September 2021

MIDDLEMARCH ENVIRONMENTAL

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REPORT VERIFICATION AND DECLARATION OF COMPLIANCE

This study has been undertaken in accordance with British Standard 42020:2013 "Biodiversity, Code of practice for planning and development" and "Biodiversity Net Gain: Good practice principles for development" (CIEEM, CIRIA, IEMA, 2016).

Report Version	Date	Completed by:	Checked by:	Approved by:
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The information which we have prepared is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

DISCLAIMER

The contents of this report are the responsibility of Middlemarch Environmental Ltd. It should be noted that, whilst every effort is made to meet the client's brief, no site investigation can ensure complete assessment or prediction of the natural environment.

Middlemarch Environmental Ltd accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

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1. INTRODUCTION

1.1 PROJECT BACKGROUND

In September 2021 Honda of the UK Manufacturing commissioned Middlemarch Environmental Ltd to undertake a Biodiversity Net Gain Assessment associated with a proposed development at a site located off Highworth Road, South Marston. This assessment is required to inform a planning application associated with the creation of a heritage park, an area for public recreation that includes a natural play area for children and a community orchard.

Middlemarch Environmental Ltd has previously carried out a Preliminary Arboricultural Assessment, Arboricultural Impact Assessment, Preliminary Ecological Appraisal and Reptile Survey at this site (Report Numbers RT-MME-155838-01 to 155838-04). Middlemarch Environmental Ltd has also been commissioned to produce a Construction Ecological Management Plan (CEcMP, Report RT-MME-156261-02) and a Landscape and Ecology Management Plan (LEMP, Report RT-MME-156261-03) for this project.

1.2 SCOPE OF ASSESSMENT

The purpose of the Biodiversity Net Gain Assessment is to identify the change in biodiversity value that may result from a change in land use (e.g. development) or management (e.g. biodiversity enhancement) at the site and to establish if a net gain for biodiversity can be achieved. The Biodiversity Net Gain Assessment utilises a biodiversity metric to provide a proxy measure of biodiversity based on habitat attributes, which can then be used to determine the relative change in biodiversity value resulting from any land use or management measures proposed.

It should be noted that the metric is only a proxy for biodiversity using habitat values and that any proposed enhancements should be designed using appropriate ecological expertise. Existing levels of protection afforded to protected species and to habitats are not changed by use of the metric and statutory obligations will still need to be satisfied. In addition, the metric cannot account for impacts on, or enhancements to, irreplaceable habitats or protected sites, which will need to be assessed separately.

1.3 SITE DESCRIPTION AND CONTEXT

The site of the proposed heritage park is just over 0.5 ha in size and irregular in shape. It is located off Highworth Road near South Marston on the outskirts of Swindon. The central National Grid Reference for the site is SU 190 885. The site is situated between existing allotment sites, farmland and a band of semi-natural habitats that border industrial sites, including Honda.

1.4 DESCRIPTION OF DEVELOPMENT

The proposal is to create a ‘heritage park’ at this location. This will be intended for public recreation. Elements of the proposed project include:

- The creation of a community orchard;
- The creation of a natural play area for children;
- Dredging and relandscaping the existing pond;
- Creating an area of amenity grassland; and,
- Native tree planting.

Some areas of existing scrub and the majority of the grassland will be retained. The Landscape Masterplan shows a 2m protective buffer along the watercourse where no work is proposed, although a wider buffer of semi-natural habitat will be present in the long-term.

1.5 DOCUMENTATION PROVIDED

The conclusions and recommendations made in this report are based on information provided by the client regarding the scope of the project. Documentation made available by the client is listed in Table 1.1.

Document Name / Drawing Number	Author
Landscape Masterplan General Arrangement RG-L-01-01 (DRAFT)	Barton Willmore
32864 – RG-L-01A Vision Document	Barton Willmore
32864 RG-L-01-03 - Landscape Masterplan Soft Landscaping Plan	Barton Willmore

Table 1.1: Documentation Provided by Client

2. METHODOLOGY

2.1 HABITAT BASELINE

The existing habitat baseline for the site was established through a Phase 1 Habitat Survey of the site, carried out by Middlemarch Environmental Ltd in July 2021, as part of the Preliminary Ecological Appraisal (Report RT-MME-155838-03). The reader is referred to this report for detailed descriptions of each habitat recorded on site.

The walkover survey was conducted following the Phase 1 Habitat Survey methodology of the Joint Nature Conservation Committee (JNCC, 2010[1]) and the Institute of Environmental Assessment (IEA, 1995[2]). Phase 1 Habitat Survey is a standard technique for classifying and mapping British habitats. The aim is to provide a record of habitats that are present on site.

2.2 CALCULATION OF NET LOSS/GAIN

The calculation was undertaken using 'The Biodiversity Metric 3.0', following guidance set out by Panks *et al.* (2021)[3].

2.2.1 Calculating the On-Site Baseline

The site is separated into distinct habitat parcels based on the results of the Phase 1 Habitat Survey. The metric differentiates between non-linear habitats (i.e. grassland, woodland) and linear habitats (i.e. hedgerows), for which a separate calculation is completed. The respective areas (in hectares) of each habitat parcel and respective lengths (in kilometres) of linear features are entered into the calculator.

The Biodiversity Metric 3.0 calculator tool uses Biodiversity Metric Habitat Types based on the UK Habitat Classification System (UKHab) and EUNIS as the standard data input. The Phase 1 Habitat Survey data for the site was converted to Biodiversity Metric Habitat Types for the purposes of the metric calculation using the Biodiversity Metric 3.0 guidance.

Habitats are assigned scores for 'Distinctiveness', 'Condition' and 'Strategic Significance':

- **Distinctiveness –** An automated score based on the type of habitat present and its value to wildlife. Highly diverse habitats such as those listed as Habitats of Principal Importance under the NERC Act (2006) or Annex 1 habitats in the Habitats Directive (1992) score highly in this category whilst highly modified and low diversity habitats such as arable crops will have low distinctiveness scores.
- **Condition –** A score based on the quality of the habitat parcel, based on guidance set out by Panks *et al.* (2021)[3].
- **Strategic significance** – A score based on information set out in local plans or policies, such as whether the site falls within a Local Site or strategic ecological corridor.

The baseline value of each habitat parcel (or linear feature) is presented in terms of habitat (or hedgerow) 'units'.

2.2.2 Calculating the Future Baseline

The future baseline conditions of the site are based on the Landscape Masterplan General Arrangement (Barton Wimore Drawing RG-L-01-01 (DRAFT)), provided in Chapter 5. . The future baseline is initially overlaid on the existing baseline to calculate the area of habitats to be lost, retained with no change, retained and enhanced, or created. This is used to calculate the gross biodiversity change at the site.

New target habitat 'Distinctiveness' and 'Condition' values are subsequently assigned for created or retained habitats, taking account of any management proposals detailed for these features (as detailed on the Landscape Masterplan General Arrangement plan). The areas (or lengths) of these new target habitats are entered into the calculator and are assigned predicted scores for 'Strategic Significance'. As the calculation of target habitats requires some degree of prediction based on professional judgement, additional risk factors

[1] JNCC. (2010). *Handbook for Phase 1 Habitat Survey: A technique for environmental audit*. Joint Nature Conservation Committee, Peterborough.
[2] IEA. (1995). *Guidelines for Baseline Ecological Assessment*, Institute of Environmental Assessment. E&FN Spon, An Imprint of Chapman and Hall, London.
[3] Panks, S., White, N., Newsome, A., Potter, J., Heydon, M., Mayhew, E., Alvarez, M., Russell, T., Scott, S. J., Heaver, M., Scott, S. H., Treweek, J., Butcher, B. and Stone, D. (2021). *Biodiversity metric 3.0: Auditing and accounting for biodiversity – User Guide*. Natural England.

are included in the calculation to account for the difficulty in restoring or creating habitats and the time it takes for enhanced or created habitats to reach their predicted condition.

Following the calculation of the existing biodiversity value of the site and the calculation of the post-development value of the site, the 'Post-intervention habitat (or hedgerow/river) units' are provided, along with a figure for the percentage of biodiversity impact loss (or gain).

2.2.3 Constraints and Assumptions

No site specific constraints or limitations have impacted this assessment.

3. ECOLOGICAL BASELINE AND IMPACT ASSESSMENT

3.1 EXISTING HABITATS

The habitats identified during the Phase 1 Habitat Survey and their UKHabs equivalent are described in Table 3.1 and their value in biodiversity units provided. Whilst the site does comprise a habitat mosaic, it does not fit the criteria to be classed as a 'Habitat Mosaic on Previously Developed Land' (a Habitat of Principal Importance in England) as no evidence can be found of previous development. As such, each habitat is considered individually. The full assessment is provided in Appendix 1.

The online Swindon Policies Map indicates that the proposed Heritage Park is not situated within a site designated for nature conservation nor is it within any strategic ecological corridor set out in local plans and policies such as the Strategic Green Infrastructure Corridor EN1. It should also be noted that no habitat types within the site occur on Priority Habitat Inventory Maps.

Phase 1 Habitat	Biodiversity Metric Habitat	Area (ha/km)	Description (distinctiveness, condition, connectivity and strategic significance)	Value (Biodiversity Units)
Area Based Habitats				
Amenity Grassland	Grassland: Modified grassland	0.04 ha	Regularly mown grassland paths through allotment. This habitat is automatically classed as being of 'Low' distinctiveness and has a default 'Poor' condition. Observations in the field support this classification. As the site is not covered by a local nature conservation strategy this habitat has 'Low' strategic significance.	0.08
Bare Ground	Urban: artificial unvegetated unsealed surface	0.04 ha	An area of unvegetated stone and soil used for parking. This habitat is automatically classed as being of 'Very Low' distinctiveness and a condition cannot be assigned for this habitat type. Observations in the field support this classification. As the site is not covered by a local nature conservation strategy this habitat has 'Low' strategic significance.	0.00
Dense Continuous Scrub	Heathland and shrub: Mixed scrub	0.22 ha	Small areas of dense scrub of a variety of species occurred along the periphery of the grassland and beside the parking area. This habitat is automatically classed as being of 'Medium' distinctiveness. Whilst this habitat comprised a mix of species with good ecotones with adjacent habitats, the habitat patches did not have a diverse internal structure and had a high proportion of undesirable species in the understorey. Both of the latter points were primarily due to the small size of the habitat patches, which under UK Habs might more accurately be described as 'scattered scrub' and has an important role in the habitat mosaic on site. As such this habitat has been classified as 'Fairly Poor' rather than 'Poor'. Due to the location of the habitat mosaic along a river corridor the location is deemed to be of 'Medium' strategic significance as it is ecologically desirable but not in a local strategy.	1.45
Neutral Semi-improved Grassland and Tall Ruderal Vegetation	Grassland: Other Neutral Grassland	0.30 ha	The main habitat on site comprised neutral grassland including a large section dominated by *Deschampsia cespitosa* (UKHabs g3c7) and small areas dominated by tall ruderal species. These areas of tall herb do not meet the UKHabs H6430 classification and are therefore included within the 'Other neutral grassland' habitat type for the metric. This habitat is automatically classed as being of 'Medium' distinctiveness. This habitat is classed as having 'Fairly Good' condition. This is due to it partially failing condition criteria 2 as less than 20% of the sward was likely to be less than 7cm. Despite this it was still deemed to meet the rest of this criteria as it had a varied structure and provided opportunities for a range of wildlife. Due to the location of the habitat mosaic along a river corridor the location is deemed to be of 'Medium' strategic significance as it is ecologically desirable but not in a local strategy.	3.30

Table 3.1: Summary of Existing Habitats (continues)

Phase 1 Habitat	Biodiversity Metric Habitat	Area (ha/km)	Description (distinctiveness, condition, connectivity and strategic significance)	Value (Biodiversity Units)
Area Based Habitats				
Standing Water	Lakes: Pond (non-priority habitat)	0.03 ha	An overgrown pond was located within the area of scrub in the southeast corner of the site. This habitat is automatically classed as being of 'Medium' distinctiveness and 'Moderate' condition. Observations in the field support this classification. The location is deemed to be of 'Medium' strategic significance as it is not in a local strategy but is ecologically desirable as it forms part of a group of ponds in the landscape that might support populations of notable aquatic species if managed appropriately.	0.26
Total Area (ha)		**0.63 ha**	**Total Site Baseline (Habitat Units)**	**5.10***
Linear Habitats				
Hedgerow	Native hedgerow	0.063 km	The eastern boundary of the Heritage Park site was formed by a defunct hedgerow with a basal flora dominated by ruderal species. This habitat is automatically classed as being of 'Low' distinctiveness. This habitat is in 'Moderate' condition for its type. Due to the location of the habitat mosaic along a river corridor the location is deemed to be of 'Medium' strategic significance as it is ecologically desirable but not in a local strategy.	0.28
Total Length (km)		**0.063 km**	**Total Site Baseline (Hedgerow Units)**	**0.28**
Notes: ***** Biodiversity Units are provided by the Biodiversity Metric 3.0 Auditing and Accounting for Biodiversity Calculation Tool. Any apparent calculation errors may be from unseen rounding anomalies.				

Table 3.1: Summary of Existing Habitats

Drawing C155838-03-01 in Chapter 5 details the current extent of the habitats present within the site

3.2 DEVELOPMENT PROPOSALS AND ASSESSMENT OF IMPACTS

3.2.1 Development site (red line boundary)

The proposal is to create a 'heritage park' at this location. This will be intended for public recreation. Elements of the proposed project include;

- The creation of a community orchard;
- The creation of a natural play area for children;
- Dredging and relandscaping the existing pond;
- Creating an area of amenity grassland; and,
- Native tree planting.

Some areas of existing scrub and grassland will be retained, with new wildflower turf proposed in some locations. The habitat retained includes a 2 m buffer along the watercourse where no work is proposed, although a wider buffer of semi-natural habitat will be present in the long-term.

Habitat Loss

A total of 1.96 of 5.37 Biodiversity Units will be lost during construction. This comprises;

- 0.08 Habitat Unit loss from the removal of 0.04 ha of modified grassland;
- 0.53 Habitat Unit loss from the reduction in the area of scrub by 0.08 ha;
- 1.32 Habitat Unit loss from the reduction in the area of neutral grassland by 0.12 ha; and,
- 0.03 Hedgerow Unit loss from the removal of 0.007 km hedgerow.

Habitat Retention

0.35 ha of habitat will be retained through the development. A Construction Ecological Management Plan has been created to accompany this report (Report RT-MME-156261-02) which outlines the necessary measures to protect these habitats and associated fauna through the construction process. The retained habitats comprise;

- 0.14 ha dense continuous scrub providing 0.92 Habitat Units;
- 0.18 ha semi-improved neutral grassland providing 1.98 Habitat Units;
- 0.03 ha standing water providing 0.26 Habitat Units; and,
- 0.056 km of hedgerow will also be retained providing 0.25 Hedgerow Units.

With no enhancement, the retained habitats provide 3.16 Habitat Units and 0.25 Hedgerow Units post development.

The intention is for these habitats to be modified and managed with the aim of enhancing them in the long-term. The proposed enhancements for these habitat types are summarised below with the resultant credits that could be achieved.

Given the very small size of the retained scrub patches it is considered unlikely that its condition can be improved to 'Moderate', as such no additional credits are likely to be available from managing this habitat. It is however, an important component of the habitat mosaic on site and will be protected during construction and through long-term management. The retained scrub will therefore provide **0.92 Habitat** Units with no uplift.

Habitat Enhancement

The grassland is the largest habitat area to be retained and enhanced. In order for the grassland to obtain 'Good' condition, it will need to be managed to increase its structural diversity to include a greater proportion of the habitat with a shorter sward. This is anticipated to take 8 years until it reaches target condition and will deliver **2.28 Habitat Units**, an uplift of 0.3 Habitat Units.

Significant scrub clearance is proposed around the pond. This should enable an uplift to 'Good' condition as the less than 50% of the pond surface will be shaded by woody bankside vegetation and significant wetland planting will also occur and would be anticipated to spread to at least 50% of the pond within the target timeframe. It is anticipated that this would take four years to reach its target condition and would deliver **0.34 Habitat Units**, an uplift of 0.08 Habitat Units.

There is an opportunity for this pond to become a 'Priority Pond' if it is re-colonised by great crested newts. This species has previously been present and the suitability of the pond for this species will increase post-development. As recolonisation will be outside the control of the client and will depend on the status of the local population this change cannot be considered in the calculation, but should be a material consideration in the planning process. If the pond were to be re-classified as a priority pond this would gain the development an additional 0.08 Habitat Units, however this is outside the scope of this assessment.

In the long-term there is potential to uplift the distinctiveness category of the hedgerow. Bringing this back into management and allowing standard trees to develop would increase it to 'Medium' distinctiveness. It is anticipated that although the trees would not mature within the scope of planning timescales the condition can be readily be increased to 'Good' through appropriate management. This would deliver **0.59 Hedgerow Units**. The standard time to reach the target state is 10 years, although for the standard trees to reach full maturity would take longer. This would represent an uplift of 0.31 Hedgerow Units.

If these enhancements are undertaken the retained habitats will provide 3.54 Habitat Units and 0.59 Hedgerow Units in total. This is an uplift of 0.38 Habitat Units and 0.31 Hedgerow Units for undertaking enhancement in addition to retention.

Habitat Creation

New habitats will be created on site. 0.2 ha of the site will be surfaced for parking and pathways. It is understood that this will be an unsealed surface that will have no biodiversity value. An additional 0.01 ha will comprise raised planting beds to be managed by the local community. As these must be classed as unvegetated it has no biodiversity value for this assessment. These therefore provide 0 Habitat Units.

The following new habitats are proposed:

- 0.07 ha of species rich lawn (planted with a flower rich seed mix such as Emorsgate EL1 Flowering Lawn Mixture) which, subject to management (see Chapter 4), is predicted to achieve 'Moderate' condition. This is likely to achieve its target condition in four years and will deliver **0.27 Habitat Units**.
- 0.05 ha of tree planting will occur. This comprises a mixture of small orchard trees, primarily cherry, and larger native tree planting and transplanted 'memorial' trees. It is uncertain whether these could achieve a condition assessment greater than 'Poor' therefore the tree planting will reach its target condition in 10 years and will deliver **0.14 Habitat Units**; and,
- 0.01 increase in the area of the pond with native wetland planting. Along with the retained pond area it is anticipated that this habitat can achieve a 'Good' condition in 5 years and will deliver **0.11 Habitat Units.**

As such, an additional 0.52 Habitat Units are available for the proposed habitat creation on site.

Summary

A summary of the post construction biodiversity units available is provided in Tables 3.2 and 3.3.

Biodiversity Metric Habitat	Habitat Status	Area (ha/km)	Description	Value (Biodiversity Units)
Irreplaceable Habitats				
None recorded		-	-	-
Area Based Habitats				
Heathland and shrub: Mixed scrub	Retained	0.14	This habitat retains its 'Medium' distinctiveness, 'Fairly Poor' condition and 'Medium' strategic significance.	0.92
Grassland: Other Neutral Grassland	Enhanced	0.14	This habitat retains its 'Medium' distinctiveness and Medium' strategic significance but it is anticipated that management can increase the condition from 'Fairly Good' to 'Good'. It is anticipated it will take 8 years to reach target condition with a 'Low' creation difficulty..	1.77
Traditional Orchard	Enhanced from Other Neutral Grassland	0.04	Traditional Orchards have a 'High' distinctiveness but the site has a 'Low' strategic significance for this habitat type. It is anticipated that it to achieve a 'moderate' quality in 20 years with a 'Medium' creation difficulty.	0.43
Lakes: Pond (non-priority habitat)	Enhanced	0.03	This habitat retains its 'Medium' distinctiveness and Medium' strategic significance but proposed management should improve the condition from 'Moderate' to 'Good' and may bring it in line with conditions for a priority pond, although this is dependent on aquatic species establishing over time. It is anticipated it will take 4 years to reach target condition with a 'Medium' creation difficulty.	0.34
Lakes: Pond (non-priority habitat)	Created	0.01	The existing pond is to be extended and aquatic planting to occur. The distinctiveness remains as 'Medium', and location of 'Medium Significance' with the condition improving to 'Good'. It is anticipated it will take 4 years to reach target condition with a 'Medium' creation difficulty.	0.11
Urban Trees	Created	0.04	This comprises a mixture of small orchard trees, primarily cherry, and larger native tree planting and transplanted 'memorial' trees. This habitat is of 'Medium' distinctiveness. It is uncertain whether these could achieve a 'Moderate' condition as there is uncertainty as to whether these trees will be subject to damage by vandalism and deer browsing and as to whether they will develop deadwood microhabitats in a timeframe considered in the planning system. As such the target condition has been classified as 'Fairly Poor'. of '. As the site is not covered by a local nature conservation strategy this habitat has 'Low' strategic significance. The tree planting will reach its target condition in 15 years with a 'Low' creation difficulty.	0.14
Grassland: Modified grassland	Created	0.07	subject to management (see Chapter 4), is predicted to achieve 'Moderate' condition. This is likely to achieve its target condition in four years with a 'Low' creation difficulty.	0.27
Urban: artificial unvegetated unsealed surface	Created	0.20	This habitat is automatically classed as being of 'Very Low' distinctiveness and a condition cannot be assigned for this habitat type. As the site is not covered by a local nature conservation strategy this habitat has 'Low' strategic significance.	0.00
Urban: Unvegetated Garden	Created	0.01	Raised planting beds to be managed by the local community. Unvegetated gardens are of 'Very Low' distinctiveness and a condition cannot be assigned for this habitat type. As the site is not covered by a local nature conservation strategy this habitat has 'Low' strategic significance.	0.00
Total Area (ha)		**0.68* ha**	**Total Site Baseline (Habitat Units)**	**3.98**
***** Apparent change in site area caused by rounding anomalies and double counting of habitat where trees are situated over other habitats. As these are scattered trees, this is considered appropriate in this instance as both habitats will provide value for wildlife.				

Table 3.2: Summary of the Post Construction Habitat Units Available

Biodiversity Metric Habitat	Habitat Status	Area (ha/km)	Description	Value (Biodiversity Units)
Linear Habitats				
Native hedgerow with trees	Enhanced (from native hedgerow)	0.063 km	This habitat is automatically classed as being of 'Low to medium' distinctiveness. Management will bring this to 'Good' condition for its type within 10 year with a 'Low' creation difficulty. Due to the location of the habitat mosaic along a river corridor the location is deemed to be of 'Medium' strategic significance.	0.59
Total Length (km)		**0.063 km**	**Total Site Baseline (Hedgerow Units)**	**0.59**

Table 3.3: Summary of the Post Construction Hedgerow Units Available

3.2.2 Off-site habitat creation and enhancement

No off-site locations have been identified for habitat creation or enhancement at the current time.

3.3 HEADLINE RESULTS

Table 3.1 details the headline results. Full details of the biodiversity metric calculations can be found in Appendix 1.

	Habitat units	Hedgerow units	River units
On-site baseline	5.10	0.28	0
On-site post-intervention*	3.98	0.59	0
Total net unit change	-1.12	0.31	0
Total net % change	-21.38%	113.38%	0
Notes:* including habitat retention, enhancement and creation			

Table 3.1: Biodiversity Net Gain Assessment – Headline Results

The existing value of the habitats on site is 5.38 units. The proposals as based on the landscape plan will deliver a **net gain in Hedgerow Units of 0.31** which represents a **113.38 % gain** over the current hedgerow value, but a **net loss of 1.12 Habitat Units**, which represents a **20.38%** loss over the current habitat value.

3.4 HABITAT MANAGEMENT AND MONITORING

The 'target condition' of enhanced and created habitats can only be reached and maintained in the long-term subject to the implementation of appropriate management measures. A detailed Landscape and Ecological Management Plan (LEMP) has been created to accompany this report (Report RT-MME-156261-03). The LEMP provides all habitat management and monitoring requirements to be implemented to ensure retained and created habitats reach their biodiversity potential.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

The proposed development will result in a **net gain in Hedgerow Units of 0.31** which represents a **113.38 % gain** over the current hedgerow value.

The proposed development will result in a **net loss of 1.12 Habitat Units**, which represents a **21.88%** loss over the current habitat value.

The biodiversity enhancements proposed in the retained habitats are considered to provide the maximum Habitat Units that can realistically be achieved within the site boundary for this project as it is proposed. In order to achieve a net gain overall, a suitable off-site location would need to be identified where habitat enhancement/creation measures can be implemented, to offset the biodiversity loss.

It should be noted that the client has also proposed the creation of deadwood piles that provide additional benefits for wildlife and that the pond enhancements may encourage species such as great crested newt to re-colonise the site. These are additional benefits outside the scope of this Biodiversity Net Gain assessment.

4.2 RECOMMENDATIONS

The following recommendations are based on Middlemarch Environmental Ltd's understanding of proposal, as detailed in Section 1.4. Should these proposals change, the findings of this report should be reviewed, and where appropriate, updated to reflect any changes this may have on the findings of this report.

R1 The retained habitats should be protected during the construction process in accordance with the Construction Ecological Management Plan (Report RT-MME-156261-03)

R2 Management and monitoring of habitats should be completed in accordance with the LEMP (Report RT-MME-156261-03), which can be secured via an appropriately worded planning condition.

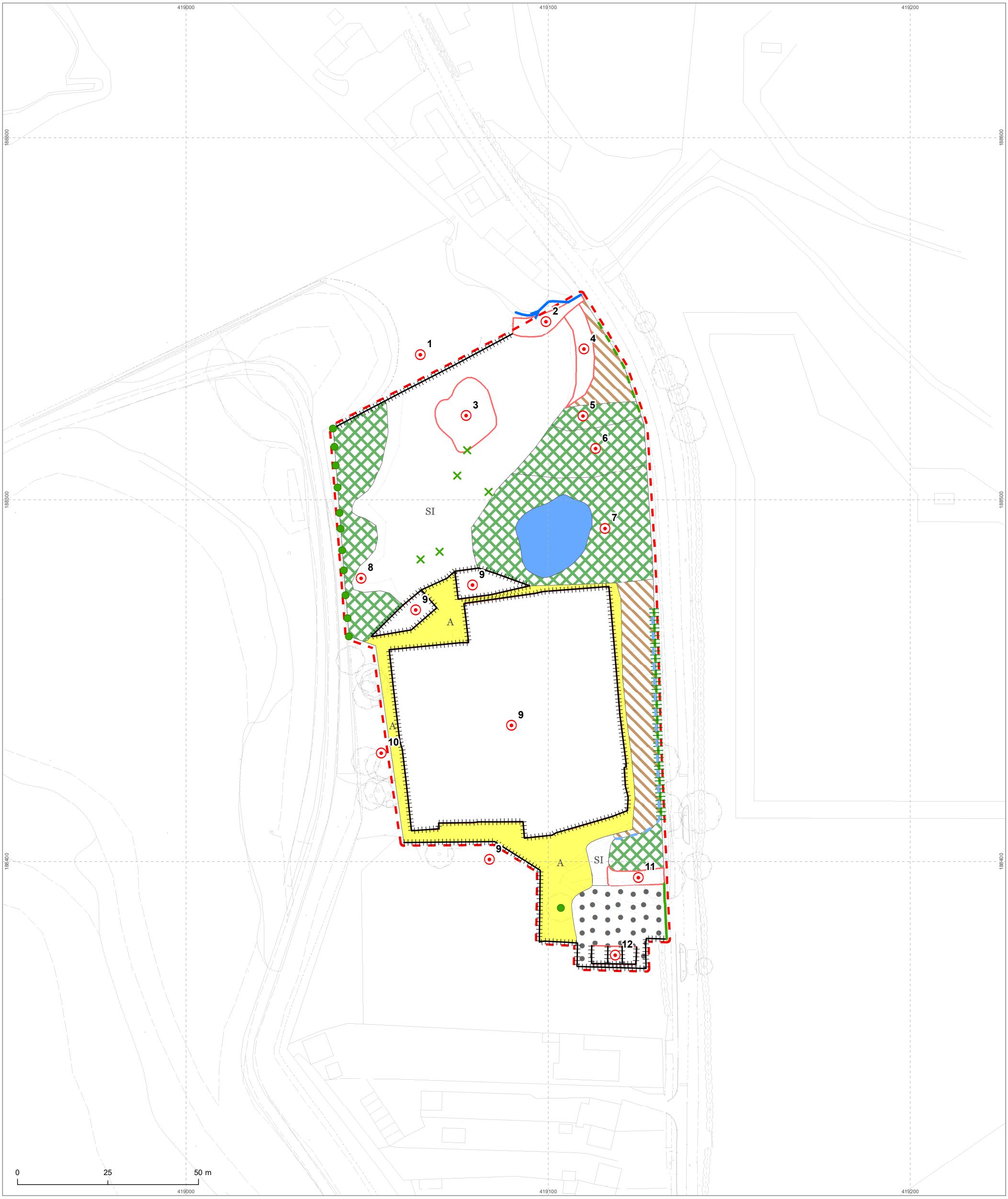
R3 In order to offset the biodiversity net loss or to achieve net biodiversity gain, a suitable off-site location will need to be identified where habitat enhancement/creation measures can be implemented.

5. DRAWINGS

Middlemarch Environmental Ltd Drawing C155838-03-01 – Phase 1 Habitat Map

Barton Willmore Drawing RG-L-01-01 (DRAFT) – Landscape Masterplan General Arrangement

Barton Willmore Drawing 32864 RG-L-01-03 - Landscape Masterplan Soft Landscaping Plan



Legend

- Site boundary
- Scattered scrub
- Scattered tree
- Target note
- Dry ditch
- Fence
- Running water
- Species-poor defunct hedgerow
- Species-poor defunct hedgerow with trees
- Species-poor intact hedgerow
- Amenity grassland (A)
- Bare ground
- Dense scrub
- Other habitat
- Poor semi-improved grassland (SI)
- Standing water
- Tall ruderal

Project: Honda Heritage Park

Drawing: Phase 1 Habitat Map

Client: Honda of the UK Manufacturing Limited

Drawing Number	Revision
C155838-03-01-RevA	RevA
Scale @ A3	Date
1:1,000	September 2021
Approved By	Drawn By
HL	GT/VO

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N

C155838-03-01-RevA

The scaling of this drawing cannot be assured

Revision	Date	Initial

1. Existing pond retained, dredged to remove debris and banks graded to maximum 1:7 slopes
2. Native species wetland planting mix to edges of pond
3. 1.2m Self binding gravel footpath. Timber edges bent around corners and secured with timber pegs
4. Solid timber bench
5. Re-used composite picnic tables
6. Memorial trees relocated from Honda site with accompanying signage.
7. Existing bee hives relocated
8. Areas of grassland to be protected during construction with vehicle matting
9. Existing allotments retained
10. Existing areas of scrub and woodland around pond. Ivy and weeds removed and smaller and peripheral low quality trees cut back. Selective native tree planting to replace lost scrub. 2No existing willows retained
11. Areas of Native woodland retained and weeds and ivy removed. Selective understorey planting of native species to create dense groundcover. Piles of deadwood placed at 10m intervals for habitat creation
12. Proposed native trees
13. Community orchard planted with cherry tree species
14. Raised timber planting beds for community garden.
15. Bark mulch play surfacing with aluminium edging
16. 1.2m Chestnut pail fencing to playground
17. 1.2m Chestnut pail fencing
18. Existing fencing retained
19. Existing traffic features
20. Existing allotment car park resurfaced with gravel to Engineers details and timber edges added, includes 16 spaces
21. Gravel footpath around car park, no dig construction
22. Existing allotment storage bins relocated
23. Existing gate retained
24. Proposed footpath connection out onto road
25. Existing allotment track locally reinforced with strips of gravel
26. 1.1m Pedestrian timber gate to match post and rail fencing. Including locking mechanism and associated ironmongery
27. Timber wheel stops to car parking spaces
28. Flowering species rich lawn
29. Timber boat play feature (see DAS for play feature images)
30. Timber airplane play feature
31. Timber train play feature
32. Springer car play feature
33. Concrete play stepping stones/posts at varying heights
34. Timber rope swings
35. Existing maintenance gate replaced
36. Weathered steel finger sign post
37. Weathered steel interpretation board
38. Weathered steel Canopy (see DAS)
39. Relocated Honda signage stone
40. Timber viewing deck to pond
41. Pedestrian link to former Honda site
42. 2m buffer zone to river
43. 3No bike stands
44. Potential additional storage area

Temporary fencing to protect existing grassland

Existing trees

8 Areas of grassland retained and protected

Highworth Road

Notes: All setting out must be checked on site. All levels must be checked on site and refer to Ordnance Datum Newlyn unless alternative Datum given. All fixings and weatherings must be checked on site. All dimensions must be checked on site. This drawing must not be scaled. This drawing must be read in conjunction with all other relevant drawings and specification clauses. This drawing must not be used for land transfer purposes. Calculated areas in accordance with Barton Willmore Definition of Areas for Schedule of Areas. **This drawing must not be used for construction purposes.**

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J:\32000\32864 - Honda Heritage Site\A4 - Drawings & Registers\Landscape\32864-RG-L-03 Tender Plans.dwg - RG-L-01-01

PLANNING

Project
HONDA HERITAGE GARDEN SWINDON

Drawing Title
LANDSCAPE MASTERPLAN GENERAL ARRANGEMENT

Date	Scale	Drawn by	Check by
20/08/21	1:200 @A0	MV	JH
Project No	**Drawing No**		**Revision**
32672	RG-L-01-01		-

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The scaling of this drawing cannot be assured

Revision	Date	Initial

2no. Bp 20-25
1no. Ag 18-20
1no. FSp 30-35cm
1no. Ag 30-35
1no. Bp 20-25
Existing memorial tree translocated
Existing memorial tree translocated
1no. Sa 25-30cm
Wetland Mix
8no. PaS 18-20,
7no. Past 18-20,
4no. Pamo 18-20

PLANTING SCHEDULE

TREES

Number	Abbreviation	Species	Specification	Girth/Height
2	Ag	Alnus glutinosa	Semi-Mature; CG	30-35cm
1	FSp	Fagus sylvatica 'purpurea'	Semi-Mature; CG	30-35cm
3	Bp	Betula pendula	Extra Heavy Standard; CG	20-25
1	Sa	Salix Alba	Extra Heavy Standard; CG	25-30
8	PaS	Prunus avium 'Sunburst'	Heavy Standard	18-20
7	Past	Prunus avum 'Stella'	Heavy Standard	18-20
4	Pamo	Prunus avium 'Morella'	Heavy Standard	18-20

WETLAND MIX

Mix 12/m2	Species	Specification	Density
5%	Caltha palustris	2L full pot	12/m²
10%	Carex acuta	2L full pot	12/m²
10%	Iris pseudacorus	2L full pot	12/m²
10%	Juncus effusus	2L full pot	12/m²
25%	Lythrum salicaria	2L full pot	12/m²
20%	Persicaria amphibia	2L full pot	12/m²
10%	Asplenium scoliopendrum	2L full pot	12/m²
10%	Schoenoplectus tabernaemontani	2L full pot	12/m²

TURF

Flowering lawn — Species rich flowering turf — Turf rolls

Existing grassland retained and protected

Notes: All setting out must be checked on site. All levels must be checked on site and refer to Ordnance Datum Newlyn unless alternative Datum given. All fixings and weatherings must be checked on site. All dimensions must be checked on site. This drawing must not be scaled. This drawing must be read in conjunction with all other relevant drawings and specification clauses. This drawing must not be used for land transfer purposes. Calculated areas in accordance with Barton Willmore Definition of Areas for Schedule of Areas. **This drawing must not be used for construction purposes.**

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PLANNING

Project
HONDA HERITAGE GARDEN SWINDON

Drawing Title
LANDSCAPE MASTERPLAN SOFT LANDSCAPING PLAN

Date	Scale	Drawn by	Check by
20/08/21	1:400 @A1 1:200 @A0	MV	JH
Project No	**Drawing No**		**Revision**
32672	RG-L-01-03		-

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APPENDICES

Appendix 1 – Biodiversity Metric 3.0 Calculation, Honda Heritage Park, Highworth Road, South Marston

APPENDIX 1

Biodiversity Metric 3.0 Calculation, Biodiversity Metric 2.0 Calculation, Honda Heritage Park, Highworth Road, South Marston

The Biodiversity Metric 3.0 - Calculation Tool
Start page

Project details	
Planning authority:	Swindon Borough Council
Project name:	Honda Heritage Park
Applicant:	Honda of the UK Manufacturing
Application type:	
Planning application reference:	
Assessor:	Hannah Lewis MCIEEM Middlemarch Environmental Ltd
Reviewer:	
Metric version:	
Assessment date:	15/09/2021
Planning authority reviewer:	

Instructions

Main menu

Results

Cell style conventions	
	Enter data
	Automatic lookup
	Result

View all

Reset view

On-site baseline map — Insert

On-site post intervention map — Insert

Off-site baseline map — Insert

Off-site post intervention map — Insert

Honda Heritage Park

Headline Results

Return to results menu

On-site baseline	*Habitat units*	5.10
	Hedgerow units	0.28
	River units	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	3.98
	Hedgerow units	0.59
	River units	0.00
On-site net % change (Including habitat retention, creation & enhancement)	*Habitat units*	-21.88%
	Hedgerow units	113.38%
	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 & enhancement)	*Habitat units*	-1.12
	Hedgerow units	0.31
	River units	0.00
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	-21.88%
	Hedgerow units	113.38%
	River units	0.00%
Trading rules Satisfied?		No - Check Trading Summary

Honda Heritage Park

A-1 Site Habitat Baseline

Condense / Show Columns | Condense / Show Rows

Main Menu | Instructions

	Habitats and areas			Distinctiveness		Condition		Strategic significance			Suggested action to address habitat losses	Ecological baseline	Retention category biodiversity value						Bespoke compensation agreed for unacceptable losses	Comments	
Ref	Broad habitat	Habitat type	Area (hectares)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic Significance multiplier		Total habitat units	Area retained	Area enhanced	Baseline units retained	Baseline units enhanced	Area lost	Units lost		Assessor comments	Reviewer comments
1	Grassland	Modified grassland	0.04	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required	0.08	0	0	0.00	0.00	0.04	0.08			
2	Urban	Artificial unvegetated, unsealed surface	0.04	V.Low	0	N/A - Other	0	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Compensation Not Required	0.00	0	0	0.00	0.00	0.04	0.00			
3	Heathland and shrub	Mixed scrub	0.22	Medium	4	Fairly Poor	1.5	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	Same broad habitat or a higher distinctiveness habitat required	1.45	0.14		0.92	0.00	0.08	0.53			
4	Grassland	Other neutral grassland	0.3	Medium	4	Fairly Good	2.5	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	Same broad habitat or a higher distinctiveness habitat required	3.30		0.18	0.00	1.98	0.12	1.32			
5	Lakes	Ponds (Non- Priority Habitat)	0.03	Medium	4	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	Same broad habitat or a higher distinctiveness habitat required	0.26		0.03	0.00	0.26	0.00	0.00			
			0.63									5.10	0.14	0.21	0.92	2.24	0.28	1.93			

Honda Heritage Park

A-3 Site Habitat Enhancement

Condense / Show Columns | Condense / Show Rows

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Baseline ref	Baseline habitat	Total habitat area	Baseline distinctiveness band	Baseline distinctiveness score	Baseline condition category	Baseline condition score	Baseline strategic significance category	Baseline strategic significance score	Baseline habitat units	Suggested action to address habitat losses
	Baseline habitats									
4	Grassland - Other neutral grassland	0.26	Medium	4	Fairly Good	2.5	Medium strategic significance	1.1	2.86	Same broad habitat or a higher distinctiveness habitat required
5	Lakes - Ponds (Non- Priority Habitat)	0.03	Medium	4	Moderate	2	Medium strategic significance	1.1	0.26	Same broad habitat or a higher distinctiveness habitat required
6	Grassland - Other neutral grassland	0.04	Medium	4	Fairly Good	2.5	Medium strategic significance	1.1	0.44	Same broad habitat or a higher distinctiveness habitat required

Baseline ref	Proposed Broad Habitat	Proposed habitat	Distinctiveness change	Condition change	Area (hectares)	Distinctiveness	Score	Condition	Score
	Post development/ post intervention habitats								
	Proposed Habitat (Pre-Populated but can be overridden)		Change in distinctiveness and condition						
4	**Grassland**	**Other neutral grassland**	Medium - Medium	Fairly Good - Good	0.14	Medium	4	Good	3
5	**Lakes**	**Ponds (Non- Priority Habitat)**	Medium - Medium	Moderate - Good	0.03	Medium	4	Good	3
6	**Grassland**	**Traditional orchards**	Medium - High	Lower Distinctiveness Habitat - Moderate	0.04	High	6	Moderate	2
					0.21				

Baseline ref	Strategic significance	Strategic significance	Strategic position multiplier	Standard time to target condition/years	Habitat enhanced in advance/years	Delay in starting habitat enhancement/years	Standard or adjusted time to target condition	Final time to target condition/years	Final time to target multiplier
	Strategic significance			**Temporal risk multiplier**					
4	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	8	0	0	Standard time to target condition applied	8	0.752
5	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	4	0	0	Standard time to target condition applied	4	0.867
6	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	20	0	0	Standard time to target condition applied	20	0.490

Baseline ref	Standard difficulty of enhancement	Applied difficulty multiplier	Final difficulty of enhancement	Difficulty multiplier applied	Habitat units delivered	Assessor comments	Reviewer comments
	Difficulty risk multipliers					**Comments**	
4	Low	Standard difficulty applied	Low	1	1.77		
5	Medium	Standard difficulty applied	Medium	0.67	0.34		
6	Medium	Standard difficulty applied	Medium	0.67	0.43		
					2.84		

Honda Heritage Park
A-2 Site Habitat Creation

Condense / Show Columns | Condense / Show Rows | Main Menu | Instructions

Check Areas - Area of development footprint and habitat creation exceeds the area of habitats lost

Post development/ post intervention habitats

Broad Habitat	Proposed habitat	Area (hectares)	Distinctiveness		Condition		Strategic significance			Temporal multiplier					Difficulty multipliers				Habitat units delivered	Comments	
			Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier	Standard time to target condition/years	Habitat created in advance/years	Delay in starting habitat creation/years	Standard or adjusted time to target condition	Final time to target condition/years	Final time to target multiplier	Standard difficulty of creation	Applied difficulty multiplier	Final difficulty of creation	Difficulty multiplier applied		Assessor comments	Reviewer comments
Urban	Urban Tree	0.04	Medium	4	Fairly Poor	1.5	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	15	0	0	Standard time to target condition applied	15	0.566	Low	Standard difficulty applied	Low	1	0.14		
Urban	Artificial unvegetated, unsealed surface	0.2	V.Low	0	N/A - Other	0	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	0	0	0	Standard time to target condition applied	0	1.000	Low	Standard difficulty applied	Low	1	0.00		
Grassland	Modified grassland	0.07	Low	2	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	4	0	0	Standard time to target condition applied	4	0.867	Low	Standard difficulty applied	Low	1	0.27		
Lakes	Ponds (Non- Priority Habitat)	0.01	Medium	4	Good	3	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	5	0	0	Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	0.11		
Urban	Un-vegetated garden	0.01	V.Low	0	N/A - Other	0	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	0	0	0	Standard time to target condition applied	0	1.000	Low	Standard difficulty applied	Low	1	0.00		
	Total area	0.33																Total Units	0.53			

B-1 Site Hedge Baseline

Condense / Show Columns | Condense / Show Rows

Main Menu | Instructions

	UK Habitats - existing habitats			Habitat distinctiveness		Habitat condition		Strategic significance			Suggested action to address habitat losses	Ecological baseline	Retention category biodiversity value						Comments	
Baseline ref	Hedge number	Hedgerow type	Length KM	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier		Total hedgerow units	Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost	Assessor comments	Reviewer comments
1	1	Native Hedgerow	0.063	Low	2	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	Same distinctiveness band or better	0.28		0.056	0.00	0.25	0.01	0.03		
2																				
3																				
4																				
5																				
6																				
			0.06									0.28	0.00	0.06	0.00	0.25	0.01	0.03		

Hazelle Heritage Park
B-3 Site Hedge Enhancement

Condition / Score Calculator | Condition / Score Guide

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Baseline Habitats										Post development post intervention habitat	Change in distinctiveness and condition			Strategic significance			Temporal multiplier						Difficulty risk multiplier				Hedge units delivered	Comments	
Baseline ref	Baseline habitat	Length (km)	Baseline distinctiveness band	Baseline distinctiveness score	Baseline condition category	Baseline condition score	Baseline strategic significance category	Baseline strategic significance score	Baseline habitat units	Suggested action	Proposed (Pre-populated but can be overridden)	Distinctiveness assessment	Condition assessment	Length (km)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance multiplier	Standard Time to target condition/years	Habitat enhanced in stages/years	Delay in starting habitat enhancement/years	Standard or adjusted time to target condition	Final time to target condition/years	Final Time to target multiplier	Standard difficulty of enhancement	Applied difficulty multiplier	Final difficulty of enhancement	Difficulty multiplier applied		Assessor comments	Reviewer comments
1	Native Hedgerow	0.043	Low	3	Moderate	2	Medium strategic significance	1.1	0.2772	Some distinctiveness based on habitat	Native Hedgerow with trees	Low - Medium	Lower Distinctiveness Habitat - Good	0.043	Medium	4	Good	3	Location ecologically desirable but not in local strategy	Medium - strategic significance	10	0	0	Standard time to target condition applied	10	0.333	Low	Standard difficulty applied	Low	1	0.99		
														0.43																0.99		