

Biodiversity Metric Assessment

Land off Archway Road, Huyton, Merseyside

A Report To: Genr8 Kajima Regeneration Limited
Report Number: RT-MME-161140-05 (Interim)
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Quality Assurance

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Declaration of Compliance

This study has been undertaken in accordance with British Standard 42020:2013 “Biodiversity, Code of Practice for Planning and Development”. 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.

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1. Introduction

1.1 Project Background

In July 2023, Genr8 Kajima Regeneration Limited commissioned Middlemarch to undertake a Biodiversity Metric Assessment associated with a proposed development at Land off Archway Road, Huyton, Merseyside.

The assessment is informed by ecological and arboricultural works carried out at the site. These are as follows:

- Preliminary Ecological Appraisal completed in August 2023 (Report: RT-MME-161140-01);
- Preliminary Bat Roost Assessment completed in September 2023 (Report: RT-MME-161140-02);
- Preliminary Arboricultural Assessment completed in August 2023 (Report: RT-MME-161140-03); and,
- Dusk Emergence and Dawn Re-entry Bat Surveys completed in September 2023 (Report: RT-MME-161270).

1.2 Site Description and Context

Table 1.1 provides a brief summary of the site and its surroundings.

Attribute	Description
Location	The site is set in an urban location to the south-east of Archway Road in Huyton, Merseyside.
National Grid Reference	SJ 44159 90826
Site Area (ha)	Total Site Area (incl. Enabling Works Area): 2.9 ha Enabling Works Area Only: 1.7 ha
Topography	Flat
Land Cover (on site)	The site is dominated by hardstanding car parking areas and associated buildings, with pockets of introduced shrub, amenity grassland and scattered trees/tree lines. Both the enabling works area and wider site comprised similar habitat types.
Land Cover (site surrounds)	The wider landscape is dominated by the built environment. To the north and west, residential properties and associated gardens dominated. To the south-west commercial units and a retirement village with associated car parking was present. To the east, Huyton Village Shopping Centre is present. A railway line is located approximately 120 m south of the Enabling Works boundary and beyond this, residential properties and gardens once again continue to dominate the surrounding landscape.

Table 1.1: Summary of Site and Surroundings

1.3 Project Scope

The purpose of the Biodiversity Metric Assessment (BMA) 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 BMA 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.

1.4 Summary of Proposals

Precise details of the proposed works are not known at this time. However, the extent of proposed habitat loss and retention with regards to the Enabling Works is known, and the metric calculations within this report are based on that information. The documentation provided by the client is listed in Table 1.2.

Document / Drawing Number	Author
Huyton Town Centre - Site Location Plan (Enabling Works Boundary) (Drawing: M10335_0007 Rev 01).	Optimised Environments (OPEN)
Huyton Town Centre – Enabling Works Plan incl. Tree Loss and Retention (Drawing: M10335_0003 Rev 04).	Optimised Environments (OPEN)

Table 1.2: Documentation Provided by Client

2. Methods

2.1 Biodiversity Metric

The biodiversity calculations used within this assessment were undertaken by Charlotte Richardson MSc, ACIEEM (Senior Ecological Consultant) using 'The Biodiversity Metric 4.0' and associated User Guide¹ and Technical Supplement². Sections 2.2 and 2.3 describe the data used for the assessment and the assumptions applied.

2.2. Data Sources

Existing Baseline

The baseline habitat data and condition assessment for the site is taken from the Preliminary Ecological Appraisal (Report: RT-MME-161140-01) carried out by Middlemarch in August 2023. A Phase 1 Habitat Plan showing the extent and location of each habitat recorded on site is included in Section 5 (Drawing: C161140-01-01).

The Biodiversity Metric 4.0 calculator tool utilises the UK Habitat Classification System (UKHab) as the standard data input for habitats. The Phase 1 Habitat Survey data for the site was subsequently converted for the purposes of the metric calculation using the Phase 1 habitats to UKHab translation feature, included in the Biodiversity Metric 4.0 calculator tool, or using professional opinion.

Each habitat or linear feature recorded within the site is assigned a score for 'Distinctiveness', 'Condition' and 'Strategic Significance'. Table 2.1 below describes how each habitat attribute has been determined for the existing baseline habitats in the metric assessment.

Attribute	Description
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 against published condition criteria (See report: RT-MME-161140-01).
Strategic significance	A score based on information set out in local plans or policies. In this instance, a strategic location was defined at National, Liverpool City Region and Knowsley levels including locations within the Knowsley Green Space Strategy ³ document and in the North Merseyside Biodiversity Action Plan ⁴ .

Table 2.1: Habitat Attributes for Existing Baseline Habitats

¹ Natural England (2023) *The Biodiversity Metric 4.0 – User Guide*. Natural England Joint Publication JP039. Available <http://publications.naturalengland.org.uk/publication/6049804846366720>

² Natural England (2023) *The Biodiversity Metric 4.0 – User Guide: Technical Annex 1 Condition Sheets and Methodology*. Natural England Joint Publication JP039. Available <http://publications.naturalengland.org.uk/publication/6049804846366720>

³ Knowsley Council (2010). *Green Spaces: Identifying the National, City Region and Knowsley Strategic Context* (Available at: <https://www.knowsley.gov.uk/pdf/GSS-review-research-paper-1-Strategic-Context.pdf>)

⁴ Merseyside Biodiversity Group (2008) *North Merseyside Biodiversity Action Plan*, Available at: <https://www.merseysidebiodiversity.org.uk/habitats-plans/>

The value of each habitat parcel (or linear feature) is presented in terms of habitat (or hedgerow/river) 'biodiversity units' (BU).

Future Baseline

The habitat loss predicted on site is based on the Huyton Town Centre – Enabling Works Plan incl. Tree Loss and Retention (Drawing: M10335_0003 Rev 04) by Optimised Environments. As no detailed proposed plans are available for the enabling area at the time of writing, the metric shows the extent of habitat loss only, and does not include habitat creation.

Following the calculation of the existing and future biodiversity value of the site, a calculation of the net biodiversity change is carried out to determine the 'Post-intervention habitat or hedgerow units', along with a figure for the percentage of net biodiversity impact loss.

2.3 Constraints and Assumptions

The following constraints and assumptions are applied to this report:

- For the purposes of this report, the term 'Habitat Loss' is applied to proposals that result in a change of habitat type or habitat 'distinctiveness'. This is defined in the Biodiversity Metric even where the new habitat type is created without any physical loss of the previous habitat type (e.g. creation of scrub over grassland). 'Habitat Enhancement' is applied where the habitat type and 'distinctiveness' remains the same, but the 'condition' of the habitat is improved.
- The BMA necessitates an estimation of future baseline values, based on professional opinion, to determine the change in biodiversity value that could occur as a result of the proposals at the site. The assumptions about target habitat types or condition in this report are based on professional opinion about the likely achievable outcomes at the site, based on the proposed planting plans and presumed management resources. All target habitats presume the implementation of a long-term Management Plan to achieve these ends and a recommendation to this effect is given in Section 4.
- The area of any trees is calculated using the Street Tree Helper (as described above). For the purposes of the Biodiversity Metric Assessment, it would be assumed that all newly proposed trees would be small (below 1/3 of their life expectancy).

3. Biodiversity Metric Calculation

3.1 Existing Habitats

The habitats identified during the Preliminary Ecological Appraisal are described in Table 3.1 and their value in biodiversity units (BU) is provided. The current extent of the habitats present is shown in Drawing C161140-05-01 in Section 5. The baseline metric calculations are provided in Appendix 1.

Phase 1 Habitat	UKHab Habitat Equivalent	Area (ha) / Length (km)	Description (distinctiveness, condition, connectivity and strategic significance)	Value (BU)
Area Based Habitats				
Amenity grassland	Modified grassland	0.207	Habitat is automatically classed as being of 'Low' distinctiveness and was assigned a condition assessment of 'Poor'. This habitat is considered to be of 'Low' strategic significance.	0.41
Bare ground	Bare ground	0.051	Habitat is automatically classed as being of 'Low' distinctiveness and was assigned a condition assessment of 'Poor'. This habitat is considered to be of 'Low' strategic significance.	0.10
Buildings and hardstanding	Developed land; sealed surface	1.377	Habitat is automatically classed as being of 'Very low' distinctiveness and is not applicable for condition assessment due to its negligible ecological value. This habitat is considered to be of 'Low' strategic significance.	0.00
Dense scrub	Mixed scrub	0.017	Habitat is automatically classed as being of 'Medium' distinctiveness and was assigned 'Poor' condition. This habitat is considered to be of 'Low' strategic significance.	0.07
Introduced shrub	Introduced shrub	0.099	Habitat is automatically classed as being of 'Low' distinctiveness and is not applicable for condition assessment due to it comprising non-native species. This habitat is considered to be of 'Low' strategic significance.	0.20
Scattered trees	Urban tree	2.1905*	Habitat is automatically classed as being of 'Medium' distinctiveness and the trees were assigned a condition assessment of 'Moderate'. This habitat is considered to be of 'Medium' strategic significance, as tree retention is outlined as a target within the Knowsley Local Plan. 52 small and 54 medium trees in moderate condition are present within enabling works boundary (total of 106 trees). Of these, 38 small and 22 medium sized	19.28

			trees in moderate condition are proposed to be removed.	
Total Area (ha)*		1.75	Total Habitat Baseline (BU)	20.06
Hedgerows				
Tree line	Line of trees (TN7a)	0.018	Habitat is automatically classed as being of 'Low' distinctiveness and was assigned a condition assessment score of 'Moderate'. Retention of existing trees, woodland, vegetation and other habitat features which offer a positive contribution to the local environment in terms of biodiversity/wildlife interest are highlighted as a target within the Knowsley Local Plan. As lines of trees are of biodiversity value, they are considered to be of 'Medium' strategic significance.	0.08
Tree line	Line of trees (TN7b)	0.041	Habitat is automatically classed as being of 'Low' distinctiveness and was assigned a condition assessment score of 'Moderate'. Retention of existing trees, woodland, vegetation and other habitat features which offer a positive contribution to the local environment in terms of biodiversity/wildlife interest are highlighted as a target within the Knowsley Local Plan. As lines of trees are of biodiversity value, they are considered to be of 'Medium' strategic significance.	0.18
Species-poor hedgerow	Native hedgerow with trees (H4)	0.144	Habitat is automatically classed as being of 'Medium' distinctiveness and was assigned a condition assessment score of 'Moderate'. Retention of existing trees, woodland, vegetation and other habitat features which offer a positive contribution to the local environment in terms of biodiversity/wildlife interest are highlighted as a target within the Knowsley Local Plan. As hedgerows are of biodiversity value, they are considered to be of 'Medium' strategic significance.	1.27
Species-poor hedgerow	Native hedgerow (H5)	0.015	Habitat is automatically classed as being of 'Medium' distinctiveness and was assigned a condition assessment score of 'Good'. Retention of existing trees, woodland, vegetation and other habitat features which offer a positive contribution to the local environment in terms of biodiversity/wildlife interest are highlighted as a target within the Knowsley Local Plan. As hedgerows are of biodiversity value, they are considered to be of 'Medium' strategic significance.	0.10

Species-poor hedgerow	Native hedgerow (H6)	0.033	Habitat is automatically classed as being of 'Medium' distinctiveness and was assigned a condition assessment score of 'Good'. Retention of existing trees, woodland, vegetation and other habitat features which offer a positive contribution to the local environment in terms of biodiversity/wildlife interest are highlighted as a target within the Knowsley Local Plan. As hedgerows are of biodiversity value, they are considered to be of 'Medium' strategic significance.	0.22
Species-poor hedgerow	Native hedgerow (H7a)	0.028	Habitat is automatically classed as being of 'Medium' distinctiveness and was assigned a condition assessment score of 'Good'. Retention of existing trees, woodland, vegetation and other habitat features which offer a positive contribution to the local environment in terms of biodiversity/wildlife interest are highlighted as a target within the Knowsley Local Plan. As hedgerows are of biodiversity value, they are considered to be of 'Medium' strategic significance.	0.18
Species-poor hedgerow	Native hedgerow (H7b)	0.03	Habitat is automatically classed as being of 'Medium' distinctiveness and was assigned a condition assessment score of 'Good'. Retention of existing trees, woodland, vegetation and other habitat features which offer a positive contribution to the local environment in terms of biodiversity/wildlife interest are highlighted as a target within the Knowsley Local Plan. As hedgerows are of biodiversity value, they are considered to be of 'Medium' strategic significance.	0.20
Ornamental hedgerow	Non-native and ornamental hedgerow (H9)	0.032	Habitat is automatically classed as being of 'Very low' distinctiveness and was assigned a condition assessment score of 'Poor'. As this habitat comprised non-native species, it is considered to be of 'Low strategic significance.	0.03
Total Length (km)		0.34	Total Hedgerow Baseline (BU)	2.26
* Excluding Area of Individual Trees				

Table 3.1: Summary of Existing Habitats and Linear Features

3.2 Future Baseline and Impacts

Impacts

As detailed proposals of the development are not known at the time of writing, the impact potential biodiversity impacts of the predicted habitat losses are outlined in Table 3.2. This table details areas proposed for loss and retention.

Phase 1 Habitat	UKHab Habitat	Habitats Retained		Habitat Retained for Enhancement		Habitat Loss	
		Area/Length (Ha/km)	Value (BU)	Area/Length (Ha/km)	Value (BU)	Area/Length (Ha/km)	Value (BU)
Area based habitats							
Amenity grassland	Modified grassland	0.094	0.19	0.00	0.00	-0.11	0.23
Bare ground	Bare ground	0.007	0.01	0.00	0.00	-0.04	0.09
Buildings and hardstanding	Developed land; sealed surface	0.27	0.00	0.00	0.00	-1.11	0.00
Dense scrub	Mixed scrub	0.003	0.01	0.00	0.00	-0.01	0.06
Introduced shrub	Introduced shrub	0.057	0.11	0.00	0.00	-0.04	0.08
Scattered trees	Urban tree	1.2296	10.82	0.00	0.00	-0.96	8.46
Total Impact (Area habitats)		1.66	11.15	0.00	0.00	-2.28	-8.91
Hedgerows							
Tree line	Line of trees (TN7a)	0	0.00	0.00	0.00	-0.02	0.08
Tree line	Line of trees (TN7b)	0.037	0.16	0.00	0.00	0.00	0.02
Species-poor hedgerow	Native hedgerow with trees (H4)	0.019	0.17	0.00	0.00	-0.13	1.10
Species-poor hedgerow	Native hedgerow (H5)	0.015	0.10	0.00	0.00	0.00	0.00
Species-poor hedgerow	Native hedgerow (H6)	0.033	0.22	0.00	0.00	0.00	0.00
Species-poor hedgerow	Native hedgerow (H7a)	0.028	0.18	0.00	0.00	0.00	0.00
Species-poor hedgerow	Native hedgerow (H7b)	0.03	0.20	0.00	0.00	0.00	0.00
Ornamental hedgerow	Non-native and ornamental hedgerow (H9)	0.032	0.03	0.00	0.00	0.00	0.00
Total Impact (Hedgerows)		0.19	1.06	0.00	0.00	-0.15	-1.20

Table 3.2: Summary of Impacts

3.3 Habitat Creation / Enhancement

No information regarding proposed habitat creation/enhancement was available at the time of writing.

3.4 Headline Results

Table 3.4 details the headline results. Full details of the biodiversity metric calculations can be found in Appendix 1.

	Habitat Units	Hedgerow Units
On-site baseline	20.06	2.26
On-site post-intervention	11.15	1.06
Total net unit change	-8.91	-1.20
Total net % change	-44.42%	-52.99%

Table 3.4: Biodiversity Metric Assessment – Headline Results

The existing value of the habitats on site is **20.06 BU**.

Details of proposed landscaping and habitat enhancement were not available at the time of writing. However, the Enabling Works are anticipated to deliver a net loss of **-8.91 BU**, a 44.42% decrease of baseline habitat value.

The existing value of the hedgerows on site is **2.26 BU**.

Details of proposed landscaping and habitat enhancement were not available at the time of writing. However, the Enabling Works are anticipated to deliver a net loss of **-1.20 BU**, a 52.99% decrease of baseline hedgerow value.

4. Discussion and Recommendations

4.1 Conclusions

Biodiversity Change

Net Loss

The BMA identifies that the proposed development will result in a net loss of **-8.91 BU** (Habitats) and **-1.20 BU** (Hedgerows). This is equivalent to **44.42%** and **52.99%** of the baseline habitat values for each feature respectively. The mitigation hierarchy of the National Planning Policy Framework⁵ and Knowsley Green Space Strategy³, state that where adverse biodiversity impacts cannot be avoided or mitigated, compensation will be required to ensure that development proposals achieve net gains in biodiversity. Compensation for the residual losses of habitats and hedgerow features will therefore be required to ensure that the development can achieve an overall net gain for biodiversity and ensure compliance with planning policy.

Knowsley Council also highlights that from January 2024, future development should have regard to the draft Environment Act 2021⁶ which sets out a mandate for new development schemes to deliver a 10% net gain in biodiversity. The 10% net gain figure is calculated based on the existing baseline of the site which in this instance is 20.06 BU (Habitats) and 2.26 BU (Hedgerows).

In this instance, opportunities to provide further habitat creation/enhancement within the site to address residual losses and secure a net gain have been explored but it was deemed that, due to the type, layout and end use of the development scheme, achieving a net gain was not feasible on site. An offsite compensation solution (e.g. biodiversity offset) will therefore be required and it is recommended that the Local Planning Authority are contacted to discuss options for how this could be achieved to secure a net gain for biodiversity overall. A recommendation to this effect is included in Section 4.2 below.

Landscape and Ecological Management Plan

This report only details the anticipated habitat losses within the Enabling Works area at this stage, as no details regarding proposed landscaping are available. Once landscaping proposals are made available, the projected habitat values will need to be amended and a Landscape and Ecological Management Plan will need to be compiled for the site. A recommendation in relation to this has been made in Section 4.2.

Biodiversity Net Gain Principles⁷ necessitates that any biodiversity units claimed must be deliverable over a minimum period of 30 years. As such, any future management plans must provide long-term management proposals and provide scope for monitoring and reporting, to demonstrate that the intended values will be achieved over a minimum 30-year period. A recommendation to this effect is included in Section 4.2 below.

⁵ Ministry of Housing, Communities and Local Government (2021) *National Planning Policy Framework*. Available <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

⁶ Legislation.gov.uk. (N.D) The Environment Act 2021. Available: <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

⁷ CIRIA, CIEEM, IEMA (2016) *Biodiversity Net Gain: Good Practice Principles for Development* [Available <https://cieem.net/wp-content/uploads/2019/02/Biodiversity-Net-Gain-Principles.pdf>]

4.2 Recommendations

- R1** Habitat enhancement and creation measures must be incorporated into the landscape design for the site to address the projected loss of biodiversity units detailed in this report. This should include creation of new grassland, hedgerow and scattered tree habitat in order to ensure that any biodiversity gains are in line with the net gain principal of 'like for like or better'. This report should be revised once landscaping details of the proposed works are known.
- R2** Once the proposals are finalised, a Landscape and Ecological Management Plan (LEMP) should be produced for all habitats and hedgerow features proposed within the site. The LEMP should set out the appropriate establishment works and management prescription required to achieve and maintain the intended type and condition of each habitat /hedgerow feature proposed. The LEMP should cover a minimum period of 30 years and include provisions for monitoring, review, reporting and contingency throughout. The LEMP could be produced as part of a planning condition for the proposed development.

5. Drawings

Drawing C161140-01-01 – Phase 1 Habitat Survey

Drawing C161140-05-01 – Biodiversity Metric Assessment Plan – Impacts Map



C161140-01-01-RevA

Legend

Site boundary

Application boundary

Scattered shrub

Scattered tree

Fence

Line of trees

Species-poor intact hedgerow

Wall

Amenity grassland

Bare ground

Building

Dense scrub

Hardstanding

Introduced shrub

Tall ruderal

Target note (habitat)

Project

Land off Archway Road, Huyton

Drawing

Phase 1 Habitat Map

Client

Genr8 Kajima Regeneration Limited

Drawing Number

C161140-01-01-RevA

Revision

Rev A

Scale @ A3

1:1,000

Date

November 2023

Approved By

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C161140-05-01

Legend

Application boundary

Enabling works boundary

Tree to be retained

Tree to be removed

Hedgerow retained

Hedgerow removed

Line of trees retained

Line of trees removed

Area subject to enabling works

Retained habitat

Project

Land off Archway Road, Huyton

Drawing

Biodiversity Metric Assessment Plan

Client

Genr8 Kajima Regeneration Limited

Drawing Number

C161140-05-01

Revision

00

Scale @ A3

1:750

Date

November 2023

Approved By

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Appendix 1

Biodiversity Metric 4.0. Calculation, Archway Road, Huyton