

Biodiversity Net Gain Baseline Assessment

Survey site:

Land off Bretton Street, Dewsbury, Kirklees WF12 9DB

Client:

Saghir Hussain

Survey date:

20th March 2024

Project:

This report is prepared to inform a planning application with Kirklees Council. The proposal is described as:
Construction of commercial unit.

Validity statement:

The survey results and recommendations contained within this report are valid for 18 months. An updated site visit may be required if the report is to be used any longer than 18 months after completion.

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Industry Guidelines and Standards

This report has been written with due consideration to:

- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management, Construction Industry Research and Information Association & Institute of Environmental Management and Assessment (2019). Biodiversity Net Gain – Good Practice Principles for Development.

Proportionality

The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.

The desk studies and field surveys undertaken to provide a Preliminary Ecological Appraisal (PEA) might in some cases be all that is necessary.

(BS 42020, 2013)

Executive Summary

Arbtech Consulting Limited was instructed by Saghir Hussain to undertake a Biodiversity Net Gain (BNG) Assessment at Land off Bretton Street, Dewsbury, Kirklees WF12 9DB (hereafter referred to as “the site”). The assessment was required to inform a planning application for the construction of a commercial unit. (hereafter referred to as “the proposed development”).

The baseline biodiversity unit score:

Area-Based Habitat Units: 4.21.

0.42 area-based units are required to meet the minimum for 10% net gain in biodiversity.

Table 2: Baseline biodiversity unit scores

Habitat	Baseline unit score
Grassland	0.65
Heathland and shrub	0.9
Woodland and forest	2.65
Total	4.21

Watercourse Units: To be calculated within the BNG 2 Assessment, when encroachment has been determined.

To maximise the biodiversity value of the site itself, the following alterations to the current landscaping proposals could be considered:

- Retention of all woodland is recommended.
- Retain as much exiting habitat onsite, such as the modified grassland and bramble scrub.
- Creating an area for biodiversity 0.01 ha of other neutral, grassland kept in moderate condition could deliver 0.12 units
Species richness must include a minimum of 10 species per m2. Species should include Yorkshire fog, cock’s foot, yellow rattle, poppy and common knapweed. An example of the mix that can be used to enhance the grassland: <https://www.habitataid.co.uk/products/premium-meadow-mix>.
- Planting one small tree would deliver 0.01 units. Trees should be native to reach a moderate condition. Species can include sliver birch, English oak, hazel, hawthorn, field maple and wild cherry.
- If there are limited areas where soft landscaping can be provisioned, green roofs and green walls should be considered to contribute to biodiversity units.

Should these alterations be incorporated, this BNG Assessment will need to be updated to accurately reflect the change in biodiversity value of the site pre- and post-development.

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1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by Saghir Hussain to undertake a Biodiversity Net Gain (BNG) Assessment at Land off Bretton Street, Dewsbury, Kirklees WF12 9DB (hereafter referred to as “the site”). The assessment was required to inform a planning application for the construction of commercial unit. (hereafter referred to as “the proposed development”).

A plan showing the proposed development is provided in Appendix 1. This report should be read in conjunction with the following documents:

- Statutory Biodiversity Metric Calculation Tool (DEFRA 2024).
- Preliminary Ecological Appraisal and River Condition Assessment for Land off Bretton Street, Dewsbury, Kirklees WF12 9DB (Arbtech 2024).

1.2 Site Location, Geology and Landscape Context

The survey site is centred on National Grid Reference SE 25005 20226 and has an area of approximately 0.86ha. The site comprises an area of land, forming a mosaic of woodland, grassland and scrub. It comprises a triangular area of land bound by Bretton Street to the north, the Dewsbury-Wakefield railway line to the west and the Calder and Hebble Canal (Dewsbury Cut) to the east. The site is set down from Bretton Street, with historical evidence indicating the ground was previously utilised for grazing. The wider landscape is dominated by areas of urban land, including significant areas of commercial units, with residential development, also present. A site location plan is provided in Appendix 2.

1.3 BNG Informative

BNG is a specific, measurable outcome of project activities that deliver demonstrable and quantifiable benefits to biodiversity compared to the baseline situation. In order to achieve BNG, a project must be able to demonstrate that it has followed all 10 of the Principles of Biodiversity Net Gain (as outlined in the British Standard 8683:2021 Process for Designing and Implementing Biodiversity Net Gain).

The legalised Environment Act (2021) requires developments in England to demonstrate a measurable net gain in biodiversity and sets a target of a minimum of 10% BNG for all developments. It also stipulates that a management plan with a minimum 30-year term, should be adopted to ensure biodiversity net gain can be delivered. The Environment Act (2021) states biodiversity net gain is mandatory for sites over 0.5ha as of February 2024. The requirement for biodiversity net gain is also enshrined within the National Planning Policy Framework (NPPF, 2021). The DEFRA Statutory Biodiversity Metric is the widely accepted tool used to calculate BNG. It enables the calculation of habitat value pre- and post-development in order to determine the overall change in biodiversity value as a result of the proposed development. The Biodiversity Metric has separate BNG assessments for areas of habitat, hedgerows and watercourses. The biodiversity value of a site should be maximised. However, it may not always be possible to achieve a 10% biodiversity net gain within a site and therefore the Statutory Biodiversity Metric can also account

for offsite habitat creation, where land is available. Alternatively, developers can seek to provide an agreed financial contribution to an appropriate third party (such as the Local Authority, the UK Government or another landowner) to deliver the required biodiversity net gain elsewhere on their behalf.

1.4 Scope of this Report

This report assesses the biodiversity value of the site pre-development and outlines the minimum biodiversity units required to achieve a 10% net gain.

2.0 Methodology

2.1 Baseline Biodiversity Value

The PEA and River Condition Assessment report informed the baseline BNG calculation (Arbtech, 2025). A baseline habitat plan is provided in Appendix 3.

Habitat Classification

The PEA classified the habitats on site according to The UK Habitat Classification Habitat Definitions Version 2.0 (The UK Habitat Classification Working Group, July 2023).

Habitat Area/Length

The area or length of each habitat was calculated using qGIS software. In calculating the area or length of each habitat, habitats which occur as two or more isolated parcels across the site were combined, where they were deemed to be of a similar composition and condition. Distinctions were made between habitats to be retained (i.e. left as found in baseline), enhanced (i.e. improved condition) or lost (i.e. destroyed by proposed development).

Areas of scattered trees were calculated using the Tree Helper tool within the Statutory Biodiversity Metric. Class sizes for urban trees are set out in Table 14 of the Statutory Biodiversity Metric User Guide (Natural England, 2023).

Habitat Condition

Habitat condition was assessed using the relevant condition assessment sheets found in the Statutory Biodiversity Metric User Guide (Natural England, 2023).

Strategic Significance

Strategic significance was assigned for each habitat based upon a review of the following:

- Ecological value
- Function within the landscape
- Any site or habitat allocations under the Kirklees Local Plan, 2019.

2.2 Limitations

No limitations encountered.

3.0 Results

3.1 Baseline Habitats

Table 1 details the baseline habitats present within the site along with their area/length, condition and strategic significance.

Table 1: Baseline Biodiversity Value

Habitat	Area (ha)	Description	Condition Assessment	Distinctiveness	Strategic Significance
Modified grassland	0.3274 ha	<p>The western section of the site is dominated by tall forbs, covering approximately 85% of the area, with dense stands of broad-leaved dock (<i>Rumex obtusifolius</i>), common hogweed (<i>Heracleum sphondylium</i>), ragwort (<i>Jacobaea vulgaris</i>), buddleia (<i>Buddleja davidii</i>), willowherb (<i>Epilobium</i> spp.), creeping thistle (<i>Cirsium arvense</i>), and bramble (<i>Rubus fruticosus</i> agg.), particularly near scrub patches. Small patches of common bent (<i>Agrostis capillaris</i>) and creeping buttercup (<i>Ranunculus repens</i>) occur in isolated areas. The northern section contains a small grassland area with a short, limited sward, likely due to past intensive grazing. It is dominated by perennial ryegrass (<i>Lolium perenne</i>) and false oat-grass (<i>Arrhenatherum elatius</i>), with scattered forbs such as common hogweed (<i>Heracleum sphondylium</i>), horseradish (<i>Armoracia rusticana</i>), white dead-nettle (<i>Lamium album</i>), and white clover (<i>Trifolium repens</i>).</p> <p>Both areas support an average of three vascular plant species per square meter. Sward height varies from 4–8 cm, with less than 20% exceeding 7 cm. Physical damage affects under 5% of the total grassland, and bare ground covers less than 10%. No invasive Schedule 9 plant species were recorded.</p> <p>Condition Assessment:</p> <ul style="list-style-type: none"> ○ A: There are 6-8 vascular plant species per m² present, including at least 2 forbs Note - this criterion is essential for achieving Moderate or Good condition. 	Poor	Low	Low Area/compensation not in local strategy

		<ul style="list-style-type: none"> ○ B: Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed. ○ C: Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble <i>Rubus fruticosus</i> agg. may be present). ○ D: Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities. ○ E: Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)2. ○ F: Cover of bracken <i>Pteridium aquilinum</i> is less than 20%. ○ G: There is an absence of invasive non-native plant <p>Score: Poor due to failing criteria A</p>			
Other broadleaved woodland	0.2875	<p>Located on the eastern and northern sections of the site, bordering Bretton Street and the Calder and Hebble Navigation (Dewsbury Cut) are sections of semi-mature, broadleaved woodland. Species present within the woodland is extremely limited, with birch and ash dominating the canopy layer, with occasional oak, also present. Also present within the woodland understorey and shrub layer is hawthorn, cherry and willow. The ground flora layer is also limited, with dense strands of bramble scrub dominating, with occasional soft rush, and the grass and tall forb species detailed above, also present.</p> <p>Condition Assessment</p> <ul style="list-style-type: none"> ○ A: Age distribution of trees. Score = 2 ○ B: Wild, domestic and feral herbivore damage. Score = 3 ○ C: Invasive plant species. Score = 3 ○ D: Number of native tree species. Score = 3 ○ E: Cover of native tree and shrub species. Score = 3 ○ F: Open space within the woodland. Score = 3 ○ G: Woodland regeneration. Score = 2 ○ H: Tree health. Score = 3 	Moderate	Medium	High

		<ul style="list-style-type: none"> ○ I: Vegetation and ground flora. Score = 1 ○ J: Woodland vertical structure. Score = 1 ○ K: Veteran trees. Score = 1 ○ L: Amount of deadwood. Score = 1 ○ M: Woodland disturbance. Score = 3 <p>Score: 28 = Moderate</p>			
Bramble Scrub	0.2264 ha	Located within sections of the central and western areas of dense strands of bramble scrub, with limited other species present. There are some sections of immature self-set willow also present, occasionally.	N/A	Medium	Low
Canal	0.203 Km	Dewsbury Cut (part of the Calder and Hebble Navigation), located along the eastern site boundary. The average width of this section of the canal was 18m and as such (See River Condition Assessment, Arbtech 2025).	Poor	Poor	High Potential to enhance river and canal corridors for the River Calder, Spen River and the Calder Hebble Navigation to help attract investment and provide an attractive setting and a leisure and recreation asset (Kirklees Local Plan, 2019).

3.2 Biodiversity Value of the Site

Full details are provided in the Statutory Metric submitted alongside this report.

The baseline biodiversity unit score: **Area-Based Habitat Units:** 4.21; **Watercourse Units:** To be calculated within the BNG 2 Assessment, when encroachment has been determined.

Table 2: Baseline biodiversity units scores

Habitat	Baseline unit score
Grassland	0.65
Heathland and shrub	0.9
Woodland and forest	2.65
Total	4.21

4.0 Recommendations to Deliver BNG

4.1 Discussion

The site generates **4.21 area-based units**. **Watercourse units are currently undetermined**. A post-development calculation must be undertaken to discern the net change of biodiversity value of the site. Note the area-based habitats, hedgerow-based and watercourse-based habitats are calculated separately within the metric, and any excess biodiversity units from one cannot be used to offset deficit biodiversity units in the other.

- **0.42 area-based units are required to meet the minimum for 10% net gain in biodiversity.**

4.2 Landscaping

To maximise the biodiversity value of the site itself, the following alterations to the current landscaping proposals could be considered:

- Retention of all woodland is recommended.
- Retain as much existing habitat onsite, such as the modified grassland and bramble scrub.
- Creating an area for biodiversity 0.01 ha of other neutral, grassland kept in moderate condition could deliver 0.12 units
Species richness must include a minimum of 10 species per m². Species should include Yorkshire fog, cock's foot, yellow rattle, poppy and common knapweed. An example of the mix that can be used to enhance the grassland: <https://www.habitataid.co.uk/products/premium-meadow-mix>.
- Planting one small tree would deliver 0.01 units. Trees should be native to reach a moderate condition. Species can include silver birch, English oak, hazel, hawthorn, field maple and wild cherry.
- If there are limited areas where soft landscaping can be provisioned, green roofs and green walls should be considered to contribute to biodiversity units.
- As per the River condition Assessment (Arbtech 2025), enhancements to the canal are very limited on site.

Should these alterations be incorporated, this BNG Assessment will need to be updated to accurately reflect the change in biodiversity value of the site pre- and post-development.

4.2 Biodiversity Offsetting

If a 10% uplift in biodiversity is required, the deficit will need to be delivered off-site. The mechanism for securing this off-setting will need to be proposed to, and confirmed by the LPA e.g., purchasing conservation credits through a registered provider, habitat creation directly through the client owned or LPA offered land or a financial contribution towards another provider such as a local nature reserve or park. As well as the creation of new habitats, this should also secure the management of the proposed habitats to help achieve the desired condition for at least 30 years. This would be linked to the application through a planning obligation Section 106 (S106) agreement. The proposed habitat compensation should be of an appropriate distinctiveness

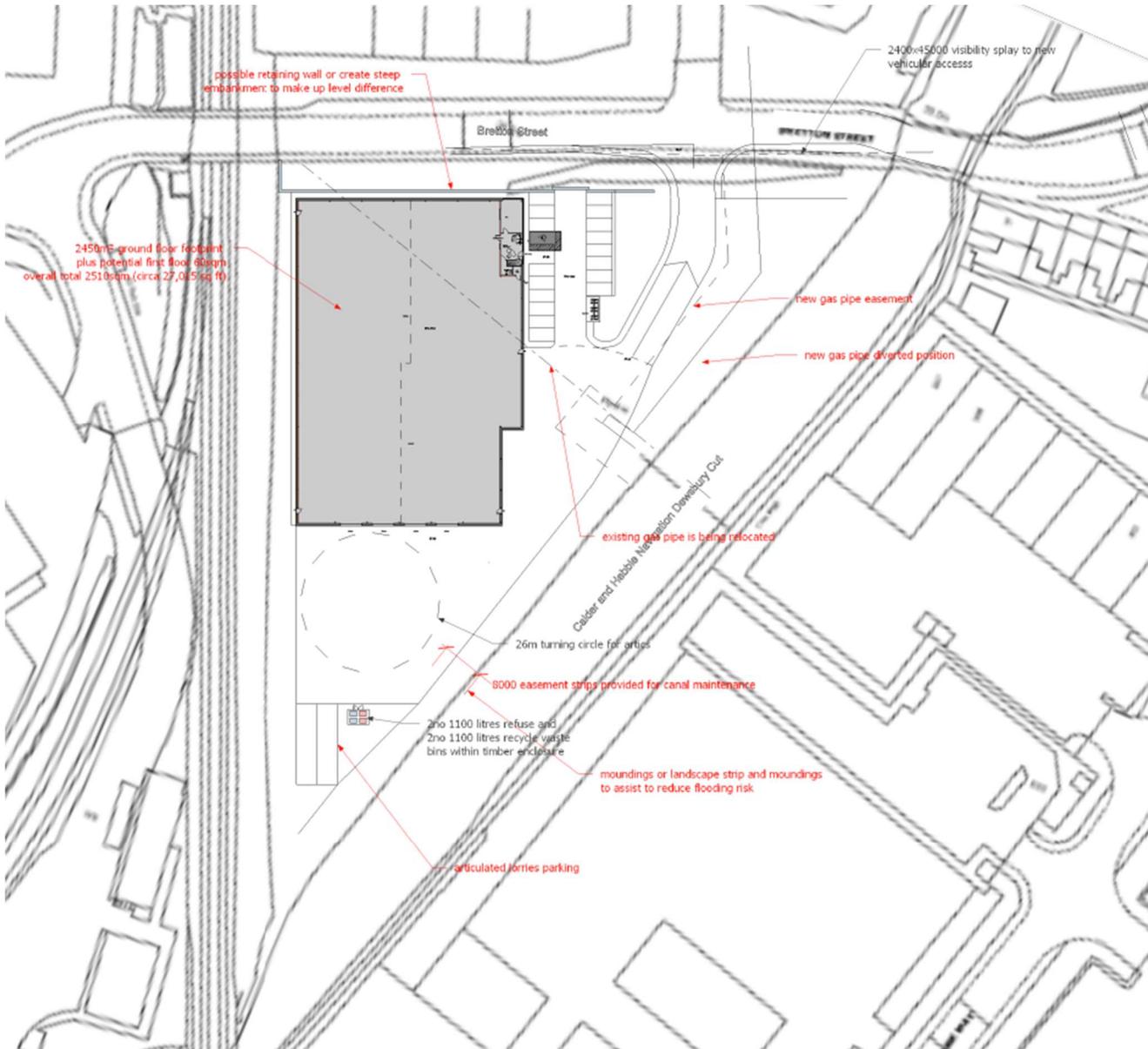
to meet the trading rules of BNG. An ecology survey of the baseline habitat of any off-site land will be required to inform the baseline conditions of any land subject to off-site compensation measures.

Full details are provided in the Defra Statutory Biodiversity Metric.

5.0 Bibliography

- Arbtech (2025) Preliminary Ecological Appraisal and Roost Assessment.
- Arbtech (2025) River Condition Assessment.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.
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- Natural England (2023). The Statutory Biodiversity Metric Technical Annex 1 - Condition Assessment Sheets and Methodology (JP039).
- Natural England (2023). The Statutory Biodiversity Metric Technical Annex 2 – Technical Information (JP039).
- The UK Habitat Classification Habitat Definitions Version 2.0 (The UK Habitat Classification Working Group, July 2023)

Appendix 1: Proposed Development Plan

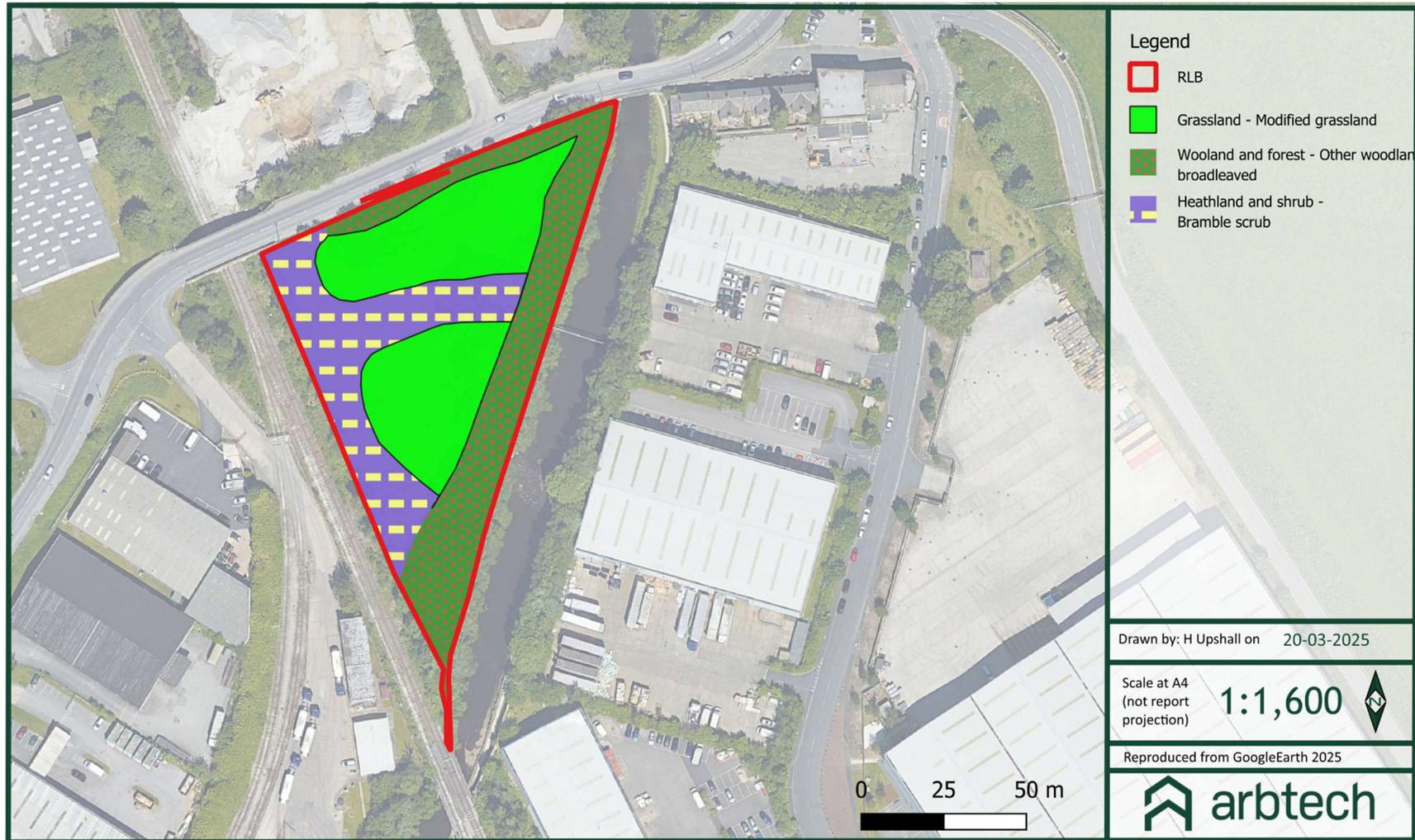


bretton Street
dewsbury

Appendix 2: Site Location Plan



Appendix 3: Baseline Habitat Plan



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