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Biodiversity Net Gain Assessment

Site Address:

Providence Mills, Wormald Street, Liversedge WF15 6AR

Client:

Barnes Homes

Assessment Date:

2nd of March 2026

Project:

This report is prepared to inform a planning application with the Kirklees Council**.** The proposal is described as: *erection of new building unit.*

BNG assessment methodology and legislation can be found in the Arbtech Supplement: **BNG Methodology and Legislation – 2025.**

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

Version Control			
Status	**Issue**	**Name**	**Date**
Draft	0.1	Anneke Greenman BSc (Hons) MSc Consultant Ecologis	06/03/2026
Proof	0.2	Elen Griffin BSc (Hons), MRSB, Senior Ecologist	13/03/2026
Draft	0.3	David Hill-Chambers MSc (Hons) BSc (Hons) – Graduate Ecologist	16/03/2026
Proof	0.4	Elen Griffin BSc (Hons), MRSB, Senior Ecologist	19/03/2026
Final	1.0	Anneke Greenman BSc (Hons) MSc Consultant Ecologist	26/03/2026

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Site Location and Context

A baseline habitat map is provided in **Appendix 1**, a post development habitat map in **Appendix 2**, a proposed development plan in **Appendix 3**, headline BNG results in **Appendix 4**, and condition assessments in **Appendix 5**.

The site is located at National Grid Reference SE 20848 23564 and has an area of approximately 0.212ha comprising one building, two scattered trees, developed land; sealed surface, artificial unvegetated, unsealed surface and non-native and ornamental hedgerow. The site is located in a urban setting, immediately surrounded by a retail park of office blocks to the north, and a busy road to the east. The River Spen runs from west to east along the southern boundary of the site, with further hardstanding to the south of the River which forms part of the further site ownership. The site is enclosed to the north, east, and south by urban infrastructure. The River Spen runs to the south of the site.

The wider landscape is primarily urban, with the site lying within the urban location of Liversedge, West Yorkshire. Tree lines are present within the wider habitat, notably approximately 300m south bordering the NCN66.

A review of historic maps indicates the landscape has remained largely unchanged since the late 1800s.

The site is hydrologically connected, with the River Spen running along the southern boundary. This eventually connects to the River Calder, approximately 4km downstream.
A variable soil and subsoil typically Peat or layered clay, sand and silt (riverine). Mildly Acidic to Neutral (pH: 4.5 - 6.5).
This report should be read in conjunction with the following documents:

- Statutory Baseline BNG Metric – Providence Mills, WF15 6AR (Arbtech Consulting Ltd., 2026)
- Preliminary Ecological Appraisal and Preliminary Roost Assessment (PEAPRA) – Providence Mills, WF15 6AR (Arbtech Consulting Ltd., 2026)
- River Condition Assessment (RCA) - Providence Mills, WF15 6AR (Arbtech Consulting Ltd., 2026)

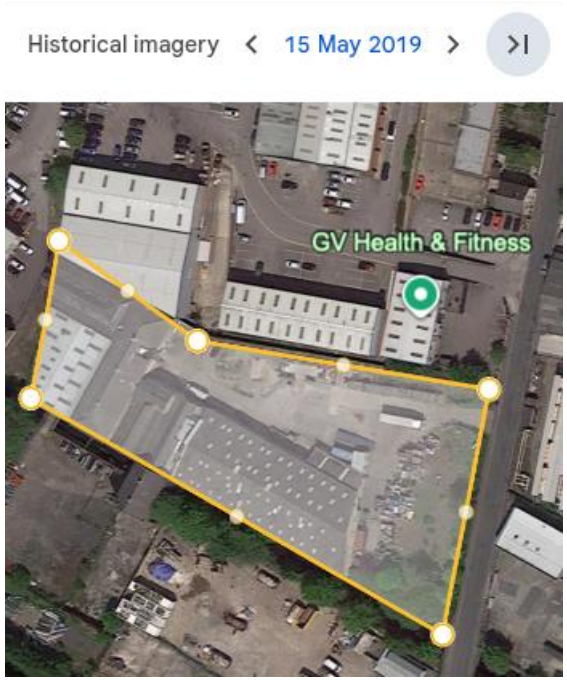
Executive Summary

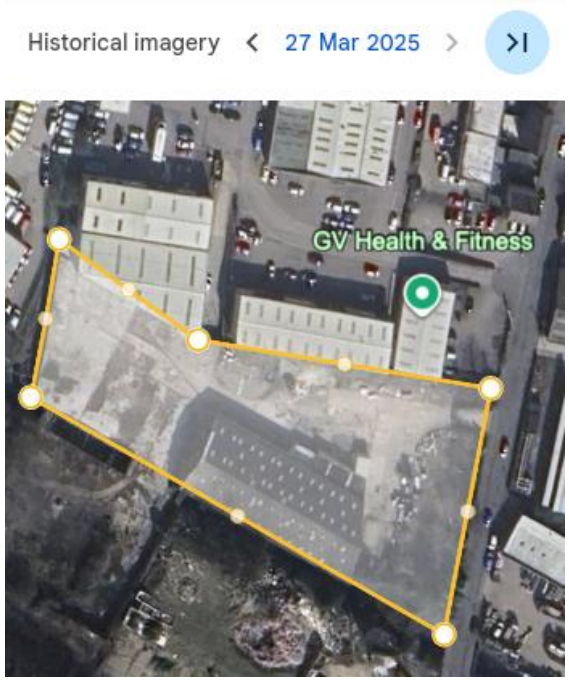
The site at Providence Mills, Wormald Street, Liversedge (WF15 6AR) comprises approximately 0.212 ha and is located within an urban setting surrounded by commercial development and transport infrastructure. Habitats on site are largely dominated by developed land including sealed hardstanding, buildings and areas of artificial unvegetated ground, together with a small area of previously cleared introduced scrub, two scattered urban trees and a short section of ornamental non-native hedgerow. The River Spen runs along the southern boundary, providing a hydrological connection to the wider landscape. Evidence of recent habitat clearance was identified during the ecological survey and through historic aerial imagery; therefore, the baseline biodiversity value has been derived using precautionary assumptions to account for the previously present introduced scrub habitat.

The baseline biodiversity value of the site is calculated as **0.51 area-based habitat units, 0.01 hedgerow units and 0.08 watercourse units**. In order to meet the statutory +10% Biodiversity Net Gain requirement, the development must deliver at least 0.56 area-based habitat units, 0.01 hedgerow units, and 0.09 watercourse units post-development. Given the highly developed nature of the site and the anticipated loss of introduced scrub and scattered trees, opportunities to achieve sufficient biodiversity uplift within the red-line boundary are expected to be limited. Consequently, while on-site enhancements should be explored where feasible, it is likely that off-site habitat creation or the purchase of biodiversity units from a registered habitat bank will be required to ensure compliance with the Biodiversity Net Gain requirements.

Introduction

BNG Informative		
Habitat Degradation Statement	Date reflected by BNG calculations	2nd of March 2026
	The baseline biodiversity value of the site is not derived from the site as observed during the PEAPRA field survey (Arbtech Consulting Ltd., 2026) as evidence of habitat degradation had occurred. The habitat which was covered with gravel (unsealed surface) to the east of B1 at the time of the survey was previously introduced scrub (as evidenced by remaining Cherry Laurel roots and signs of bramble). Therefore, the baseline biodiversity value of the site is derived from assumptions inferred from historic satellite imagery (i.e. Google Earth).	





Irreplaceable Habitat Statement	No irreplaceable habitats as listed under the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations (2024) are currently present nor were present before 30th January 2020.
Metric Version & Publication Date	Statutory Biodiversity Metric Calculation Tool first published 29th November 2023 with last updates to metric tools and user guides on 3rd July 2025.
BNG Target Uplift	+10%
National Character Area (NCA)	38 - Nottinghamshire, Derbyshire and Yorkshire Coalfields
Strategic Significance	Kirklees Metropolitan Council, the responsible authority for drafting the Local Nature Recovery Strategy (LNRS) for Kirklees Metropolitan Council, has yet to adopt a comprehensive LNRS. • Kirklees Local Plan and associated policy maps (Adopted 2019) • Kirklees Biodiversity Net Gain Technical Advice Note (2021)

Limitations
Evidence of recent habitat clearance was identified through the analysis of aerial imagery, supplemented by on-site observations during the Preliminary Ecological Appraisal (PEA). This clearance included an area of bare ground located along the eastern boundary, which historical imagery (Google Earth) indicates was formerly introduced shrubs, likely introduced given the presence of Cherry Laurel *Prunus laurocerasus*. To ensure the ecological value of this recently cleared habitat is fully accounted for, the areas of shrub has been included within the baseline assessment

Baseline

Baseline Biodiversity Value: On-Site				
Area-Based Habitats (A-1)				
Habitat	**Area (ha)**	**Description**	**Condition Assessment**	**Strategic Significance**
u1b Developed land, sealed surface	0.363ha	Sealed surface land was present on site as concrete hardstanding.	Habitat condition pre-determined as '***N/A***' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	**Low Strategic Significance**
u1b5 Building	0.151ha	Two buildings are present on site, the large warehouse (B1) and a small auxiliary shed (B2).	Habitat condition pre-determined as '***N/A***' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	
u1c Artificial, unvegetated unsealed surface	0.053ha	An area of urban unsealed surface is present along the northern boundary. Un-like the recently created areas of unsealed surfaces, based on aerial imagery, no habitat degradation is recorded in this parcel.	Habitat condition pre-determined as '***N/A***' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	
u1 847 Introduced shrub (felled)	0.149ha	To the eastern side of B1, a parcel of unsealed land is present. This parcel has remnants of cleared introduced shrub, though it is now cleared and covered with gravel. Further parcels of unsealed surface land are present along the northern boundary of the site.	Habitat condition pre-determined as '***N/A***' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	
u1 32		Hazel, dead, small size, poor quality.	***Poor****: passes 2 of 6 criteria.*	

Baseline Biodiversity Value: On-Site				
Area-Based Habitats (A-1)				
Scattered urban Tree	0.0041ha			
	0.0163ha	Silver Birch, medium size, good quality.	***Good:*** *passes 5 of 6 criteria.*	

Baseline Biodiversity Value: On-Site				
Linear-Based Habitats (B-1)				
Habitat	**Length (km)**	**Description**	**Condition Assessment**	**Strategic Significance**
Non-Native, Ornamental Hedgerow	0.012km	In the southeast corner of the site a tall non-native hedgerow is present behind B2 (a small gas building). This consists of Cherry Laurel, approximately 4.5m in height. Species present within this habitat include cherry laurel (Prunus laurocerasus).	Habitat condition pre-determined as '***poor***' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	**Low Strategic Significance**

Baseline Biodiversity Value: On-Site				
Water course based habitats (W-1)				
Habitat	**Length (km)**	**Description**	**Condition Assessment**	**Strategic Significance**
r2b Other rivers and streams	0.032km	The River Spen runs along the southern boundary of the site.	Poor, as described within the RCA report (Arbtech 2026).	**High strategic significance**, as identified within the Spen Valley corridor.

Baseline Biodiversity Value

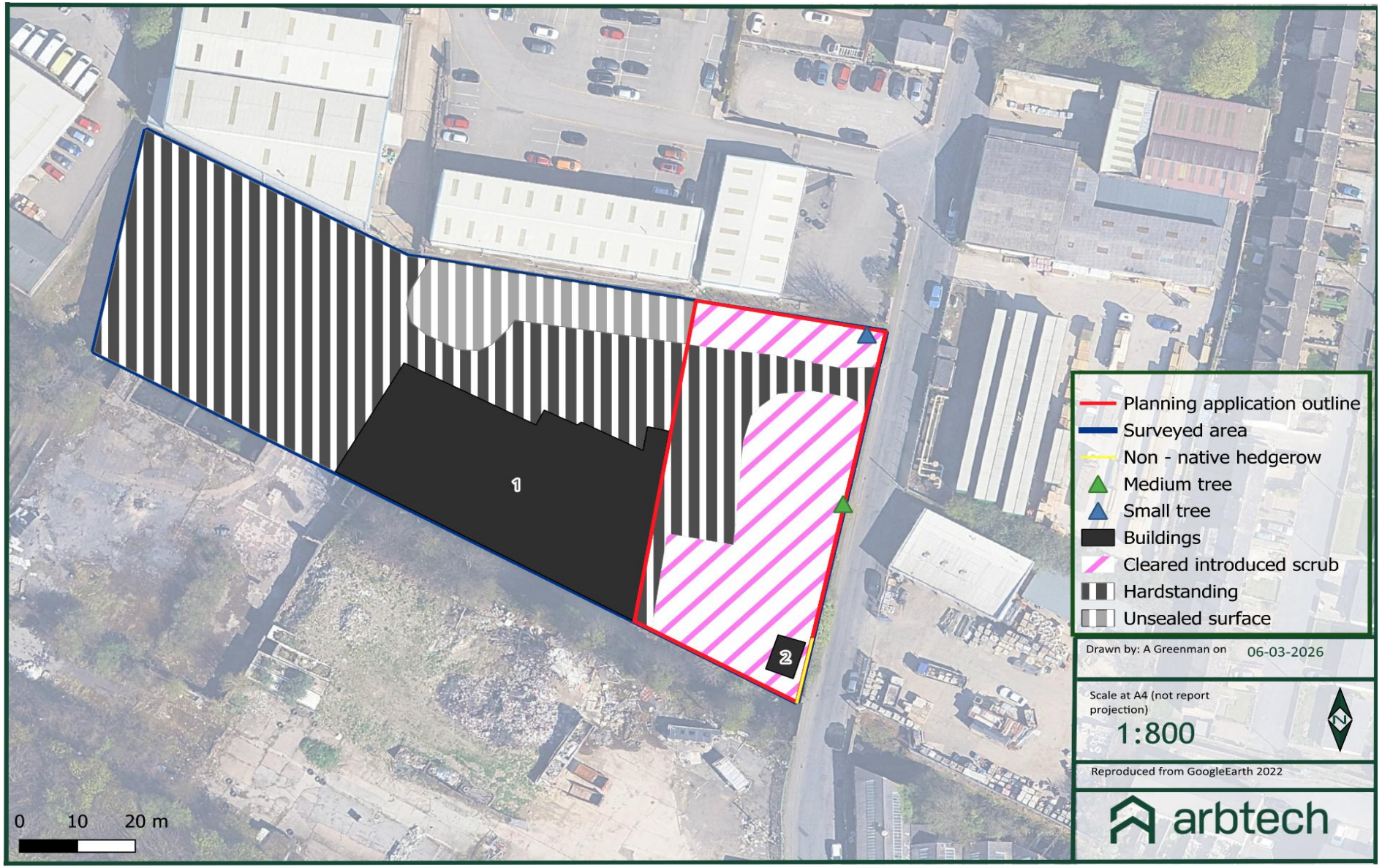
	Habitat Type	Biodiversity Units Generated
Area-Based	Developed land, sealed surface	0.00
	Building	0.00
	Artificial unvegetated unsealed surface	0.00
	Introduced Shrub	0.30
	1 Urban Trees (Moderate Condition)	0.02
	1.Urban Trees (Poor Condition)	020
	Total	**0.51**
Linear based	Ornamental Hedges (H1)	0.01
	Total	**0.01**
Watercourse based	Other rivers and streams (r2b)	0.08
	Total	**0.08**

Results, Discussion, and Next Steps

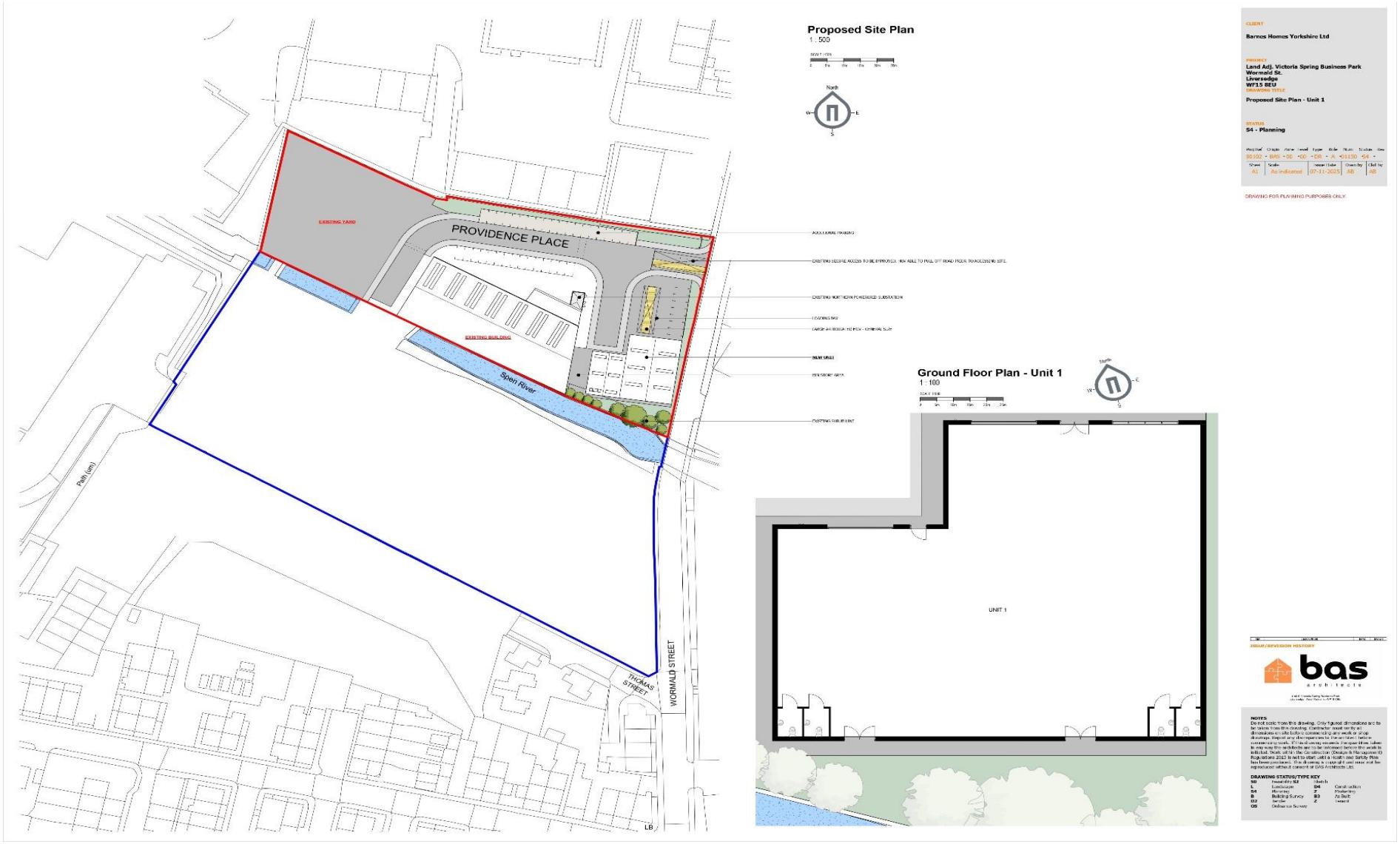
BNG Informative	
Results and Discussion	The site generates 0.51 area-based habitat units and 0.01 linear-based habitat units in its baseline. Note the habitat types are calculated separately and must independently achieve net gain; any excess of one cannot be used to offset any deficits of the other. To achieve a minimum +10% uplift for both, a minimum of 0.56 area-based habitat units and 0.01 linear-based habitat units are required. The River Spen generates a total of 0.08 watercourse habitat units in its baseline. To achieve a minimum +10% uplift a minimum of 0.09 watercourse habitat units are required. It is not believed that the River Spen can be enhanced to a significant level to improve it's condition, nor is it possible to create new watercourse habitats within the confines of the developmental boundary. Therefore, habitat units will need to be purchased to achieve the 10% net gain. A post-development BNG assessment must be undertaken to discern the net change of biodiversity value as a result of the proposed development.
General Recommendations	Trading rules are anticipated to present a constraint. The loss of a large area of introduced shrub and scattered trees, together with the site's proximity to a watercourse, may be difficult to fully compensate for within the confines of the development boundary. In particular, opportunities to secure a measurable uplift in watercourse units are typically very limited, as it is difficult both to enhance an existing watercourse to the extent that its condition is improved and to create new watercourses. As such, the purchase of watercourse units from a registered habitat bank is likely to represent the only feasible means of achieving the required 10% uplift. The removal of scattered trees must be made up for on a like-for-like or like-for-better basis. In other words, unless sufficient amounts of individual trees are proposed, the site will generate a trading error for the loss of these habitat types.

	Given the proposed vegetation clearance of the site to facilitate the provisioning of urban infrastructure, including large amounts of sealed surfaces, it is unlikely that net gain will be achieved within the site's red line boundary. Off-site compensation will likely be required, and can be done by: • Creating the required habitats off-site (i.e. outside the red line boundary) *N.B. this will require a baseline ecological survey to determine the baseline value of the off-site parcel of land ideally within the curtilage of the LPA or within the same National Character Area (NCA), and the off-site land must be registered with the government*; • Purchasing biodiversity units from existing habitat banks *N.B. such habitat bank should ideally be within the curtilage of the LPA or within the same NCA;* or • Purchasing statutory biodiversity credits from the government *N.B. metric rules dictate if statutory credits are required, double the amount of credits will be required to compensate for a single unit deficit.* The mechanism for securing this off-setting will need to be proposed to and confirmed by the LPA and 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.

Appendix 1: Baseline Habitat Plan



Appendix 2: Proposed Development Plan



Appendix 4: Headline BNG Results

Return to results menu

Headline Results

Scroll down for final results ⚠

On-site baseline		
	Area habitat units	0.51
	Hedgerow units	0.01
	Watercourse units	0.08

Area created must match area lost for both onsite and offsite ▲

Unit Type	Target	Baseline Units	Units Required	Unit Deficit
Area habitat units	10.00%	0.51	0.56	0.56
Hedgerow units	10.00%	0.01	0.01	0.01
Watercourse units	10.00%	0.08	0.09	0.01

Appendix 5a: Baseline Habitat Condition Assessment Sheets

Urban Trees; assessed using 'Individual Trees' habitat type condition sheet:

Condition Assessment Criteria		T1	T2
A	The tree is a native species (or more than 70% within the block are native species).	**Y**	**Y**
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	**Y**	**Y**
C	The tree is mature (or more than 50% within the block are mature).	**Y**	**N**
D	There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or herbicide use. There is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	**Y**	**N**
E	Natural Ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	**Y**	**N**
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	**N**	**N**
	Number of criteria passed	**5**	**2**

Condition Assessment Result	Condition Assessment Score		
Passes 5 or 6 of 6 criteria	Good (3)	**GOOD**	**POOR**
Passes 3 or 4 of 6 criteria	Moderate (2)		
Passes 0, 1 or 2 of 6 criteria	Poor (1)		