



Barnsley Youth Zone – Biodiversity Net Gain Assessment

Walker Sime and OnSide

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1. Introduction

1.1 Background

- 1.1.1 Ecus Limited (Ltd) were commissioned by Walker Sime on behalf of OnSide in April 2022 to update the existing Biodiversity Net Gain Assessment (BNGA) for land off Schwabisch Gmund Lane, Barnsley (central Ordnance Survey National Grid Reference (OSNGR): SE 34799 06632), hereafter referred to as 'the Site'. This BNGA has been carried out to determine the potential change in biodiversity value of the Site based upon current landscaping and layout proposals for the development of the Site.
- 1.1.2 Ecus Ltd were also commissioned to undertake an update ecological walkover of the Site (*Schwabisch Gmund Update Eco Walkover v1.0* ref: 16656, dated April 2021). This 2022 BNGA serves as an update to a Preliminary Ecological Appraisal (PEA) undertaken by Ecus on 29th March 2021 by Graduate Ecologist Kate Twynham using the extended Phase 1 habitat survey methodology (JNCC, 2016). The April 2022 ecological walkover established that there had been little to no change in the habitats present at the Site. The information gathered as part of update ecological walkover has been used as the baseline habitat information to inform this BNGA.
- 1.1.3 The Site comprises approximately 0.45 hectares (ha) located off Schwabisch Gmund Lane, in the centre of the town of Barnsley, South Yorkshire and comprises habitats including hard standing and introduced shrub. Proposals for the Site are displayed on the '*Proposed Youth Zone Site Plan*' (Drawing No. BAR-HBA-V1-00-DR-A-P54) dated April 2022, produced by BH Architects and includes the construction of a new youth centre with associated soft landscaping and infrastructure on the Site. The proposals involve the loss of hard standing and introduced shrub to facilitate the construction of new buildings and car park within the development footprint. This report details the results of the BNGA using biodiversity metric calculations which have been completed based on the current development proposals. The BNGA is based on the area of developed land detailed in the plan (approximately 0.45 ha) and so this has been used as the area of work as it is assumed the remaining areas will be retained. Detailed landscaping proposals are based on the '*Proposed Youth Zone Site Plan*'.

1.2 Biodiversity Net Gain Assessment

- 1.2.1 All developments are required to deliver biodiversity net gain to ensure that biodiversity post-development is greater than that present pre-development. A BNGA follows the mitigation hierarchy, which sets out that everything possible must be done to firstly avoid, secondly minimise and thirdly restore / rehabilitate losses of biodiversity on-site. Only as a last resort are residual losses compensated for through biodiversity offsetting, whereby the loss of biodiversity is compensated for via new habitat creation off-site or by paying a financial sum to an offset provider.
- 1.2.2 BNG Assessments account for biodiversity losses which previously could not be fully assessed nor mitigated for, via legal and planning systems. Whilst some species are extensively protected, many and most habitat types are not; with the consequence that development can be 'legally compliant' but still result in biodiversity loss. BNGA guards against this, enabling development to contribute towards the national and global target of halting biodiversity loss (DEFRA, 2011).

2. Methodology

2.1 Extended Phase 1 Habitat Survey

- 2.1.1 As part of the update ecological walkover, the Site was surveyed in April 2021 using the extended Phase 1 habitat survey methodology (JNCC, 2016). This survey method aims to characterise habitats and communities present and is not intended to provide a complete list of all plants occurring across the Site.
- 2.1.2 Habitats and vegetation types present within the Site were recorded on to a field map and notable, rare or scarce plant species, including other features of ecological interest, were highlighted and marked using Target Notes (TN).

2.2 Biodiversity Metric Calculations

- 2.2.1 Biodiversity metric calculations provide a numerical score for the current value (in Biodiversity Units (BU)) of the habitats on the Site and their likely value post-development in order for the impact of the proposed development to be quantitatively assessed.
- 2.2.2 The BNGA used the current metric tool, the '*Biodiversity Metric 3.0 Calculation Tool Beta*' (BM3.0) distributed by Natural England. Habitat measurements have been taken using digital mapping software (QGIS Geographic Information System version 3.4) and Computer Aided Design software (CAD).
- 2.2.3 BM3.0 uses a classification system based mainly on the UK Habitat Classification System (UKHab). Therefore habitats recorded under Phase 1 Habitat methodology were converted to UKHab. Where applicable, habitats were subject to a condition assessment in accord with the Condition Assessment Sheets included within the '*Biodiversity Metric 3.0: Auditing and accounting for biodiversity – Technical Supplement (July 2021)*' produced by Natural England.
- 2.2.4 Using the biodiversity metric tool, habitat values are calculated based on whether they occur commonly or whether they are rare, their area (ha) (or length (km) for linear features such as hedgerows), condition, connectivity to other habitats, and importance within the local area, usually identified from local relevant planning policies or documents. This gives individual pre-development Habitat Units (HU), Hedgerow Units (HeU) and Watercourse Units (WaU).
- 2.2.5 The post-development value can then also be calculated for habitats where factors including time to target condition and difficulty of creation/enhancement are also taken into consideration. The values for area habitats and linear habitats are calculated separately. This provides an overall assessment of the biodiversity net gain or loss as a result of a development.

2.3 Assumptions

- 2.3.1 All calculations are based upon removal of areas of hard standing and introduced shrub. The scattered scrub detailed in the update ecological walkover sparsely covers areas of hardstanding, it has not been included in the calculations due to its limited coverage within the development area and it is of poor condition and so would have negligible bearing on this BNGA. New habitats will be created within the development area, as detailed on the proposed site plan (BAR-HBA-V1-00-DR-A-P54_Proposed Youth Zone Site Plan). The distinctiveness is automatically calculated within the biodiversity metric tool. The condition of existing habitats has been assessed using information within the '*Biodiversity Metric 3.0 habitat condition assessment sheets with instructions*' and based upon the ecologists professional judgement of the Site. Strategic significance has been considered as "Area/compensation not in local strategy/ no local strategy" for all habitats with the exception of

other neutral grassland which has been given a strategic significance of “Within area formally identified within local strategy” as it is listed on Barnsley’s Biodiversity Action Plan.

- 2.3.2 Post-development habitats have been assigned a condition of ‘moderate’ (unless deemed lower by default in the calculator tool) which is considered to be achievable, given the nature of the Site.

3. Findings and Evaluation

3.1 Baseline Habitats

- 3.1.1 For this assessment the baseline habitat types have been taken from the extended Phase 1 habitat survey carried out as part of the updated walkover for the original PEA for the Site. The phase 1 habitat map is provided in Figure 1. The areas have been adjusted due to the development plans for the Site and so areas are based on the development plans only.
- 3.1.2 Baseline habitats featured on the Site include urban - developed land; sealed surface and urban - introduced shrub.
- 3.1.3 The area has been calculated at 0.45 ha. The habitat type, condition, area and HU are provided within Table 1. Baseline area habitats have a biodiversity value of 0.36 HU No hedgerow or watercourse habitats are present within the Site.

Table 1. The Site Baseline area-based habitats, condition and Habitat Units

Habitat Type	Condition	Area (ha)	Habitat Units
Urban- Developed land; sealed surface	N/A	0.27	0
Urban - Introduced shrub	Poor	0.18	0.36
Total Habitat Units			0.36

3.2 Indicative Calculations

- 3.2.1 The following calculations present a version of the completed biodiversity metric calculations based on the current baseline values and the current '*Proposed Youth Zone Site Plan*' (provided in Appendix 1). All existing habitats at the Site will be lost with created habitats including wildflower grassland, areas of ornamental planting and new tree planting, around the proposed youth zone and areas of hardstanding. A summary of the calculations is provided in Appendix 2.

Current Landscaping Proposals

- 3.2.2 Post development habitats will include Urban – Developed land; sealed surface, Grassland – Other neutral grassland, Urban – Introduced shrub and Urban – Urban tree.
- 3.2.3 The habitat type, condition, area and HU of the post-development habitats are provided within Table 2. Post-development, the area-based habitats produced a biodiversity value of 0.90 HU.

Table 2: The Site post development area-based habitats, condition and Habitat Units

Habitat Type	Condition	Area (ha)	Habitat Units
Urban – Developed land; sealed surface	N/A – Other	0.29	0.00
Grassland – Other neutral grassland	Moderate	0.1	0.77
Urban – Introduced shrub	Poor	0.06	0.12

Habitat Type	Condition	Area (ha)	Habitat Units
Urban – Urban tree	Moderate	0.005	0.02
Total Habitat Units			0.90

3.2.4 Grey infrastructure i.e. buildings and hardstanding, provides a biodiversity value of zero. Other neutral grasslands are habitats that are reasonably straight-forward to create but require five years as a minimum to reach target condition, however it is considered that their condition can only be up to moderate value due to the potential for disturbance and likely maintenance.

3.2.5 Proposed planting of introduced shrubs are again straight-forward and time-efficient to create. These habitats are automatically assigned a poor condition score in BM3.0, owing to the typical dominance of ornamental species. It is proposed that these areas will include some native planting, and so there are likely to be qualitative benefits for protected and notable species, such as invertebrates and birds.

3.2.6 New tree planting is proposed at the Site, it is considered that these trees will be small and will not form a complete canopy and they may comprise some ornamental varieties.

3.2.7 Based on this there is likely to be a total HU net gain of 0.54 HU and a net gain percentage change of 150.27%.

3.2.8 Table 3: Summary of Biodiversity Net Gain Calculations

	Baseline Units	Proposed Units	Change in Units	% Change in Units
Habitat Units (HU)	0.36	0.90	+0.54	+150.27%

4. Discussion

- 4.1.1 The current proposals under appropriate management result in a 150.27% net gain change for habitats. This is due to the existing areas of introduced shrub being replaced with wildflower grassland and scattered trees. The current proposals deliver the required 10 % net gain on-site and so no changes to the landscape proposals are required.
- 4.1.2 It is considered that the landscape proposals will provide qualitative benefits for protected and notable species through the provision of native and wildlife friendly planting, and the provision of bat and bird boxes.
- 4.1.3 The proposals will also result in the clearance of cotoneaster species from the Site, including species listed on Schedule 9 of the Wildlife and Countryside Act (as amended), 1981. This is considered to further enhance the biodiversity value of the Site post-development.

5. References

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Figure 1. Baseline Habitat Map

Legend

-  2021 Survey Boundary
-  2019 Survey Boundary
-  Target Notes
-  Scattered Trees
-  Hard Standing
-  Scattered Scrub
-  Introduced Shrub
-  Spoil Pile

0 25 50 m

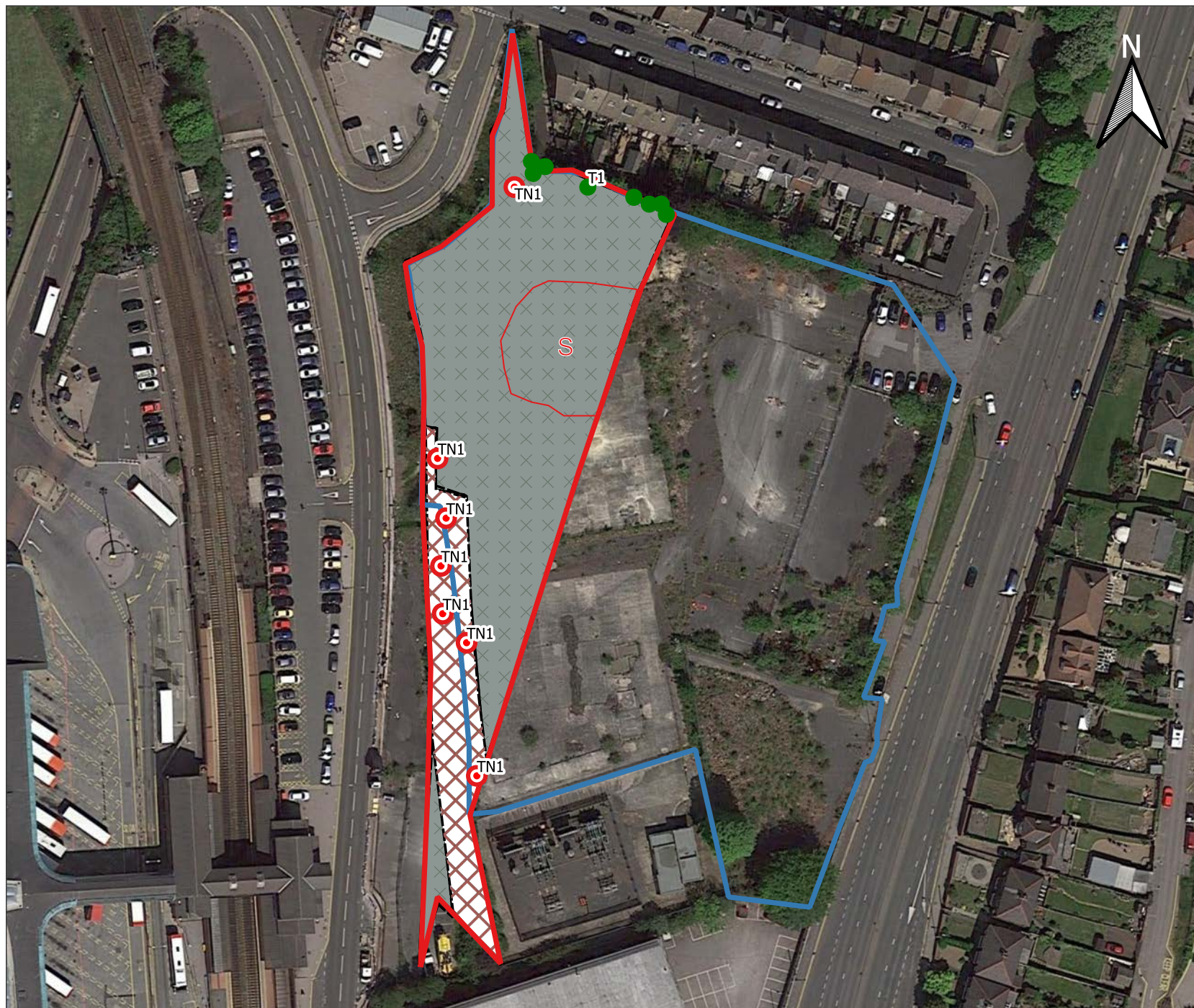


OnSide Youth Zones

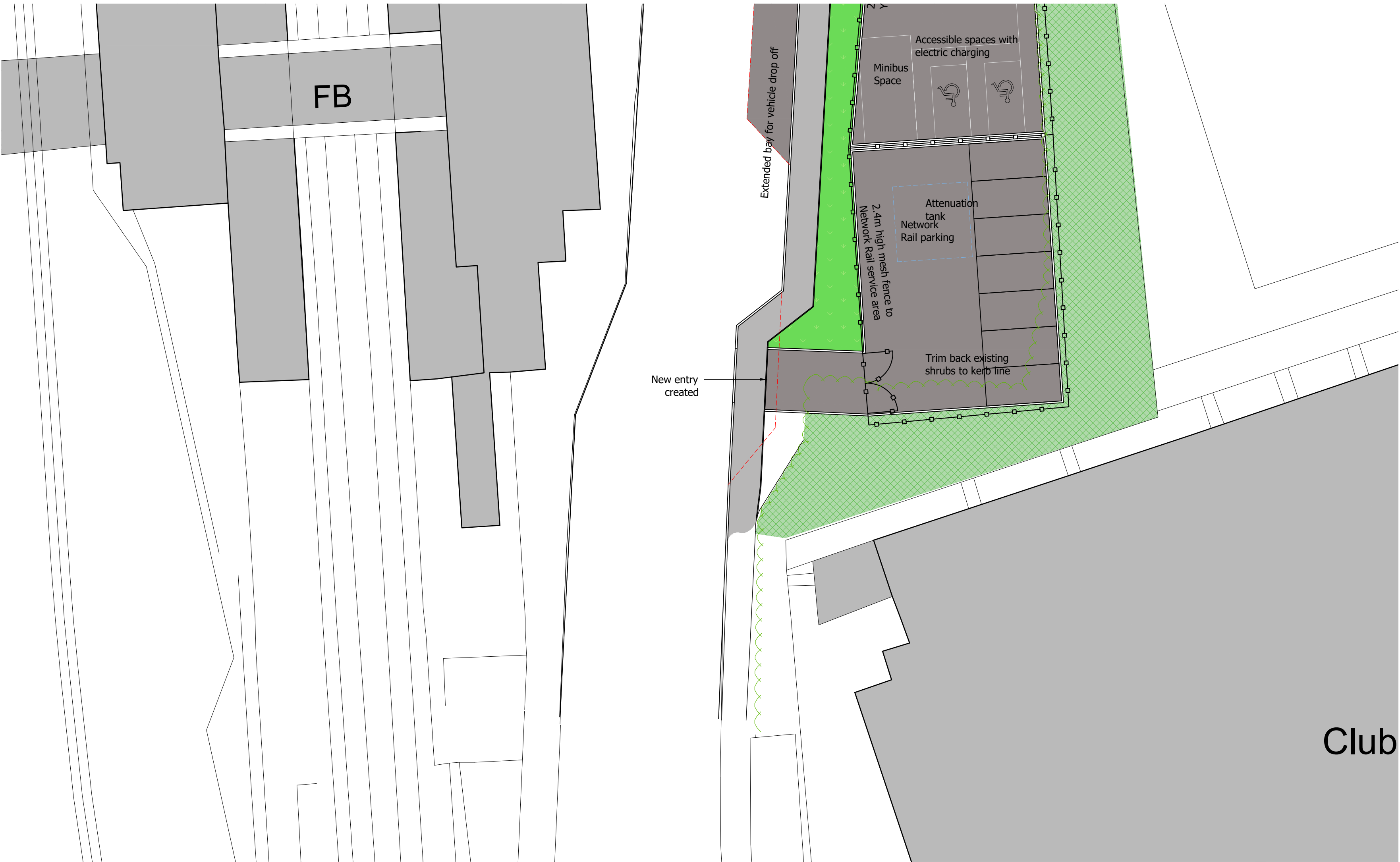
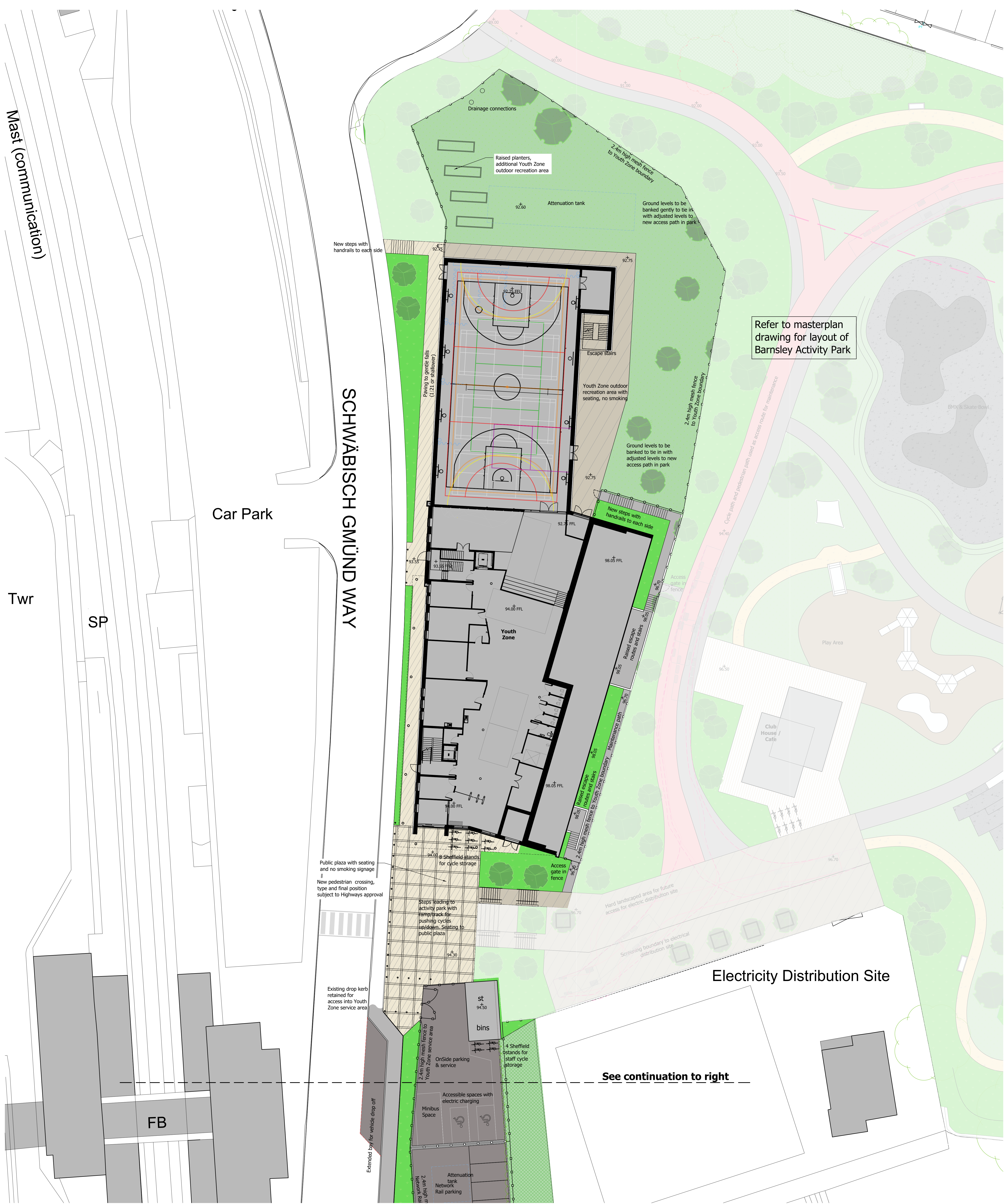
Schwabisch Gmund Lane, Barnsley

Figure 1
Phase 1 Habitat Map

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Appendix 1. Proposed Youth Zone Site Plan



- Tarmac (vehicular loadings)
On sub-base to Engineers details, generally half battered PC concrete kerbs, coloured tarmac to cycleway
- Tarmac (vehicular loadings to Activity Park)
On sub-base to Engineers details, generally half battered PC concrete kerbs to roads and 50mm flat top kerbs to edges
- Paving
Block laying pattern and unit sizes to Landscape Architects details on sub-base to engineers details
- Existing Landscaping / Banking
Enhance and extend existing soft landscaping with native species in accordance with Ecologist / Landscape Architects details
- Soft Landscaping
Subject to detail design by Landscape Architects, indicates low level species rich grassland, such as wild flowers
- Soft Landscaping
Subject to detail design by Landscape Architects, shrub and herbaceous planting which is native wildlife friendly
- Gravel Perimeter to Building
300mm maintenance strip to Landscape Architects details on weed suppressant membrane adjacent to building and soft landscaping
- Existing object to be demolished / removed
- Existing Tree - Retained
- Proposed new trees
- Proposed levels, FFL indicates internal floor level
- Bollards
1.2m high bollards to provided vehicular and pedestrian separation

Appendix 2. Biodiversity Metric Calculations Summary

Barnsley Youth Zone

Headline Results

Return to
results menu

On-site baseline	Habitat units	0.36
	Hedgerow units	0.00
	River units	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.90
	Hedgerow units	0.00
	River units	0.00
On-site net % change (Including habitat retention, creation & enhancement)	Habitat units	150.27%
	Hedgerow units	0.00%
	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	0.54
	Hedgerow units	0.00
	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	150.27%
	Hedgerow units	0.00%
	River units	0.00%
Trading rules Satisfied?	Yes	

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