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For the attention of: Cornerstone Place

Report of Biodiversity Net Gain Calculation

Background

Arbtech Consulting Limited was instructed by Cornerstone Place to undertake a Biodiversity Net Gain (BNG) Calculation for Land At Whitworth Road, Rochdale, OL12 0JG (hereafter referred to as “the site”). This was required to inform a planning application for the construction of new residential dwellings (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 completed Biodiversity Metric 3.0 and the Ecological Management Plan (EMP) for the site.

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.

The recently 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) is still in a transitional phase and is not expected to become mandatory until 2023. However, the requirement for biodiversity net gain is also enshrined within the National Planning Policy Framework (NPPF). Furthermore BNG is a requirement of the Rochdale Core Strategy (adopted in 2016).

The DEFRA Biodiversity Metric 3.0 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 Biodiversity Metric 3.0 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.

Site Context

The site is located at National Grid Reference SD 89764 14317 and has an area of approximately 0.18ha comprising hard standing, amenity grass, scattered trees and wooden outbuildings. It is surrounded by roads and residential dwellings, with areas of grassland and small woodland copses.

A site location plan is provided in Appendix 2.

Baseline Biodiversity Value

The BNG Calculation was informed by the Preliminary Ecological Appraisal (PEA) including Preliminary Roost Assessment (PRA) which was completed by Arbtech on 21st February 2022 (Arbtech 2022).

A baseline habitat plan is provided in Appendix 3.

Habitat Classification

The PEA classified the habitats on site according to UK Habitat Classification User Manual (UK Habitat Classification Working Group, 2018).

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).

Habitat Condition

Habitat condition was assessed using the relevant condition assessment sheets found in the Biodiversity Metric 3.0 Technical Supplement (Panks et al., 2021). The habitat condition assessments were based on the information provided within the PEA, including the habitat descriptions, species list and site photos.

Strategic Significance

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

- Ecological value (based on the PEA)
- Function within the landscape (based on a review of Google and OS imagery)
- Any site or habitat allocations under the Rochdale Core Strategy (2016) and Greater Manchester Biodiversity Action Plan.

Limitations

The baseline habitat survey was carried out during the sub-optimal survey period limiting the identification of ground flora species. However due to the urban nature of the site and surrounding areas it is not expected that species of note will be present on site. As such this is not considered a major limitation to the classification and condition assessments of habitats on site.

Baseline Biodiversity Value

Table 1 details the habitats present within the site (as identified on 21st February 2022 when the PEA was undertaken) along with their area/length, condition and strategic significance.

Table 1: Baseline Habitats on Site

Habitat (UKHab)	Total Area (ha) / Length (km)	Description and Condition	Strategic Significance	Area (ha) / Length (km) to be Retained	Area (ha) / Length (km) to be Enhanced	Area (ha) / Length (km) to be Lost
Developed land; sealed surface	0.1438ha	The majority of the site consist of a hard standing car park. There is a further area of hard standing at the south-western site corner which is a previous playground surrounded by a metal fence. There is a further area of hard standing car park to the north of site which also lies within the redline boundary but is separated from the main site by a road. No condition assessment is required for hardstanding.	This habitat is not allocated under any known local plans and is considered to be of low ecological value and therefore is considered to have low strategic significance .	0.0598ha	0	0.0840ha
Modified grass	0.07ha	There is an area of modified grassland at the south-eastern corner of the site. The management of the grassland has resulted in a uniform sward length of 5m. Species composition is poor with species associated with amenity grass dominant. Species present include perennial ryegrass, dandelion, creeping buttercup, daisy, white clover and ribwort plantain. There is an area bare ground towards the southern end of the grassland. There are further smaller patches of modified grass along the eastern and western site boundaries which are all in a similar condition to the grassland described above. Grassland (low distinctiveness) condition assessment: There must be 6-8 species per m2. FAIL	This habitat is not allocated under any known local plans and is considered to be of low ecological value and therefore is considered to have low strategic significance .	0.0318ha	0	0.0382ha

		2. Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed. FAIL 3. Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type. PASS 4. Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities. FAIL 5. Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens. FAIL 6. Cover of bracken less than 20%. PASS 7. There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species¹ make up less than 5% of ground cover. PASS Passes three of the criteria and therefore assigned poor condition.				
Mixed scrub	0.0033ha	There is a small area of mixed scrub located to east of the outbuildings. Species present include ivy, dock, bramble and willow saplings. Scrub condition assessment:	This habitat is not allocated under any known local plans and it unlikely to offer value for foraging wildlife due to the size	0	0	0.0033ha

		1. Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover). FAIL 2. There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs. FAIL 3. There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species make up less than 5% of ground cover. PASS 4. The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s). FAIL 5. There are clearings, glades or rides present within the scrub, providing sheltered edges. FAIL Passes one of the criteria and therefore assigned poor condition.	of the habitat and urban surroundings. It is therefore considered to low strategic significance .			
Urban trees	0.0226ha	There are scattered trees present across the site including a silver birch at the southern end of the site, a sycamore along the western side of the site, an elder adjacent to the outbuildings and a cherry and apple trees located along the eastern side of the site. A further ash tree is located in the northern section of the site. A ground-based PRA was carried out on all trees (see PRA results below).	This habitat is not allocated under any known local plans and it unlikely to offer value for foraging wildlife due to the size of the habitat and urban surroundings. It is therefore	0.0076ha	0	0.0150ha

		Urban tree condition assessment: 1. More than 70% of trees are native species. PASS 2. Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide. FAIL 3. More than 50% of trees are mature or veteran. FAIL 4. 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. FAIL 5. Management regime has encouraged micro habitat sites for birds, mammals and insects e.g. presence of deadwood, cavities or loose bark etc. FAIL 6. Trees are immediately adjacent to other vegetation, and tree canopies are oversailing vegetation beneath. FAIL Passes one of the criteria and therefore assigned poor condition.	considered to low strategic significance.			
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Post Development Biodiversity Value

A post development landscape plan is provided in Appendix 4.

Habitat Classification

Proposed habitats were translated to their equivalents in the UK Habitat Classification using The UK Habitat Classification Habitat Definitions Version 1.0 (The UK Habitat Classification Working Group, May 2018) and the information provided within the landscape proposals plan.

Habitat Area/Length

The area or length of each proposed 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 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 newly created.

Habitat Condition

Target habitat condition for each proposed habitat was determined assessed using the G-4 Temporal Multipliers Tab included in the Biodiversity Metric 3.0 spreadsheet. This is based on the assumption that the measures outlined in the Ecological Management Plan will be followed.

Strategic Significance

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

- Likely ecological value (based on the landscape proposals plan and professional judgement)
- Function within the landscape (based on the location of the proposed habitats and a review of Google and OS imagery)
- Any site or habitat allocations under the Rochdale Core Strategy (2016) and Greater Manchester Biodiversity Action Plan

Post Development Habitats

Table 3 details the habitats present within the site (as identified on plan in Appendix 3) along with their area/length, condition and strategic significance.

Other biodiversity enhancements are incorporated into the proposed development which aren't accounted for in the Biodiversity Metric 3.0. These have been outlined within the Ecological Management Plan.

Table 3: Post Development Habitats on Site

Habitat	Area (ha) / Length (km)	Description and Target Condition	Strategic Significance
Hardstanding	0.0598 (retained) 0.0468ha (new)	Existing carpark to be retained and new hard standing areas around the new buildings and foot paths through the developed site. No condition assessment required.	Has low ecological value and is not allocated under any local plans. Low strategic significance
Buildings	0.0414ha	New dwellings to be constructed on site. No condition assessment required.	Has low ecological value and is not allocated under any local plans. Low strategic significance
Vegetated gardens	0.0261ha	New vegetated gardens will be planted adjacent to the new building on site. The landscaping is currently unconfirmed but will likely consist of amenity grass lawns with introduced shrubs. Poor condition within one year.	Has low ecological value and is not allocated under any local plans. Low strategic significance
Introduced shrub	0.0035ha	New introduced shrubs to be planted across developed species. Species currently unconfirmed. Poor condition within one year.	Has low ecological value and is not allocated under any local plans. Low strategic significance
Modified grass	0.0198ha (retained) 0.0187 (new)	Areas of existing modified grass to be retained. Further areas of modified grass will be planted on the developed site. Good condition within seven years.	This habitat is not allocated under any known local plans but could have value for foraging wildlife in particular invertebrates. Medium strategic significance
Urban trees	0.0307ha (new) 0.0075ha (retained)	Five new trees will be planted across the site to compensate for removal of some existing trees. Proposed species are currently unconfirmed. The existing sycamore tree will be retained. Moderate condition within 27 years.	This habitat is not allocated under any known local plans but could have value for foraging wildlife in particular invertebrates. Medium strategic significance

Overall Change in Biodiversity Value

Full details are provided in the Biodiversity Metric 3.0.

Areas of Habitat

The baseline habitat value of the site is 0.24 units, comprising hard standing and buildings (no value) 0.14 units of modified grass, 0.01 units of scrub and 0.09 units of urban trees.

The post development habitat value of the site is 0.35 units, comprising the creation of buildings and hardstanding (no value), modified grassland (0.10 units), introduced shrub (0.01 units), vegetated gardens (0.05 units) and urban trees (0.10 units) as well as the retention of some existing modified grass (0.06 units) and retained trees (0.03 units).

This results in a net change in biodiversity of +43.90% (i.e. a net gain).

Hedgerows

There are no existing hedgerows on site and as such net change in biodiversity for hedgerows cannot be calculated.

Watercourses

There are no existing watercourses on site and as such net change in biodiversity for watercourse cannot be calculated.

Recommendations

The accompanying Ecological Management Plan will contain details as to how the proposed new habitats will reach their target condition and therefore deliver the proposed biodiversity increase. Further ecological enhancements for species, which cannot be incorporated in to the BNG analysis will also be included within this management plan.

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Appendix 3: Baseline Habitat Plan



Appendix 4: Post Development Landscape Plan

