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4 December 2024

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Station Road, Market Bosworth: Biodiversity Net Gain (BNG) Statement

INTRODUCTION AND METHODOLOGY

FPCR Environment and Design Ltd. undertook a walkover survey and desk top survey of a site known as Station Road, Market Bosworth on 19th April 2023 to determine the ecological baseline of the site.

The survey was undertaken broadly using the UKHab methodology¹. Where applicable, habitat condition assessments were undertaken² to inform a BNG assessment.

The results of the walkover survey were then used to conduct a biodiversity net gain assessment using the Statutory Biodiversity Metric³.

The desk study consulted data from the Defra MAGIC⁴ database and data received from Leicestershire and Rutland Environmental Records Centre (LRERC) to identify any neighbouring ecological sites with statutory designations that may increase the strategic significance of the habitats within the site.

This document sets out the results of the survey work undertaken, the results of the BNG Assessment, and outlines the next steps toward the proposals achieving a 10% net biodiversity gain. The assessment is based on a combination of the Coloured Planning Layout (nineteen47 drawing ref n2258_008-01 Rev B) and Illustrative Landscape Masterplan (Pegasus Group drawing ref P24-1884_EN_0007_C_0001).

RESULTS

Desktop Study

No statutory designated sites of international value were identified within 10 km of the site boundary, though a single Site of Special Scientific Interest (SSSI); Ashby Canal was recorded within 2 km.

¹ Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. 2020. The UK Habitat Classification User Manual 1.1 <http://www.ukhab.org>

² 'Condition' is one of the measures of the quality of a habitat used within the Defra biodiversity metric. It takes into account key physical characteristics and typical species of a particular habitat type.

³ Defra November 2023, The Statutory Biodiversity Metric User Guide. This publication is available at <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>

⁴ <https://magic.defra.gov.uk/magicmap.aspx>

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Six non-statutory designated sites were recorded within 1km of the site, the closest of which (Ashby Canal Local Wildlife Site) lies c.135m to the west.

One potential LWS (pLWS) was recorded within the site boundary, known as Market Bosworth hedge 2. This hedge (recorded as H2a-c, and part of H3 during the walkover carried out by FPCR, see accompanying Ecological Appraisal), was considered not to meet the primary or secondary criteria for LWS selection, and furthermore contained less than five woody species, making it not species-rich. This hedgerow was also very gappy. This hedgerow was therefore not considered to represent a LWS habitat. Given the absence of designated sites within or adjacent to the development site, and the absence of habitats of high intrinsic value, all habitats were considered to be of **low strategic significance** within the BNG metric ('Area/compensation not in local strategy/no local strategy').

Baseline Survey Results

The walkover survey identified a small number of habitat types within the site, including cereal crops, mixed scrub, modified grassland, ornamental lake or pond, vegetated garden, developed land; sealed surface (comprising buildings and hardstanding) and hedgerows as described below and mapped on Figure 1 Biodiversity Net Gain Baseline Habitats. Additional information can be found in the Ecological Appraisal (FPCR, 2023) and condition assessments can be found in Appendix A.

Modified Grassland

The site supports modified grassland (amenity grassland) in poor condition. Grassland areas comprised of roadside verges and were regularly mown and contained species that were indicative of high nutrient levels, including abundant annual meadow grass *Poa annua*, abundant perennial ryegrass *Lolium perenne*, locally occasional chickweed *Stellaria media*, sticky mouse ear *Cerastium glomeratum* and creeping buttercup *Ranunculus repens*, as well as rare instances of ivy-leaved speedwell *Veronica hederifolia*, yarrow *Achillea millefolium*, daisy *Bellis perennis*, spear thistle *Cirsium vulgare* and creeping thistle *Cirsium arvense*.

Mixed Scrub

One parcel of mixed scrub was recorded along the northern boundary, containing frequent hawthorn *Crataegus monogyna* and bramble *Rubus fruticosus* agg., occasional instances of garlic mustard *Alliaria petiolate* and nettle *Urtica dioica*, and rare instances of cleavers *Galium aparine*, garden privet *Ligustrum ovalifolium*, elder *Sambucus nigra* and leylandii hedge.

Several small stands of bramble scrub were also recorded in the northern extent of the site.

Developed Land; Sealed Surface and Vegetated Gardens

In the north of site lies several residential and commercial buildings with hardstanding roads, and associated vegetated gardens with associated ornamental and native vegetation. Species recorded within these areas include rare instances of dandelion *Taraxacum* sp., cleavers, herb robert *Geranium robertianum*, thale cress *Arabidopsis thaliana*, sow thistle *Sonchus* sp., sticky mouse ear and spear thistle.

Hedgerows

Six hedgerows, five of which were native species dominant, were present across the site. These supported a limited number of species, with H1 containing hawthorn, *Laburnum*, Norway spruce *Picea abies* and leylandii; H2 containing hawthorn, blackthorn *Prunus spinosa*, oak *Quercus robur* and goat willow *Salix*

caprea; H3 containing crack willow *Salix fragilis*, blackthorn, oak, hawthorn and ash *Fraxinus excelsior*; H4 containing goat willow, hawthorn and white poplar *Populus alba*; H5 containing blackthorn, silver birch *Betula pendula*, field maple *Acer campestre*, hawthorn, oak, ash and balsam poplar *Populus balsamifera*; and H6 containing hawthorn, elder, dog rose *Rosa canina* and field maple.

Area coverages for baseline habitats and individual trees are provided within Table 1 and lengths of baseline linear habitats are provided in Table 2. Habitats are mapped on Figure 1.

The metric valued the baseline habitats at 15.32 biodiversity units (BU) and hedgerow units (HU) at 3.93.

Table 1: Baseline Habitats

Habitat type	Area (ha)	Distinctiveness	Condition	Biodiversity units
Cereal crops	6.7656	Low	N/A	13.53
Modified grassland	0.0338	Low	Poor	0.07
Mixed scrub	0.0296	Medium	Moderate	0.24
Mixed scrub	0.0137	Medium	Poor	0.05
Ornamental lake or pond	0.001	Low	Poor	0.00
Developed land; sealed surface	0.2153	Very Low	N/A	0.00
Vegetated garden	0.0272	Low	N/A	0.05
Individual trees	0.0122	Medium	Moderate	0.10
Individual trees	0.057	Medium	Good	0.68
Individual trees	0.0489	Medium	Good	0.59
Total	7.20			15.32

Table 2: Baseline Linear Habitats

Habitat type	Length (km)	Distinctiveness	Condition	Biodiversity units
Native hedgerow	0.238	Low	Moderate	0.95
Line of trees	0.02	Low	Poor	0.04
Native hedgerow – associated with bank or ditch	0.363	Medium	Moderate	2.9
Non-native and ornamental hedgerow	0.035	Very Low	Poor	0.04
Total	0.656			3.93

N.B. Individual tree baseline / retained area is calculated within the metric and corresponds to the number of trees within each category.

Proposed Habitats

Under current proposals, all area habitats are to be lost, with some linear hedgerow retention. Habitat creation will be provided within the site. Habitat creation is shown in Figure 2, and includes areas of mixed scrub, other neutral grassland, modified grassland, a sustainable urban drainage feature and individual trees.

Around the proposed dwellings, habitat creation will prioritise the establishment of ornamental planting and amenity grassland which will be managed primarily for their amenity value. Nevertheless, planting a diverse range of ornamental plants will provide interest for wildlife, particularly pollinators that can take advantage of flowering species.

The biodiversity units for each proposed habitat on the site have been calculated and are presented in Table 3, along with a description of the management recommendations which will be employed to achieve the target conditions for each habitat type.

Hedgerow Creation

The proposals include the creation of several new lengths of species-rich native hedgerows and lines of trees. These will provide additional connectivity around the site. Altogether 0.358 km of species-rich native hedgerow planting and 0.381 km of ornamental planting will be carried out.

Management will include the following measures:

- Failed specimens will be replaced during establishment on a like-for-like basis;
- Hedgerows will be managed to encourage tall, wide and bushy features, with only one side of hedgerows cut each year (i.e. each side cut once every two years);
- Fertiliser use will be prohibited within grasslands in the site boundary that are adjacent to hedgerows to reduce nutrient enrichment; and
- A minimum of 1m adjacent to the hedgerows will be managed as 'undisturbed' ground where possible. Management of grassland within these areas adjacent to hedgerows will be in line with the management of modified grasslands.

Table 3: Summary of Proposed Habitat Creation

Habitat (Landscaping Plan Reference)	Habitat (UKHab Type)	Targets for Creation/Management	Area (ha)	Target Condition	Distinctiveness	Biodiversity Units
Amenity Grassland Planting	Modified grassland	These lawns will be managed solely for their amenity value and so will likely be in poor condition.	0.8304	Poor	Low	1.60
Amenity Grassland Planting	Modified grassland	Some areas of grassland surrounding other neutral grassland will be managed more sensitively.	0.1711	Moderate	Low	0.59
Ornamental Shrub Planting	Introduced Shrub	These areas of amenity planting will be managed solely for their amenity value.	0.097	N/A	Low	0.19
Proposed Wildflower Grassland	Other neutral grassland	Boundary grassland planting and the attenuation pond will provide opportunities to create species-rich grasslands on the site by providing different soil conditions for wetland species to establish. The following management measures will be employed to maximize diversity: - Seeding areas around the attenuation pond with a native species mix tolerant to waterlogged or seasonally inundated soils including Yorkshire fog <i>Holcus lanatus</i> and rushes <i>Juncus</i> sp.; - Management will be reduced to create a varied sward height, following the supplier's specifications with one cut per year following establishment; and - Reseeding any areas of failed establishment.	0.4086	Moderate	Medium	2.74
Proposed native shrub planting	Mixed scrub	Areas of native scrub planting will be incorporated at the peripheries of the site, in order to promote a diversity of plants and structure within the site. These will be managed to achieve moderate condition through the following: - Planting will ensure a diversity of species with within blocks of scrub with no one species comprising more than 75% cover; - The borders of scrub will be subject to relaxed management extended at least 2m from the scrub edge to encourage a diverse interface between habitats; - Replacement planting of failed specimens during establishment period; and - Additional planting after 10 years where natural regeneration has not been successful.	0.4078	Moderate	Medium	2.73
		Areas of native scrub planting will be incorporated along the western noise attenuation bund, in order to promote a diversity of plants and structure within the site. These will be managed to achieve moderate condition through the following:	0.5376	Good	Medium	4.52

Habitat (Landscaping Plan Reference)	Habitat (UKHab Type)	Targets for Creation/Management	Area (ha)	Target Condition	Distinctiveness	Biodiversity Units
		- Planting will ensure a diversity of species with within blocks of scrub with no one species comprising more than 75% cover; - The borders of scrub will be subject to relaxed management extended at least 2m from the scrub edge to encourage a diverse interface between habitats; - Replacement planting of failed specimens during establishment period; - Scattered planting to create open glades and rides; and - Additional planting after 10 years where natural regeneration has not been successful.				
Proposed Rear Gardens	Vegetated garden	Private garden areas.	0.9414	N/A	Low	1.82
Individual tree planting	Urban trees	A minimum of 130 small standards total are to be planted across the Site within the development footprint. Each individual tree will be targeted to moderate condition via the management prescriptions below: - All trees should be native species or native cultivars; - If planted in groups, the distance between centres should be set such that the expected canopies should be less than 5m apart; - Relaxed management removing only branches that pose a risk to traffic/pedestrians such that trees retain more than 75% of the expected canopy size for the corresponding age; and - Planted with verges or green infrastructure such that at least 20% of the ground beneath each tree is vegetated.	0.5293	Moderate	Medium	1.62

BNG Assessment Summary

The BNG Assessment was based on the above-mentioned layouts and the assumptions that:

- i) the 'proposed wildflower meadow' will achieve the criteria of 'other neutral grassland' and would reach moderate condition;
- ii) the areas of grassland close to buildings / hardstanding will comprise 'modified grassland' in poor condition;
- iii) proposed species-rich native hedgerows and lines of trees will achieve moderate condition; and
- iv) proposed trees will be established as small trees and will achieve moderate condition.

Area Habitats

- Proposals result in a net gain of 1.63 units, which equates to a gain of +10.64%.

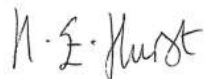
Hedgerows

- The proposals will result in an increase of 1.60 hedgerow units (HU), which equates to an increase of +40.74%.

Baseline	Habitat Units	15.32
	Hedgerow Units	3.93
Post-Intervention	Habitat Units	16.94
	Hedgerow Units	5.53
Total Net Unit Change	Habitat Units	1.63
	Hedgerow Units	1.60
Total Net Percentage Change	Habitat Units	10.64%
	Hedgerow Units	40.74%

Currently the proposals will achieve more than a 10% net gain in habitat and hedgerow units, with all trading rules satisfied.

Yours sincerely



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APPENDIX A: BASELINE HABITAT CONDITION ASSESSMENTS

Modified Grassland - Grassland (low distinctiveness)

Condition Criteria	Grassland Reference	
	G1	
	Criteria	Criteria
A There must be 6-8 species per m ² , including at least 2 forbs (including those in Footnote 1). NB - this criterion is non-negotiable for achieving moderate or good condition.	Fail	Less than 6 species per m ² on average across the informal quadrats.
B Sward height is varied (at least 20% of the sward is less than 7cm long and at least 20% is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Fail	Regularly mown, uniform height
C 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	None present
D 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	Damage from car parking.
E Cover of bare ground between 1% and 10%, including localised areas, for example, rabbit warrens.	Pass	Less than 1%.
F Cover of bracken less than 20%.	Pass	None present.
G There is an absence of invasive non-native species (as listed on Schedule 9 of the Wildlife and Countryside Act (WCA) 1981).	Pass	None present.
Total Passes	4 (excluding A)	
Condition	Poor	

Condition Assessment Result	Condition Assessment Score
Passes 6 or 7 of 7 criteria including essential criteria A	Good (3)
Passes 4 or 5 of 7 criteria; OR Passes 6 of 7 criteria excluding essential criteria A	Moderate (2)
Passes 0, 1, 2 or 3 of 7 criteria	Poor (1)

Individual Trees

Condition Criteria	Tree Reference											
	T1		T2		T3		T4		T5		T6	
	Criteria	Notes	Criteria	Notes	Criteria	Notes	Criteria	Notes	Criteria	Notes	Criteria	Notes
A The tree is a native species (or at least 70% within the block are native species).	Pass		Pass		Pass		Pass		Pass		Fail	Poplar
B The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total rea and no individual gap being >5m wide (individual trees automatically pass this criterion).	Pass		Pass		Pass		Pass		Pass		Pass	
C The tree is mature (or more than 50% within the block are mature).	Pass		Fail		Pass		Pass		Pass		Pass	
D There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Pass		Pass		Pass		Pass		Pass		Pass	
E Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	Pass		Fail		Pass		Pass		Pass		Pass	
F More than 20% of the tree canopy area is oversailing vegetation beneath.	Pass		Pass		Pass		Pass		Pass		Fail	
Total Passes	6		4		6		6		6		4	
Condition	Good		Moderate		Good		Good		Good		Moderate	

Condition Assessment Result	Condition Assessment Score
Passes 5 or 6 criteria	Good (3)
Passes 3 or 4 criteria	Moderate (2)
Passes 2 or fewer criteria	Poor (1)

Mixed Scrub

Condition Criteria	S1	
	Criteria	Notes
The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range). - At least 80% of scrub is native, - There are at least three native woody species, - No single species comprises more than 75% of the cover (except hazel <i>Corylus avellana</i> , common juniper <i>Juniperus communis</i> , sea buckthorn <i>Hippophae rhamnoides</i> or box <i>Buxus sempervirens</i> , which can be up to 100% cover).	Pass	
Seedlings, saplings, young shrubs and mature (or ancient or veteran ²) shrubs are all present.	Fail	No young shrubs present
There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA4) and species indicative of sub-optimal condition make up less than 5% of ground cover.	Fail	More than 5% cleavers present
The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	Fail	
There are clearings, glades or rides present within the scrub, providing sheltered edges.	Fail	Too small to contain these features
Total Passes	1	
Condition	Poor	

Lines of Trees

Condition Criteria	Parcel Ref			
	TL1		TL2	
	Criteria	Notes	Criteria	Notes
At least 70% of trees are native species.	Pass		Pass	
Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Pass		Pass	
One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	Fail		Fail	
There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice.	Fail		Fail	
At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Pass		Pass	
Total Passes	3		3	
Condition	Moderate		Moderate	

Native Hedgerows

Condition Criteria	Hedgerow Reference				
	H2	H3	H4	H5	H6
A1 Height >1.5m average along length.	Pass	Pass	Pass	Pass	Pass
A2 Width >1.5m average along length.	Pass	Pass	Pass	Pass	Pass
B1 Gap between ground and base of canopy <0.5 m for >90% of length.	Pass	Pass	Pass	Pass	Pass
B2 Gaps make up <10% of total length and no canopy gaps >5 m.	Pass	Pass	Pass	Pass	Pass
C1 >1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length measured from outer edge of hedgerow, and is present on one side of the hedge (at least).	Fail	Fail	Fail	Fail	Fail
C2 Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	Fail	Fail	Fail	Fail	Fail
D1 >90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA) and recently introduced species.	Fail	Pass	Pass	Pass	Pass
D2 >90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	Pass	Pass	Pass	Pass	Pass
Total Failures	3 (same functional group)	2 (same functional group)	2 (same functional group)	2 (same functional group)	2 (same functional group)
Condition	Moderate	Moderate	Moderate	Moderate	Moderate
Condition Assessment Result for Hedgerows without Trees			Condition Assessment Score		
≤2 total failures; AND no more than 1 failure in any functional group			Good (3)		
≤4 total failures; AND does not fail both attributes in more than one functional group			Moderate (2)		
>4 total failures; OR fails both attributes in multiple functional groups			Poor (1)		



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Key

 **Red Line Boundary**

Baseline Habitats

 **Cereal crops**

 **Developed land; sealed surface**

 **Mixed scrub**

 **Modified grassland**

 **Ornamental lake or pond**

 **Vegetated garden**

Baseline Hedgerows

 **Non-native and ornamental hedgerow**

 **Line of trees**

 **Native hedgerow**

 **Native hedgerow - associated with bank or ditch**

Baseline Individual Trees

 **Existing Medium Rural Tree**

 **Existing Small Rural Tree**





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Key

 **Red Line Boundary**

Proposed Habitats

 **Developed land; sealed surface**

 **Introduced shrub**

 **Mixed scrub**

 **Modified grassland**

 **Other neutral grassland**

 **Sustainable drainage system**

 **Vegetated garden**

 **Commercial**

Proposed Hedgerows

 **Non-native and ornamental hedgerow**

 **Line of trees**

 **Native hedgerow**

 **Native hedgerow - associated with bank or ditch**

 **Species-rich native hedgerow**

Proposed Individual Trees

 **Proposed Small Urban Tree**

 **Retained Small Rural Tree**



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Key

Red Line Boundary

Habitat Retention

Lost

Hedgerow Retention

Created

Retained

Lost

Individual tree Retention

● **Retained**

○ **Proposed Lost**



client
Miller Homes
project
Station Road, Market Bosworth

drawing title
HABITAT RETENTION

scale @ A3
1:1,500

drawing / figure number
Figure 3

drawn
BRJ/HEH

rev
A

issue date
4/12/2024



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Key

 **Red Line Boundary**

Baseline Habitat Condition

 **Moderate**

 **Poor**

 **Condition Assessment N/A**

Baseline Habitat Distinctiveness

 **Medium**

 **Low**

 **V.Low**

Baseline Hedgerow Condition

 **Moderate**

 **Poor**

Baseline Hedgerow Distinctiveness

 **Medium**

 **Low**

 **V.Low**

Baseline Individual Tree Condition

 **Moderate**

 **Good**

Baseline Individual Tree Distinctiveness

 **Medium**

Key

Red Line Boundary

Proposed Habitat Condition

Good

Moderate

Poor

Condition Assessment N/A

Proposed Habitat Distinctiveness

Medium

Low

V.Low

Proposed Hedgerow Condition

Moderate

Poor

Proposed Hedgerow Distinctiveness

Medium

Low

V.Low

Proposed Individual Tree Distinctiveness

Medium

Proposed Individual Tree Condition

Moderate

Good

