BELTON HILLS, SOUTHEND-ON-SEA

BIODIVERSITY NET GAIN BASELINE ASSESSMENT

May 2024

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Title of Report	Belton Hills, Southend-on-Sea Biodiversity Net Gain Baseline Assessment
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This report has been compiled in accordance with BS 42021:2013 Biodiversity – Code of practice for planning and development, as has the assessment to which it relates.

The information, data, advice and opinions which have been prepared and provided are true and have been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional *bona fide* opinions.

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BIODIVERSITY NET GAIN BASELINE ASSESSMENT

1. EXECUTIVE SUMMARY

1.1 This report has been prepared by Essex Ecology Ltd., for Southend-on-Sea City Council. It comprises a Biodiversity Net Gain baseline assessment of land at Belton Hills, Southend-on-Sea, Essex.

1.2 The assessment was required in order to calculate the number of Biodiversity Units the site currently represents in order to explore opportunities for offsetting.

1.3 The site covers approximately 32.243 hectares (ha) and comprises of an area of arable land, large scrub and woodland patches intersected by grassland glades and rides, open grassland with scrub, and a strip of amenity grassland and ornamental planting along the whole northern end of the site.

1.4 The baseline units for the site's area habitats have been calculated to be **201.67,** with linear habitats amounting to **0.57**units.

1.5 Enhancing all of the sites moderate condition, high strategic significance other neutral grassland (**4.1111 ha**) to good condition would deliver **51.07 habitat units**.

1.6 Enhancing all of the sites moderate condition, medium strategic significance other neutral grassland (**1.2277 ha**) to good condition would deliver **14.59 habitat units.**

1.7 Enhancing all of the sites poor condition other neutral grassland (**0.4858**) to moderate condition would deliver **3.80 habitat units**.

1.8 Enhancing all of the sites moderate condition Blackthorn scrub (**0.0232 ha**) to good condition would deliver **0.31 habitat units**.

1.9 Enhancing all of the sites poor condition Blackthorn scrub (**0.1414 ha**) to moderate condition would deliver **1.14 habitat units**.

1.10 Enhancing all of the sites moderate condition Hawthorn scrub (**1.3178 ha**) to good condition would deliver **17.57 habitat units**.

1.11 Enhancing all of the sites poor condition Hawthorn scrub (**0.1108 ha**) to moderate condition would deliver **0.90 habitat units**.

1.12 Enhancing all of the sites moderate condition, high strategic significance Mixed scrub (**0.7742 ha**) to good condition would deliver **10.32 habitat units**.

1.13 Enhancing all of the sites poor condition, high strategic significance Mixed scrub (**0.5744 ha**) to moderate condition would deliver **4.85 habitat units**.

1.14 Enhancing all of the sites poor condition, medium strategic significance Mixed scrub (**0.0635 ha**) to moderate condition would deliver **0.51 habitat units**.

1.15 Enhancing all of the sites moderate condition broadleaved woodland (**8.2629 ha**) to good condition would deliver **102.64 habitat units**.

1.16 Enhancing all of the sites poor condition broadleaved woodland (**2.5589 ha**) to moderate condition would deliver **20.01 habitat units**.

1.17 Habitat units could be gained through habitat creation on the large arable field, subject to owners approval. A net total of **39.61 habitat units** could be gained from the creation of 6 ha other neutral grassland, 2.05 ha of mixed scrub, 0.5 ha of ponds and 0.8 km of native hedgerow.

1.18 For the areas of the site that are a Local Wildlife Site and Local Nature Reserve, it is very important that any enhancements do not alter the habitat away from what it is designated for. The site at its condition at the time of survey has options for improvement for it to maintain the designations, but surveys in suitable seasons may show the habitats as higher condition, therefore reducing the units that could be gained from enhancements. Habitat creation is therefore only feasible in the areas outside of the designation, such as the arable field.

2. INTRODUCTION

2.1 General Introduction

This report has been prepared by Essex Ecology Ltd., for Southend-on-Sea City Council. It comprises a Biodiversity Net Gain baseline assessment of land at Belton Hills, Southend-on-Sea. The assessment was required in order to calculate the number of Biodiversity Units the site currently represents in order to explore opportunities for offsetting.

2.2 Site Location and Description

Belton Hills is located at Marine Parade, Southend-on-Sea, Essex and is split into two sections (east and west) by the roads Belton Way West and Belton Way East. The Ordnance Survey grid reference for the approximate site centre is TQ 82962 85935.

The site covers approximately 32.243 hectares (ha) and comprises an area of arable land, large scrub and woodland patches intersected by grassland glades and rides, open grassland with scrub, and a strip of amenity grassland and ornamental planting along the whole northern end of the site.

To the north and east of the site is urban residential housing, to the west is open arable fields, and to the south is a railway line and Leigh Marshes. The River Thames lies approximately 700 metres south-east and south of the site.

See Maps 1 and 2 for a plan of the site and Appendix 1 for site photographs.

2.2.1 Designations

The majority of the site, excluding the arable fields and an area of nearby grassland, is a designated Local Wildlife Site (LoWS) So2 Belton Hills. The designation is mainly for its botanical interest, specifically the grasslands, and the overall habitat diversity including the areas of scrub and associated grassy glades. The site also incorporates Belton Hills Local Nature Reserve (LNR).

The whole of the site is a Protected Green Space under the Southend-on-Sea Local Plan, and is designated for its recreational and amenity value, in addition to its value to biodiversity.

2.3 Objective

The aim of the assessment was to assess the site's biodiversity baseline using the latest Statutory Metric (DEFRA, 2023) for potential future use as a site for habitat creation in relation to offsetting the ecological impacts of development projects elsewhere. Recommendations for habitat creation, enhancement and management are also included in this report.

2.4 Assessment Methodology

Habitats on the site were mapped in line with the UK Habitat Classification, using the methodology detailed in the UK Habitat Classification User Manual, Version 2.0 (UK Habitat Classification Working Group, July 2023) using data collected by Essex Ecology during site visits conducted on 31st October and 1st November 2023 during suitable weather conditions.

Each habitat (referred to under this system as a Primary Habitat) was classified using an alphanumeric code, with reference to the UK Habitat Classification Version 2.0 (UKHab Ltd. 2023). This method is designed to enable the description of each habitat on a hierarchical basis up to a maximum of five levels, including the identification of Habitats of Principal Importance in England (HPIE) (formerly known as Biodiversity Action Plan (BAP) habitats) and those listed on Annex I of the Conservation of Habitats and Species Regulations 2017 (as amended).

The site was mapped using QGIS. Habitat data was then converted into Biodiversity Units, so that the Statutory Metric could be applied.

Target notes have been used to describe certain areas of habitat, the locations of which are indicated on the habitat maps by use of target note codes (G for grassland, S for scrub and W for woodland).

Attributes that include extent, condition, distinctiveness and Biodiversity Units have been provided.

Habitat condition has been assessed according to the technical guidance provided with the Statutory Metric as well as the surveying ecologist's professional judgement.

Habitats are automatically assigned distinctiveness bands within the Statutory Metric. The distinctiveness bands and criterion thresholds are as follows:

Distinctiveness Band	Criterion Threshold
Very High Distinctiveness	Small amount of remaining habitat with a lot of it unprotected by designation. Endangered or Critical European red list habitats.
High Distinctiveness	Remaining Priority Habitats not in very high distinctiveness band and other red list habitats.
Medium Distinctiveness	Non-Priority Habitats with significant wildlife benefit and one replaceable Priority Habitat (arable field margins).
Low Distinctiveness	Agricultural and urban land use of lower biodiversity value.
Very Low Distinctiveness	Urban, with artificial structure, which are un-vegetated, unsealed surface or built linear features of very low biodiversity value.

2.5 Mapping

The site habitat maps were produced using QGIS computer software. The Minimum Mapping Unit (MMU) was employed for this survey where possible. Minimum mapped habitat areas were 25m^2 and minimum mapped linear features were five metres in length. Habitats mapped as areas were digitised using polygons and linear habitats were mapped as lines.

2.6 Competence

Charlotte Smith has been with the company since September 2020 after previously working with Essex Ecology as an intern. She has completed a BSc in Zoology and is a Qualifying Member of the Chartered Institute of Ecology and Environmental Management (CIEEM). She has undertaken numerous ecological site appraisals, habitat assessments and a wide range of protected species surveys, including Great Crested Newt, reptile, bat and Water Vole. She has caried out multiple Biodiversity

Net Gain assessments using Natural England Metrics 2.0, 3.0 and 4.0. She has attended a course specific to the Metric and UK Habitat Classification.

2.7 Constraints and Limitations

The habitats present on any site are subject to change over time. All assessments of this kind are based upon the situation as it was at the time the fieldwork upon which the assessment was based was carried out.

The habitat assessment was undertaken during the winter, at a time when many plant species cannot be identified. Therefore, the degree to which certain habitat types could be identified or differentiated from others and the accuracy of habitat condition assessments was limited.

Therefore, a new assessment should be carried out at the optimum time of year to identify with greater accuracy the baseline biodiversity value use of the site prior to its use as a Biodiversity Net Gain offsetting site.

3. ASSESSMENT RESULTS

3.1 Summary

The following UK Habitat Classification habitats are currently present at the site:

Baseline Area Habitats	Area (hectares)
Cropland	8.6685
Grassland – Modified grassland	2.5894
Grassland – Other neutral grassland	5.8246
Scrub – Blackthorn scrub	0.1646
Scrub – Bramble scrub	0.5044
Scrub – Hawthorn scrub	1.4286
Scrub – Mixed scrub	1.4121
Woodland and forest – Other woodland; broadleaved	10.8218
Urban – Built linear features	0.5169
Urban – Developed land; sealed surface	0.0703
Urban – Introduced shrub	0.1694
Urban – Vegetated garden	0.0733
Individual trees	1.1198
Total Habitat Area*:	**33.3637**

*Total Habitat Area is greater than the size of the site as a proxy for canopy biomass. It is based on the root protection formula derived from The British Standard "Trees in Relation to Design, Demolition and Construction - Recommendations" (BS 5837) (2012).

Baseline Linear Habitats	Length (kilometres)
Native hedgerow	0.519
Total Length:	**0.519**

See Map 1 & 2 for baseline habitats and Maps 3 & 4 for habitat parcel reference locations and Maps 5 & 6 for tree reference locations.

3.2 Strategic significance

Most of the site is a designated Local Nature Reserve and Local Wildlife Site. The whole of the site is a Protected Green Space under the Southend-on-Sea Local Plan,

and is designated for its recreational and amenity value, in addition to its value to biodiversity. Therefore all habitats outside of the LNR and LoWS are assigned a medium strategic significance while those within are assigned a high strategic significance, with the exception of urban habitats which are assigned low strategic significance.

3.3 Baseline Area Habitat Conditions

3.3.1 Arable - Arable cropland

There are two areas of arable land (target notes C1 and C2) included within the site, which lie to the west of Belton Hills itself. C1 is an approximately 0.012 ha section of fallow field while C2 is a larger approximately 8.55 ha field, recently ploughed at the time of the survey.

A condition assessment for cropland broad habitat types is not required within the metric.

3.3.2 Grassland - Modified grassland

Vegetation dominated by a few fast-growing grasses on fertile, neutral soils. It is frequently characterised by an abundance of Rye-grass and White Clover.

The majority of the northern edge of the site is amenity grassland (G17). This species-poor grassland is dominated by Perennial Rye-grass, with few herbs including Common Daisy and Greater Plantain.

A strip of modified grassland (G3) forms a track along the northern edge of the arable field C2. This area of grassland is mainly bare, but the vegetation of the edges of the track is longer and contains species such as Perennial Rye-grass, Cock's-foot and Ribwort Plantain.

Condition Criteria – Low Distinctiveness Grassland						
A	**B**	**C**	**D**	**E**	**F**	**G**
There are 6-8 vascular plant species per m2 present, including at least 2 forbs.	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive	Cover of bare ground is between 1% and 10%, including localised areas (for	Cover of bracken *Pteridium aquilinum* is less than 20%.	There is an absence of invasive non-native plant species (as listed on

Note - this criterion is essential for achieving Moderate or Good condition.	than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	*Rubus fruticosus* agg. may be present).	poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	example, a concentration of rabbit warrens).		Schedule 9 of WCA).

	Condition Assessment = – Low Distinctiveness Grassland								
	A	**B**	**C**	**D**	**E**	**F**	**G**	**Total Passes**	**Condition**
G3	Fail – less than 6-8 vascular plant species*	Fail – all short	Pass	Fail – use as a track has caused erosion	Fail – majority is bare ground	Pass	Pass	3	**Poor**
G17	Fail – less than 6-8 vascular plant species*	Fail – all short	Pass	Pass	Pass	Pass	Pass	5	**Poor**

*passing this criterion is essential for achieving Moderate or Good condition.

3.3.3 Grassland - Other neutral grassland

Grasslands on neutral soils, with Perennial Rye-grass likely to be present at <30% with between nine and fifteen further species (m^2) also present.

Other neutral grassland glades and rides are present in the west of the site amongst the scrub and woodland habitat that dominate this area (G1-2, G4-5). These areas of grassland are dominated by Common Couch grass, with other plants including Knapweed, Red Bartsia, Timothy and Creeping Buttercup. There are large patches of Hemlock on the edges of these areas, and plants suggesting less optimal condition include Common Nettle, Creeping Thistle and Cow Parsley. The grasslands G1, G3, G5, G7 and G8 fall outside of the LoWS and Local Nature Reserve boundaries but is immediately connected to similar habitats within the designated areas, so has been given medium strategic significance.

The grassland G4 at the edge of the scrub S1 and S2 is also dominated by Common Couch with Cock's-foot, but also includes the grasses Meadow Barley, Timothy, and Crested Dog's-tail. Herbaceous plants include White Clover, Ribwort Plantain and Tare. Grasslands G4 and G5 both have a high percentage of mixed scrub encroaching within them due to their proximity to larger areas of scrub.

The grassland G6, located in the western section of the site, was tall at the time of survey and species rich, including the grasses False Oat-grass, Cock's-foot and Brome. Knapweed was frequently recorded, alongside Wild Carrot, Ragwort, Bristly Oxtongue, Fleabane, Meadow Vetchling and Red Bartsia. Young scrub amongst the grassland included Rose, Hawthorn and Bramble. Goats Rue, an invasive species, was recorded here.

The grassland G7, located in the western section of the site, is made up of grasses Cock's-foot, False Oat-grass and Crested Dog's-tail. Herbaceous plants include Common Ragwort, Creeping Cinquefoil, Mugwort, Common Fleabane and Bristly Oxtongue. Species suggesting sub-optimal condition include Ribwort Plantain, Creeping Thistle and Creeping Buttercup. The grass is encroached heavily by Hawthorn and Bramble scrub. Oak saplings are present throughout.

The grassland G8, located in the western section of the site, is made up of the grasses Common Couch, Perennial Rye-grass, Meadow Barley, False Oat-grass, Cock's-foot, Creeping Bent and Timothy. Herbaceous plants include Knapweed, Yarrow, Black Medic, Creeping Cinquefoil, Wild Carrot and Common Ragwort. There are scattered trees throughout this grassland. This grassland falls outside of the LoWS and Local Nature Reserve boundaries but is immediately connected to similar habitats within the designated areas, so has been given medium strategic significance.

The grassland G9 is an area of Couch and Tall Fescue grassland, with some scattered Elm, Hawthorn and Blackthorn scrub encroaching it. Other plant species include Cow Parsley, Alexanders, Brome, Ribwort Plantain, Yarrow and Wild Carrot.

G10 is an area of tussocky grassland that has scattered oak and Blackthorn scrub throughout. It contains Bristly Oxtongue, Cow Parsley, False Oat-grass, Common Couch and Timothy.

The grassland G11 is in one of the more open and central areas of Belton Hills. At the time of the survey it had been recently cut and a large pile of arisings was located on

its southern edge. Grass species present include Common Couch, Cock's-foot, Timothy and Tall Fescue. Other plant species include Alexanders, Cow Parsley, Hemlock, Common Nettle and Creeping Cinquefoil.

The grassland G12 was mostly cut at the time of the survey, with just one patch at the north of the site that was left long. Where the grassland runs parallel to the connecting path to the main path, it was long and had scattered Hawthorn and Broom scrub, with some tree saplings. The grassland includes Common Couch and Cock's-foot, with Yarrow, Common Mallow, Alexanders, Knapweed, Mugwort, Ribwort Plantain and Common Ragwort.

The grassland G13 is similar to G11, being composed of similar species but with more scattered Hawthorn scrub.

The grasslands G14 are comprised mainly of tall herbs such as Common Nettle, Common Mallow and Cow Parsley with very little grass coming through. Bramble scrub is scattered throughout.

G15 is a tussocky grassland, left uncut at the time of the survey, comprising species including Common Couch, Cock's-foot, Teasel, Mugwort, Bristly Oxtongue and Alexanders. Scattered Hawthorn and Blackthorn scrub is present throughout. Some areas where shorter and more grass dominated while others were dominated by taller herbs such as Common Mallow and Hemlock.

G16 was dominated by tall herbaceous plants including Hemlock, Alexanders, Mugwort and Common Mallow. Grasses present were mainly Common Couch.

Condition Criteria – Medium Distinctiveness Grassland					
A	**B**	**C**	**D**	**E**	**F**
The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to	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	Cover of bare ground is between 1% and 5%, including localised areas, for example,	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus*	Combined cover of species indicative of sub-optimal condition and physical damage (such as excessive poaching, damage from machinery use or storage,	There are 10 or more vascular plant species per m2 present, including forbs that are characteristic of the habitat type. **Note - this criterion is**

Footnote 3 suboptimal species which may be listed in the UKHab description). **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	which provide opportunities for insects, birds and small mammals to live and breed.	rabbit warrens.	*fruticosus* agg.) is less than 5%.	damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species3 (as listed on Schedule 9 of WCA4) are present, this criterion is automatically failed.	**essential for achieving Good condition for non-acid grassland types only.**

	Condition Assessment – Medium Distinctiveness Grassland							
	A	**B**	**C**	**D**	**E**	**F**	**Total Passes**	**Condition**
G1	Pass	Pass	Pass	Fail –scrub encroachment	Pass	Fail – less than 10 or more vascular plant species per m2 present	4	**Moderate**
G2	Pass	Pass	Pass	Pass -– Some scrub encroachment but less than 5%	Pass	Fail – less than 10 or more vascular plant species per m2 present	5	**Moderate**
G4	Pass	Pass	Pass	Fail – Scrub encroachment	Pass	Fail – less than 10 or more vascular plant species per m2 present	4	**Moderate**
G5	Pass	Pass	Pass	Fail – Scrub encroachment	Pass	Fail – less than 10 or more vascular plant species per m2 present	4	**Moderate**
G6	Pass	Pass	Pass	Fail – Scrub encroachment	Pass	Fail – less than 10 or more vascular plant species per m2 present	4	**Moderate**
G7	Pass	Pass	Pass	Fail – Scrub encroachment	Pass	Fail – less than 10 or more vascular plant species per m2 present	4	**Moderate**
G8	Pass	Pass	Pass	Pass – some scrub encroachment but less than 5%	Pass	Fail – less than 10 or more vascular plant species per m2 present	5	**Moderate**
G9	Pass	Pass	Pass	Fail – Scrub encroachment	Pass	Fail – less than 10 or more vascular plant species	4	**Moderate**

						per m2 present		
G10	Fail – species poor not quite meeting UKHab definition, but not meeting g4	Fail – all tall sward	Pass	Fail – Scrub encroachment	Pass	Fail – less than 10 or more vascular plant species per m2 present	2	**Poor**
G11	Pass	Fail – all short sward (recently cut)	Pass	Pass – scrub encroachment being managed	Pass	Fail – less than 10 or more vascular plant species per m2 present	4	**Moderate**
G12	Pass	Pass	Pass	Fail – Scrub encroachment	Pass	Fail – less than 10 or more vascular plant species per m2 present	4	**Moderate**
G13	Pass	Fail - all short sward (recently cut)	Pass	Fail – Scrub encroachment	Pass	Fail – less than 10 or more vascular plant species per m2 present	3	**Moderate**
G14	Fail - species poor not quite meeting UKHab definition, but not meeting g4	Pass	Pass	Fail – Scrub encroachment	Fail – Cover of undesirable species greater than 5%	Fail – less than 10 or more vascular plant species per m2 present	2	**Poor**
G15	Fail - species poor not quite meeting UKHab definition, but not meeting g4	Pass	Pass	Fail – Scrub encroachment	Fail – Cover of undesirable species greater than 5%	Fail – less than 10 or more vascular plant species per m2 present	2	**Poor**
G16	Fail - species poor not quite meeting UKHab definition, but not meeting g4	Pass	Pass	Fail – Scrub encroachment	Fail – Cover of undesirable species greater than 5%	Fail – less than 10 or more vascular plant species per m2 present	2	**Poor**

3.3.4 Heathland and shrub – Blackthorn scrub

Dense scrub with dominant Blackthorn.

Dense Blackthorn scrub (S7) was recorded at the very southern edge of the western section at the bottom of the grassland G8. This area falls outside of the LoWS and

Local Nature Reserve boundaries but is immediately connected to similar habitats within the designated areas, so has been given medium strategic significance.

This area of scrub has been assigned the condition poor.

S14 is another area of dense Blackthorn scrub within the central grassland area.

This area of scrub has been assigned the condition 'moderate'.

Condition Criteria – Scrub				
A	**B**	**C**	**D**	**E**
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 *Corylus avellana*, common juniper *Juniperus communis*, sea buckthorn *Hippophae rhamnoides* or box *Buxus sempervirens*, which can be up to 100% cover).	Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.	There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA) and species indicative of sub-optimal condition make up less than 5% of ground cover.	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	There are clearings, glades or rides present within the scrub, providing sheltered edges.

	Condition Assessment – Blackthorn scrub						
	A	**B**	**C**	**D**	**E**	**Total Passes**	**Condition**
S7	Fail – Single species comprises more than 75% of the cover	Fail – Seedlings not present	Pass	Pass	Fail – No clearings, glades or rides present within the scrub	2	**Poor**
S14	Pass	Fail - Seedlings not present	Pass	Pass	Fail - No clearings, glades or rides present within the scrub	3	**Moderate**

3.3.5 <u>Heathland and shrub - Bramble scrub</u>

Dense scrub with dominant Bramble.

Dense Bramble scrub was recorded in multiple locations. The scrub patches S1 lie north of the large arable field C2, on the border of the grassland G1 and the woodland W1.

An area of Bramble scrub, S4, lies within the grassland field G7. This areas falls outside of the LoWS and Local Nature Reserve boundaries but is immediately

connected to similar habitats within the designated areas, so has been given medium strategic significance.

The scrub patch S11 lies either side of the hard standing path that runs through the site, and north of the woodland W10.

S16 is another patch of dense Bramble scrub between the taller other neutral grassland G13 and the amenity grassland to the north.

S19 is a large area of predominantly Bramble scrub along the eastern edge of the woodland W13. Hawthorn is also found within this section.

The Bramble patch S20 lies between the grasslands G15, G16 and G17.

S22 is an area of Bramble that lies along the edge of the northern modified grassland in the western section of the site.

Bramble scrub is automatically given a low condition score, ‘poor’, due to the dominance of that single species.

3.3.6 Heathland and shrub - Hawthorn scrub

Dense scrub with dominant Hawthorn.

Hawthorn scrub is also found at multiple locations throughout the site.

The Hawthorn dominant scrub patch, S2, lies north of the large arable field C2, on the border of the grassland G1 and the woodland W2. Elm is also present. The scrub is starting to encroach into the surrounding grassland. The scrub is getting very tall, and its classification will soon change to woodland when it reaches over five metres tall, like the scrub/woodland to the north of it. This area falls outside of the LoWS and Local Nature Reserve boundaries but is immediately connected to similar habitats within the designated areas, so has been given medium strategic significance.

The Hawthorn dominant scrub patch S3 lies to the east of S2, surrounding the grassland G6. This vegetation is also close to exceeding the maximum height for scrub, five metres. Other species present include Bramble.

The scrub patches S17 lie within the open grassland area, G13, into which they are starting to encroach. They include some mature Hawthorn as well as saplings.

The scrub patch S21, north of the grassland G2, is a large area of predominantly Hawthorn, with some Blackthorn and trees such as Norway Maple.

	Condition Assessment – Hawthorn scrub						
	A	**B**	**C**	**D**	**E**	**Total Passes**	**Condition**
S2	Fail – Single species comprises more than 75% of the cover	Fail- Missing very mature trees	Pass	Pass	Fail – No clearings, glades or rides present within the scrub	2	**Poor**
S3	Pass	Fail – Missing very mature trees	Pass	Pass	Fail - No clearings, glades or rides present within the scrub	3	**Moderate**
S17	Pass	Pass	Pass	Pass	Fail- No clearings, glades or rides present within the scrub	4	**Moderate**
S21	Pass	Fail - Missing very mature trees	Pass	Pass	Fail - No clearings, glades or rides present within the scrub	3	**Moderate**

3.3.7 Heathland and shrub - Mixed scrub

Dense scrub comprising a mixture of species without a single species dominant.

The scrub patch S5 is an area of predominantly young Elm that borders and encroaches into the grassland G7 in the western section of the site, and the road Belton Way West. This area falls outside of the LoWS and Local Nature Reserve boundaries but is immediately connected to similar habitats within the designated areas, so has been given medium strategic significance.

S6 is an area of mixed scrub between the woodland W8 and grassland G8 to the south of the site, north of the railway line. It comprises dense Bramble and Blackthorn.

The area of scrub S8 lies along the northern edge of Belton Way West. It comprises of a mixture of Elm, Hawthorn, Bramble and Blackthorn.

The scrub patch S9 is located at the north-western end of the eastern section of the site, forming a strip between the amenity grassland to the north to woodland W9 to the south. It comprises a mixture of young Elm, Blackthorn and Bramble.

S10 is an area of young Elm scrub, next to the woodland section W9 and W10, and encroaching onto the grassland G9.

S12 is a mixed scrub area with some trees, comprising Blackthorn and Hawthorn with some lower ornamental shrubs.

The scrub patches S13 are within the grassland G11, and bordering the woodland section W10. They comprise Blackthorn, Dog Rose, Bramble and oak.

S15 is an area of scrub to the north of the grassland G13, to the north of the site. It comprises Dog Rose, Blackthorn, Hawthorn and Bramble.

S18 is an area of young Elm scrub with some Blackthorn, to the east of the site, adjacent to the grassland G14 and Woodland section W13.

The narrow band of scrub that runs along the southern edge of most of the modified grassland within the north of the western section comprises Blackthorn and Bramble.

	Condition Criteria – Mixed scrub						
	A	**B**	**C**	**D**	**E**	**Total Passes**	**Condition**
S5	Fail – Single species comprises more than 75% of the cover	Fail- Missing very mature trees	Pass	Pass	Fail – No clearings, glades or rides present within the scrub	2	**Poor**
S6	Pass	Fail – Missing very mature trees	Pass	Pass	Fail - No clearings, glades or rides present within the scrub	3	**Moderate**
S8	Pass	Fail - Missing very mature trees	Fail – species of sub optimal condition present	Pass	Pass	3	**Moderate**
S9	Fail - Single species comprises more than 75% of the cover (Elm)	Fail - Missing very mature trees	Fail– species of sub optimal condition present	Pass	Fail - No clearings, glades or rides present within the scrub	2	**Poor**

S10	Pass	Fail - Missing very mature trees	Pass	Pass	Fail- No clearings, glades or rides present within the scrub	3	**Moderate**
S12	Pass	Fail - Missing very mature trees	Pass	Fail – no gradual edge	Fail - No clearings, glades or rides present within the scrub	1	**Poor**
S13	Pass	Fail - Missing very mature trees	Pass	Pass	Fail - No clearings, glades or rides present within the scrub	3	**Moderate**
S15	Pass	Fail - Missing very mature trees	Pass	Pass	Fail - No clearings, glades or rides present within the scrub	3	**Moderate**
S18	Fail - Single species comprises more than 75% of the cover (Elm)	Fail - Missing very mature trees	Pass	Fail	Fail - No clearings, glades or rides present within the scrub	1	**Poor**
S23	Pass	Fail - Missing seedlings	Pass	Pass	Fail - No clearings, glades or rides present within the scrub	3	**Moderate**

3.3.8 Woodland and forest – Other woodland; broadleaved

Vegetation dominated by trees that are more than 5 metres high when mature, which form distinct, although sometimes open canopy with a canopy cover greater than 25%.

The large area of woodland, W1, on the north-western edge of the site comprises predominantly Blackthorn. Previously it would have been classified as scrub, but has mostly reached over five metres tall, resulting a woodland classification. Elm is also present. There is little scrub layer on the woodland floor, particularly where the Blackthorn is tall and woody, where Ivy carpets the ground.

The woodland section W2 lies just north of the large arable field, C2. This woodland comprises relatively similar age trees, including Elm, Hawthorn and oak, with the occasional taller tree. Grassland rides split the woodland up into smaller sections. Similar to W1, the woodland started off as scrub but has exceeded the five metre maximum height for scrub.

W3, located just east of W2, is similar in habitat but with more mature trees including some Ash.

W4 is an area of woodland between the scrub S3 and Grassland G7. It contains numerous mature trees, include Elm and Hawthorn. Bramble scrub forms the understorey.

The woodland sections W5 are found at the south-eastern end of the western section of the site. They comprise mainly Elm, with Ash, oak, Field Maple, Hawthorn and Bramble, with some Goat Willow in the southern section. Large amounts of the dead Elm have been left as standing deadwood. Ivy makes up the ground layer.

The woodland section W6, north of the grassland G9, comprises Elm, oak, Field Maple, some Sycamore and Elder. Ivy makes up the ground layer.

W7 is a large woodland at the centre of the site. It is dominated by Elm, with Blackthorn, Hawthorn and oak, with a Bramble and Ivy understorey. There is a large amount of dead Elm within the woodland.

The woodland section W8 is located at the southern edge of the site, within the open grassland area of G11. Young Elm is dominant with some oak, Field Maple and Ash.

W9 is a small patch of young Elm woodland at the north-eastern end of the site's eastern section.

W10 is a large area of woodland at the east of the site. It comprises mainly Elm, with some Ash and Cherry, and Bramble scrub.

W11 is a small wooded area at the east of the site, made up of Hawthorn, a Walnut, Oak and Ash.

Condition Criteria – Other woodland; broadleaved						
	Features					
A	**Age Distribution of trees**					
	3 pts	3 age classes	**2 pts**	2 ages classes	**1 pt**	1 age class
B	**Wild, domestic and feral herbivore damage**					
	3 pts	none	**2 pts**	<40% of woodland	**1 pt**	>40% of woodland
C	**Invasive plant species**					
	3 pts	none	**2 pts**	<10% cover AND no Rhododendron or Cherry laurel	**1 pt**	>10% cover OR Rhododendron or Cherry Laurel
D	**Number of native tree species**					
	3 pts	five or more	**2 pts**	3-4 species	**1 pt**	0-2 species
	Cover of native tree and shrub species					

E	**3 pts**	>80% of canopy and understorey	**2 pts**	50-80% of canopy and understorey	**1 pt**	<50% of canopy and understorey
F	**Open space within woodland**					
	3 pts	10-20% temporary open space	**2 pts**	20-40% temporary open space	**1 pt**	>40% temporary open space
G	**Woodland regeneration**					
	3 pts	all three classes	**2 pts**	one or two classes	**1 pt**	no classes or coppice regrowth in woodland
H	**Tree health**					
	3 pts	<10% mortality and no pests/diseases/dieback	**2 pts**	10-25% mortality and/or dieback, low risk pests/disease present;	**1 pt**	>25% mortality or high risk pests/disease present
I	**Vegetation and ground flora**					
	3 pts	ancient woodland indicators	**2 pts**	recognisable NVC community	**1 pt**	no recognisable NVC community
J	**Woodland vertical structure**					
	3 pts	3+ storeys	**2 pts**	2 storeys	**1 pt**	0-1 storeys
K	**Veteran trees**					
	3 pts	2+/ha	**2 pts**	1/ha	**1 pt**	none
L	**Amount of deadwood**					
	3 pts	50%	**2 pts**	25-50%	**1 pt**	<25%
M	**Woodland disturbance**					
	3 pts	no enrichment/damage	**2 pts**	<1 ha enriched OR <20% area damaged ground	**1 pt**	>1 ha enriched OR >20% are damaged ground

Habitat type:	**Condition Assessment - Other woodland; broadleaved**														
Scores of '1' '2' or '3' are allocated against each criteria assessed.															
	Criterion													**TOTAL**	**Condition**
Parcel Ref	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**		
W1	1	3	3	2	3	3	1	3	1	1	1	1	2	25	Poor
W2	1	3	3	3	3	3	1	3	1	1	1	1	2	26	Moderate
W3	2	3	3	3	3	3	1	3	1	1	1	1	2	27	Moderate
W4	2	3	3	2	3	3	2	2	1	2	1	1	2	27	Moderate
W5	1	3	3	3	3	3	1	1	1	1	1	3	2	26	Moderate
W6	2	3	3	2	3	3	2	3	1	1	1	1	2	27	Moderate
W7	2	3	3	2	3	3	2	1	1	1	1	3	2	27	Moderate
W8	2	3	3	2	3	3	2	3	1	1	1	1	2	27	Moderate
W9	2	3	3	2	3	3	2	3	1	2	1	1	2	28	Moderate
W10	2	3	3	2	3	3	2	1	1	2	1	2	2	27	Moderate
W11	1	3	3	1	3	3	1	3	1	1	1	1	2	24	Poor

3.3.9 Individual trees – rural trees

The broad habitat type 'Individual trees' may be used where a tree (or a group of trees) over 7.5cm in stem diameter at breast height (DBH) does not meet or contribute towards the definition of another broad habitat type, such as woodland.

71 trees were recorded individually across the whole site, including a group of 17 within the Grassland T18. The majority of trees were recorded along the northern end of the site within the modified grassland strip, mainly oak and Cherry trees. Multiple mature trees, mainly oak, were recorded on the edge of the scrub that bounds the modified grassland.

The trees T19, T20, T21, T22 and T38 are very large stand alone conifers within the open grasslands of the central area of the site.

32 trees were recorded as good condition, 38 as moderate condition and one as poor condition.

Condition Criteria – Individual trees
A: The tree is a native species (or at least 70% within the block are native species).
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).
C: The tree is mature (or more than 50% within the block are mature).
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.
E: Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.
F: More than 20% of the tree canopy area is oversailing vegetation beneath.

Habitat type:	**Condition Assessment - Individual Trees**		
	Criterion (P -Pass, F-Fail)	**TOTAL**	**Condition**

Parcel Ref	A	B	C	D	E	F		
T1	P	P	F	P	P	P	5	Good
T2	F	P	F	P	P	P	5	Good
T3	P	P	P	P	F	P	5	Good
T4	F	P	F	P	F	P	3	Moderate
T5	P	P	P	P	P	P	6	Good
T6	F	P	F	P	F	P	3	Moderate
T7	F	P	F	P	P	F	3	Moderate
T8	P	P	P	P	F	P	5	Good
T9	P	P	F	P	F	P	4	Moderate
T10	F	P	F	P	F	F	2	Poor
T11	P	P	F	P	F	P	4	Moderate
T12	F	P	F	P	F	P	3	Moderate
T13	P	P	F	P	P	P	5	Good
T14	F	P	F	P	F	P	3	Moderate
T15	P	P	F	P	F	F	3	Moderate
T16	F	P	F	P	F	P	3	Moderate
T17	P	P	F	P	F	P	4	Moderate
T18	P	P	P	P	F	P	5	Good
T19	F	P	P	P	P	P	5	Good
T20	F	P	P	P	P	P	5	Good
T21	F	P	P	P	P	P	5	Good
T22	P	P	F	P	F	P	4	Moderate
T23	F	P	P	P	F	P	4	Moderate
T24	P	P	F	P	F	P	4	Moderate
T25	F	P	P	P	P	P	5	Good
T26	F	P	P	P	P	P	5	Good
T27	F	P	P	P	P	P	5	Good
T28	P	P	F	P	F	P	4	Moderate
T29	F	P	F	P	P	P	4	Moderate
T30	F	P	F	P	F	P	3	Moderate
T31	F	P	F	P	F	P	3	Moderate
T32	F	P	P	P	F	P	4	Moderate
T33	P	P	F	P	F	P	4	Moderate
T34	P	P	F	P	F	P	4	Moderate
T35	P	P	P	P	F	P	5	Good
T36	P	P	P	P	F	P	5	Good
T37	F	P	P	P	P	P	5	Good
T38	P	P	P	P	P	P	6	Good
T39	P	P	P	P	F	P	5	Good
T40	P	P	F	P	F	P	4	Moderate
T41	P	P	P	P	F	P	5	Good

T42	P	P	P	P	P	P	6	Good
T43	P	P	P	P	F	P	5	Good
T44	P	P	F	P	F	P	4	Moderate
T45	F	P	P	P	F	P	4	Moderate
T46	F	P	P	P	P	P	5	Good
T47	P	P	F	P	F	P	4	Moderate
T48	P	P	F	P	F	P	4	Moderate
T49	P	P	P	P	P	P	6	Good
T50	P	P	P	P	F	P	5	Good
T51	P	P	F	P	F	P	4	Moderate
T52	P	P	F	P	F	P	4	Moderate
T53	P	P	F	P	F	P	4	Moderate
T54	P	P	F	P	F	P	4	Moderate
T55	P	P	F	P	F	P	4	Moderate
T56	P	P	F	P	P	P	5	Good
T57	P	P	F	P	P	P	5	Good
T58	P	P	F	P	P	P	5	Good
T59	P	P	P	P	P	P	6	Good
T60	P	P	P	P	P	P	6	Good
T61	P	P	P	P	P	P	6	Good
T62	P	P	F	P	F	P	4	Moderate
T63	P	P	F	P	F	P	4	Moderate
T64	P	P	F	P	F	P	4	Moderate
T65	F	P	P	F	F	P	3	Moderate
T66	F	P	P	P	P	P	5	Good
T67	F	P	F	P	P	P	4	Moderate
T68	F	P	P	P	F	P	4	Moderate
T69	F	P	P	P	P	P	5	Good
T70	F	P	F	P	F	P	3	Moderate
T71	F	P	P	P	F	F	3	Moderate

3.4 Linear Habitats

3.4.1 Non-native and ornamental hedgerow

A hedgerow with >20% canopy cover of UK non-native woody species.

A series of non-native hedgerows run along the northern edge of the site, between the modified grassland G17 and the road Marine Parade.

No assessment is required for Ornamental hedgerow, as condition is fixed at poor.

4. BASELINE BIODIVERSITY UNIT CALCULATIONS

4.1 Baseline Biodiversity Units

The baseline Biodiversity Unit (BU) site values are presented in the following tables. Habitats that are of the same type and condition have been grouped together.

Area Habitat Type	Distinctiveness Score		Condition Score		Baseline Biodiversity Units (BU)
Cropland	Low	2	Condition Assessment N/A	1	17.33
Grassland – Modified grassland	Low	2	Poor	1	5.70
Grassland – Other neutral grassland	Medium	4	Poor	1	2.23
Grassland – Other neutral grassland	Medium	4	Moderate	2	48.62
Heathland and shrub – Blackthorn scrub	Medium	4	Poor	1	0.65
Heathland and shrub – Blackthorn scrub	Medium	4	Moderate	2	0.21
Heathland and shrub – Bramble scrub	Medium	4	Condition Assessment N/A	1	2.32
Heathland and shrub – Hawthorn scrub	Medium	4	Poor	1	0.51
Heathland and shrub – Hawthorn scrub	Medium	4	Moderate	2	12.12
Heathland and shrub - Mixed scrub	Medium	4	Poor	1	2.93
Heathland and shrub - Mixed scrub	Medium	4	Moderate	2	7.12
Other woodland; broadleaved	Medium	4	Poor	1	11.77
Other woodland; broadleaved	Medium	4	Moderate	2	76.02
Urban – Built linear features	Very low	0	Condition Assessment N/A	1	0
Urban – Developed land; sealed surface	Very low	0	Condition Assessment N/A	1	0
Urban – Introduced shrub	Low	2	Condition Assessment N/A	0	0.38
Urban – Vegetated garden	Low	2	Condition Assessment N/A	0	0.15
Individual trees – rural trees	Medium	4	Good	3	10.63

Individual trees – rural trees	Medium	4	Moderate	2	2.96
Individual trees – rural trees	Medium	4	Poor	1	0.02
Total:					**201.67***

*Note the sum of columns may differ from the total units stated. This is due to rounding and is not considered significant. The totals stated reflect those calculated within the Biodiversity Metric Calculator Tool.

Linear Habitat Type	**Distinctiveness Score**		**Condition Score**		**Baseline Biodiversity Units (BU)**
Non-native and ornamental hedgerow	Low	2	Moderate	2	0.57
Total:					**0.57**

All calculations were put through the Biodiversity Net Gain Metric 'Off-site habitats' tabs.

5. POTENTIAL HABITAT UNIT UPLIFT

5.1 Overview

Habitat units can be gained by enhancing the current habitats to higher condition or higher value habitat type or creating new habitats. The following habitat creation and enhancement measures are suggested. Recommendations are based on the site's current habitats and their condition, the relative feasibility of potential enhancement measures and the need to take other site use, including public use, into account.

For the areas of the site that are a Local Wildlife Site and Local Nature Reserve, it is very important that any enhancements do not alter the habitat away from what it is designated for. The site at its condition at the time of survey has options for improvement for it to maintain the designations, but surveys in suitable seasons may show the habitats as higher condition, therefore reducing the units that could be gained from enhancements. Habitat creation is therefore only feasible in the areas outside of the designation, such as the arable field.

5.1.1 Temporal Risk Multiplier

The temporal risk is the 'time to target condition' for any habitat and determines how long a particular habitat type is likely to take to reach the desired condition score.

If habitats are to be enhanced/created in advance, then the temporal risk will need to be changed accordingly which will impact the level of biodiversity units provided.

5.2 Habitat Enhancement

The best way to gain habitat units would be to enhance the current habitats to higher condition, excluding the areas of arable land.

5.2.1 Unit Uplift

The following table shows how many habitat units would be delivered from enhancing entire habitats to a higher condition.

Current habitat			Size of area to be enhanced (ha)	Proposed Habitat	
Habitat	**Current Condition**	**Strategic Significance**		**Proposed condition**	**Habitat units delivered**
Other neutral grassland	Moderate	High	4.1111	Good	**51.07**
	Moderate	Medium	1.2277	Good	**14.59**
	Poor	High	0.4858	Moderate	**3.80**
Blackthorn scrub	Moderate	High	0.0232	Good	**0.31**
	Poor	Medium	0.1414	Moderate	**1.14**
Hawthorn scrub	Moderate	High	1.3178	Good	**17.57**
	Poor	Medium	0.1108	Moderate	**0.90**
Mixed scrub	Moderate	High	0.7742	Good	**10.32**
	Poor	High	0.5744	Moderate	**4.85**
	Poor	Medium	0.0635	Moderate	**0.51**
Other woodland; broadleaved	Moderate	High	8.2629	Good	**102.64**
	Poor	High	2.5589	Moderate	**20.01**

5.2.2 Habitat Management

The table below shows the required management prescriptions needed to reach the target habitat conditions of each potential habitat enhancement. Refer to Maps 6 & 7 for locations of each habitat and current condition.

Habitat Enhancement		
Habitat Type	**Target Condition & Reference**	**Habitat management prescriptions**
Other neutral grassland	Moderate > **Good** **G1, G2, G4, G5, G6, G7, G8, G9, G11, G12, G13**	1. Reducing scrub encroachment • Cutting back scrub that has already started to encroach into the grasslands • Preventing further encroachment with management of scrub edges and cutting of the grassland 2. Creating areas of varying sward height by leaving certain sections long on a rotation 3. Encouraging greater species diversity and more species per m2 (to above 10 per m2) by reducing the nutrients in the soil and preventing grass species from dominating • Removing grass cuttings to prevent nutrients breaking down into the grassland • Early spring cut to knock back dominant grasses • Creating areas of bare ground to encourage species such as Deptford Pink which has been found at the site
	Poor > **Moderate** **G10, G14, G15, G16**	The same management prescriptions mentioned above can be used to enhance poor condition neutral grassland to moderate, along with reducing undesirable

		species such as Creeping and Spear Thistle, Common Nettle, Greater Plantain and Cow Parsley.
All scrub types	Moderate > **Good** **S2, S3, S6, S8, S10, S13, S14, S15, S17, S21, S23**	1. Creating more open space to encourage greater structural diversity and sheltered edges • Clearing areas to create glades, clearings and rides within areas of dense scrub • Trimming of scrub edges to develop a graded margin down to field layer 2. Encouraging a varied age structure throughout the scrub patches • Selective thinning and coppicing to promote regeneration of seedlings and saplings
	Poor > **Moderate** **S2, S5, S7, S9, S12, S18**	The same management prescriptions mentioned above can be used to enhance poor condition scrub to moderate, along with: 3. Preventing dominance of one species (>75%) to create more biodiversity • Clearing areas of scrub to allow other species to regenerate • Planting of different native species 4. Removing species indicative of sub-optimal condition such as Cotoneaster.
Other broadleaved woodland	Moderate > **Good** **W2, W3, W4, W5, W6, W7, W8, W9, W10**	1. Increase number of age classes and regeneration potential within the woodland 2. Increasing the amount of deadwood by introducing large pieces to the wood and where safe to do so leaving dead trees standing 3. Increase woodland regeneration through selective thinning and coppicing 4. Encourage greater structural diversity by developing woodland layers • Opening up areas to increase light into woodland and encourage lower canopy and shrub layer growth
	Poor > **Moderate** **W1, W11**	The same management prescriptions mentioned above can be used to enhance poor condition woodland to moderate, along with: 5. Increasing number of native species within the woodland • Planting native species

5.3 Habitat Creation

5.3.1 Arable land habitat creation

The scenario presented in the table below involves the creation of other neutral grassland on half of the arable field C2, with the other half made up of mixed scrub and ponds, as an example of what may be achieved here in terms of habitat creation.

Habitat	**Distinctiveness**	**Condition**	**Size of proposed habitat creation area (ha)**	**Habitat units gained**
Other neutral grassland	Medium	Moderate	6	44.18
Mixed scrub	Medium	Poor	2.0518	8.71
Pond	Medium	Poor	0.5	2.12

Linear Habitats	Distinctiveness	Condition	Length of proposed create hedgerow (km)	**Habitat units gained**
Native hedgerow	Low	Poor	0.8	**1.70**
			Total:	**56.71**

There will be a loss of 17.10 habitat units from losing the arable field habitat, but a gain of a total of **56.71 habitat units** from the scenario, resulting in a net gain of **39.61 habitat units**. We understand that any use of this area for offsetting would require agreement with the landowners. See Map 11 for a visual representation of what this could look like.

Map 1. Belton Hills, Southend-on-sea Western Section Baseline Habitats

Red Line Boundary

Individual tree Baseline
- Existing Very Large Rural Tree
- Existing Large Rural Tree
- Existing Medium Rural Tree
- Existing Small Rural Tree

Hedgerow Baseline
- Non-native and ornamental hedgerow

Habitats Baseline
- Blackthorn scrub
- Bramble scrub
- Hawthorn scrub
- Mixed scrub
- Built linear features
- Cereal crops
- Non-cereal crops
- Developed land; sealed surface
- Introduced shrub
- Modified grassland
- Other neutral grassland
- Other woodland; broadleaved
- Vegetated garden

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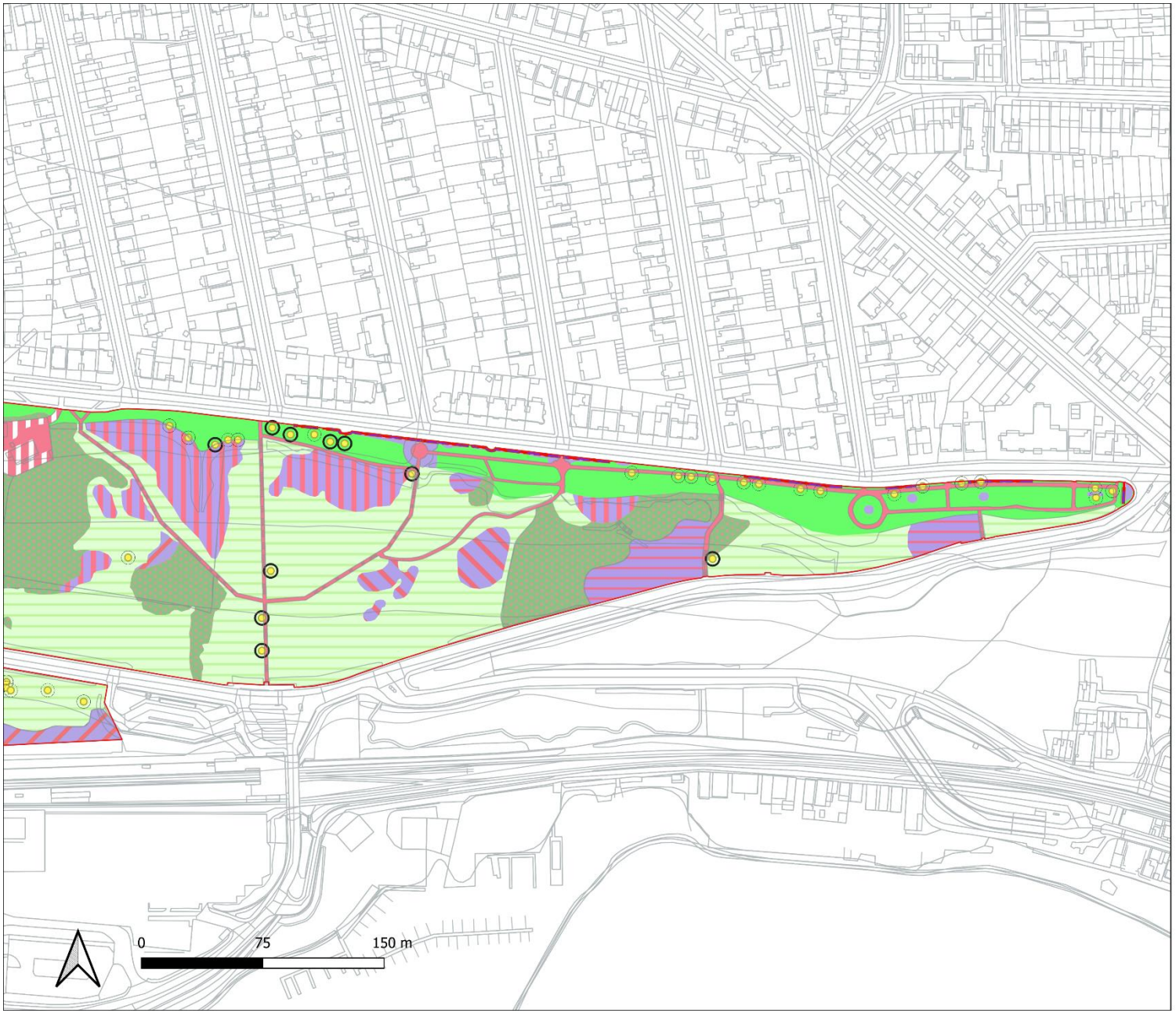

Map 2. Belton Hills, Southend-on-Sea Baseline Habitats

Red Line Boundary

Area Habitats Baseline
- Blackthorn scrub
- h3d - Bramble scrub
- h3f - Hawthorn scrub
- h3h - Mixed scrub
- u1e - Built linear features
- Developed land; sealed surface
- u1 - Introduced shrub
- g4 - Modified grassland
- g3c - Other neutral grassland
- w1g - Other woodland; broadleaved

Vegetated garden

Hedgerow Baseline
- h2b - Non-native and ornamental hedgerow

Individual tree Baseline
- Existing Large Rural Tree
- Existing Medium Rural Tree
- Existing Small Rural Tree

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Map 3. Belton Hills, Southend-on-Sea Western Section Habitat Reference Locations

Red Line Boundary

Area Habitats

- Bramble scrub
- Hawthorn scrub
- Mixed scrub
- Built linear features
- Cereal crops
- Non-cereal crops
- Introduced shrub
- Modified grassland
- Other neutral grassland
- Other woodland; broadleaved

Habitat reference

C - Cropland
G - Grassland
S - Scrub
W - Woodland

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Map 4. Belton Hills, Southend-on-Sea Eastern Section Habitat Reference Locations

Red Line Boundary

Hedgerow Habitats
- Non-native and ornamental hedgerow

Area Habitats
- Blackthorn scrub
- Bramble scrub
- Hawthorn scrub
- Mixed scrub
- Built linear features
- Cereal crops
- Developed land; sealed surface
- Introduced shrub
- Modified grassland
- Other neutral grassland
- Other woodland; broadleaved
- Vegetated garden

Habitat reference
C - Cropland
G - Grassland
S - Scrub
W - Woodland

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Map 5. Belton Hills,
Southend-on-sea
Tree Reference Locations
Western Section

Red Line Boundary

Individual tree Baseline
- Existing Large Rural Tree
- Existing Medium Rural Tree
- Existing Small Rural Tree

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Map 6. Belton Hills,
Southend-on-sea
Tree Reference Locations
Eastern Section

Red Line Boundary

Individual tree Baseline
- Existing Large Rural Tree
- Existing Medium Rural Tree
- Existing Small Rural Tree

T1-T55 - Tree Target Notes

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Map 7. Belton Hills, Southend-on-Sea
Western Section
Habitat Conditions

Red Line Boundary

Baseline Hedgerow Condition
Poor

Baseline Habitat Condition
Moderate
Poor
N/A - Other
Condition Assessment N/A

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Map 8. Belton Hills, Southend-on-Sea
Eastern Section
Habitat Conditions

Red Line Boundary

Baseline Hedgerow Condition
Poor

Baseline Habitat Condition
Moderate
Poor
N/A - Other
Condition Assessment N/A

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Map 9. Belton Hills,
Southend-on-Sea
Western Section
Habitat Distinctiveness

Red Line Boundary

Baseline Habitat
Distinctiveness
Medium
Low
V.Low

Baseline Hedgerow
Distinctiveness
V.Low

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Map 10. Belton Hills, Southend-on-Sea Eastern Section Habitat Distinctiveness

Red Line Boundary

Baseline Habitat Distinctiveness
- Medium
- Low
- V.Low

Baseline Hedgerow Distinctiveness
- V.Low

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Map 11. Belton Hills, Southend-on-Sea Arable Field Habitat Creation Scenario

Red Line Boundary

Proposed Habitats
Mixed scrub
Other neutral grassland
Ponds (non-priority habitat)

Proposed Hedgerows
Native hedgerow

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Bibliography and References

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Appendix 1: Photographs

Photograph 1. Grassland G1 on the right, W2 behind and the grass and bare track of G3.

Photograph 2. Grassland G7.

Photograph 3. Woodland W5.

Photograph 4. Grassland G8.

Photograph 5. Grassland G9.

Photograph 6. Amenity grassland G17.

Photograph 7. Ornamental hedge at north of site.

Photograph 8. Grassland G12.

Photograph 9. Grassland G12.

Photograph 10. Grassland G14.

Photograph 11. Grassland G16.

Photograph 12. Grassland G13.

Photograph 13. Grassland G11.

Photograph 14. Woodland W7.

Photograph 15. Tree T20.

Photograph 15. Tree T63.