South Caldecotte, Milton Keynes (ECO5263)

Biodiversity Impact Assessment

Date: 23rd January 2020

1. Introduction

1.1. A planning application is being prepared for new strategic employment development, including nine warehouses, with offices, parking and associated access and infrastructure at South Caldecotte, Milton Keynes, hereafter referred to as 'the site'.

1.2. Aspect Ecology has been commissioned by Hampton Brook to undertake a Biodiversity Impact Assessment (BIA) to inform the application. The DEFRA 2.0 Biodiversity Impact Calculation Tool has been used to conduct the BIA in accordance with the supporting information for Policy NE3 of the Milton Keynes Council Plan:MK 2016-2031 which states the assessment can be undertaken utilising the Defra metric. This briefing note appends the Defra BIA Calculator (see Appendix 5263/1) and provides a summary of the results and justifies the choice of habitat definitions, distinctiveness, target habitat condition and temporal factors where appropriate.

2. Biodiversity Impact Assessment

2.1. The information obtained from the Phase 1 habitat survey (pre-development – as set out within the Ecological Appraisal produced in June 2019 by Aspect Ecology; see Appendix 5263/2) and the Illustrative Landscape Strategy Plan (post-development; see Appendix 5263/3) were inputted into the DEFRA 2.0 Biodiversity Impact Assessment Calculator Tool in November 2019. This enables the change in 'biodiversity units' for both 'Habitat units' and 'Hedgerow units' and 'River units' pre and post-development to be measured.

2.2. This section references, justifies and discusses the habitat categories and their condition chosen from the drop-down menus of the BIA Calculator (see Appendix 5263/1).

Existing Site Habitats (Pre-development)

2.3. **'Cropland – Cereal Crops'** – condition 'N/A – Agricultural'. The arable land within the site has been attributed to this category as the survey work undertaken by Aspect Ecology found the arable land to be seeded with cereal crops at the time of survey. For the purposes of the BIA calculations, the condition of 'cropland – cereal crops' is not required and a condition score of 1 is automatically applied.

2.4. **'Urban – Amenity Grassland'** – condition 'poor'. The amenity grassland within the site comprises a limited diversity of common and widespread species and is under regular management to maintain a short sward height. Accordingly, a condition of 'poor' was given to the amenity grassland within the site.

2.5. **'Grassland – Other Neutral Grassland'** – condition 'moderate'. The semi-improved and rough grassland within the site has been included under this category. These areas of grassland are moderately species-rich and contain a number of lowland meadow indicator species, albeit

these are localised and not sufficiently abundant for the grassland to qualify as a Priority Habitat. Accordingly, a 'moderate' condition was assigned to this category.

2.6. **'Grassland – Other Neutral Grassland'** – condition 'moderate'. The site contains the Priority Habitat 'Lowland Meadow', which is not a prime example of this habitat and given its affinity with common mesotrophic (MG6) grassland, is considered to be in 'poor' condition. However, selecting this category within the metric prevents the calculator from producing a biodiversity impact score. Through consultation with the Environment Bank, the decision was made to account for the presence of Lowland Meadow through the use of category 'Grassland: Other Neutral Grassland'. To ensure the multiplier score remained the same for the 'Other Neutral Grassland' as would be generated for 'Lowland Meadow', the condition of the habitat was increased to 'moderate'.

2.7. **'Grassland – Modified Grassland'** – condition 'poor'. The improved grassland within the site is dominated by a low diversity of common and widespread species, typically associated with improved grassland, such as Perennial Rye-grass. The grassland is grazed regularly and enriched through animal droppings and is therefore considered to be in a 'poor' condition.

2.8. **'Cropland – Traditional Orchards'** – condition 'moderate'. The orchard within the site may potentially qualify as the Priority Habitat 'Traditional Orchard' as it is not intensively managed and, as such, has been included in this category in the metric. However, the orchard within the site is not a good example of a Traditional Orchard, with the trees being regularly managed such that little deadwood is allowed to accumulate and the grassland regularly mown as part of the garden setting in which the orchard is located. Accordingly, the condition of the orchard is considered to be 'moderate'.

2.9. **'Woodland and Forest – Other Woodland; Broadleaved'** – condition 'moderate'. The plantation woodland and the broadleaved woodland within the site have been included under this category. The woodlands meet a number of the woodland condition assessment criteria within the Biodiversity Metric 2.0 Technical Supplement, but not sufficiently to qualify as 'good' condition.

2.10. **'Heathland and Shrub – Mixed Scrub'** – condition 'moderate'. The dense and scattered scrub at the site comprises a limited range of species that are common and widespread in the local and national context. This habitat does not meet the 'high environmental value' categorisation defined in the Farm Environment Plan (FEP) Manual. Overall, the scrub within the site is considered to be in 'moderate' condition.

2.11. **'Urban – Introduced Shrub'** – condition 'poor'. The amenity planting within the site comprises a range of common and non-native species managed for their amenity rather than biodiversity value. For the purposes of the BIA calculations, the condition of 'urban – introduced shrub' is not required and a condition score of 1 is automatically applied.

2.12. **'Sparsely vegetated land – Ruderal / Ephemeral'** – condition 'poor'. The tall ruderal within the site comprises a limited range of species that are common and widespread in the local area and the national context. The tall ruderal does not form an important ecological feature and overall is considered to be in 'poor' condition.

2.13. **'Lakes – Ponds (Non-Priority Habitat)'** – condition 'poor'. The ponds within the site are either stocked with large numbers of fish, are relatively recently cleared to contain water, or are highly ephemeral in nature. Accordingly, the ponds within the site are not considered to form important ecological features and fail to meet a number of the pond condition assessment

criteria within the Biodiversity Metric 2.0 Technical Supplement, such that a condition score of 'poor' has been allocated.

2.14. **'Urban – Developed land; sealed surface'** – condition 'N/A-other'. The remainder of the site is comprised of agricultural buildings and hardstanding which are largely devoid of vegetation and do not form an important ecological feature. For the purposes of the BIA calculations, the condition of developed land is not required and a condition score of 0 is automatically applied.

Habitat Creation (Post-development)

2.15. **'Grassland – Other Neutral Grassland'** – condition 'good'. This habitat includes semi-improved grassland which will be created along the northern boundary of the site and species-rich grassland which will be created along the western site boundary. The aim will be to manage these grasslands based on ecological principles, which should enable the grasslands to reach 'good' condition within 15 years.

2.16. **'Urban – Amenity Grassland'** – condition 'poor'. This includes the grassland in close proximity to the built development. The amenity grassland is likely to comprise a seed mix that is tolerant of frequent mowing and is unlikely to be managed for biodiversity. Accordingly, a condition score of 'poor' has been allocated for this habitat type.

2.17. **'Woodland and Forest – Other Woodland: Broadleaved** – condition 'moderate'. Native woodland planting is to be incorporated into the scheme, planted at the boundaries of the site. The moderate condition is based on the woodland planting being native and diverse and the habitat receiving on-going management as part of the landscape strategy. Subject to this management, it is considered that the woodland should achieve 'moderate' condition within 30 years.

2.18. **'Urban – Introduced Shrub'** – condition 'poor'. This will include all amenity planting in proximity to the built development. For the purposes of the BIA calculations, the condition of introduced shrub is not required and a condition score of 1 is automatically applied.

2.19. **'Urban – Sustainable urban drainage feature'** – condition 'good'. This habitat represents the SuDS features to be created at the north of the site. Assuming all of the SuDS are seeded with a diverse native wet grassland seed mixture and management incorporates ecological principles for the benefit of biodiversity, it is considered achievable for this habitat to be of 'good' condition in five years.

2.20. **'Urban – Developed Land; sealed surface**' – condition 'N/A – other'. This habitat includes all new buildings, roads, parking and tarmac footpaths and, as such, is not assigned a condition under the DEFRA 2.0 metric.

Habitat Biodiversity Impact Score

2.21. The BIA calculator computes a Net Project Biodiversity Units (Habitats) score of **-156.34**, a biodiversity loss of **74.52%**.

3. Hedgerow Impact Assessment

Existing Hedgerows (Pre-development)

3.1. **'Line of Trees'** – condition 'moderate'. A number of tree lines are present within the site which contain a range of native species and are fenced from livestock, such that they are outgrown in

nature. The tree lines achieve a condition score of 'moderate' utilising the condition assessment for a line of trees, as provided in the Biodiversity Metric 2.0 Technical Supplement.

3.2. **'Native Species Rich Hedgerow'** – condition 'moderate'. This habitat refers to the species-rich hedgerows within the site which are well connected and generally outgrown in nature. Accordingly, the species-rich hedgerows are considered to be in 'moderate' condition.

3.3. **'Native Hedgerow'** – condition 'moderate'. The remainder of the hedgerows within the site are species-poor; however, they are well established and provide good connectivity within the site. As such, the species-poor hedgerows are considered to be in 'moderate' condition.

New Hedgerows (Post-development)

3.4. **'Native Species Rich Hedgerow'** – condition 'good'. This includes all new hedgerows within the scheme which will be planted with a diverse range of native tree/shrub species to ensure that the hedgerows are species-rich. The hedgerows will be managed in perpetuity of the scheme to ensure their value for biodiversity is maximised and it is considered that a condition of 'good' can be achieved for the hedgerows within 10 years.

3.5. **'Line of Trees'** – condition 'good'. A number of tree lines are proposed within the development scheme. These will include native species and will be managed for biodiversity in perpetuity of the scheme. It is anticipated that a condition of 'good' can be achieved for the tree lines within 30 years.

Hedgerow Biodiversity Impact Score

3.6. The BIA calculator computes a Net Project Biodiversity Units (Hedgerows) Score for the proposals of **-3.73 units**, a biodiversity loss of **17.55%**.

4. River Impact Assessment

Existing River (Pre-development)

4.1. **'Rivers & Streams (Other)** – condition 'moderate'. A small stream passes across the site from east to west. The stream is semi-natural, contains aquatic and marginal macrophytes and has well vegetated banks and bank tops. However, the stream is silted and heavily shaded in places, such that very little aquatic vegetation is present. In addition, littering is present within the stream, particularly at the eastern end. Overall, the stream is likely to function as a wildlife corridor in the local context and has been categorised as being in 'moderate' condition.

New River (Post-development)

4.2. **'Rivers & Steams (Other)** – condition 'moderate'. The stream is to be diverted as part of the proposals and will achieve a greater length than the existing stream. Over time, the diverted section of the stream will become colonised with marginal and aquatic vegetation established through seeding and natural colonisation. The stream will be managed in perpetuity of the scheme to ensure that the stream does not become over-shaded and to remove any litter that may enter the stream. Furthermore, the stream will be buffered by wildflower grassland and native shrub planting which will also be managed long-term. Subject to management of the stream for the benefit of biodiversity, over time (~5 years) it is considered achievable for the stream to reach 'moderate' condition.

River Biodiversity Impact Score

4.3. The BIA calculator computes a Net Project Biodiversity Units (Rivers) score for the proposals of **-3.75 units**, a biodiversity loss of **65.96%**.

5. Summary & Conclusion

5.1. In order to inform the planning application, a Biodiversity Impact Assessment calculation has been carried out. The BIA calculates that a net loss of -156.34 habitat units, -3.73 hedgerow units and -3.75 river units is likely to occur under the proposed development. This represents a biodiversity loss of 74.52% for habitat units, 17.55% for hedgerow units and 65.96% for river units.

6. Consultation with the Environment Bank

6.1. Following the completion of the Defra 2.0 Metric, the Environment Bank was approached to provide a quotation for a biodiversity compensation scheme to offset the biodiversity impact of the proposals, based on the results of the metric calculation. The Environment Bank would devise a scheme achieving a total of 177.29 biodiversity units which would secure a minimum 10% biodiversity net gain for the proposals. The cost of these 177.29 biodiversity units is £1,741,000 +VAT and this sum includes:

- A biodiversity offset scheme adhering to local standards of delivery;
- Liaison with local planning authority on offset approval;
- Ecological assessment of the offset site;
- Negotiations with the offset landowner;
- Preparation of legal agreements for long-term offset delivery;
- A 30 year costed management and monitoring plan; and
- Monitoring and oversight of the offset site over 30 years with reporting to the LPA.

6.2. The biodiversity compensation scheme proposes to target the creation/restoration of grassland to Lowland Meadow within the Milton Keynes authority, in combination with the enhancement of a wider mosaic of habitats. The Environment Bank has confirmed a minimum threshold for the extent of Lowland Meadow creation/restoration can be set, in order to achieve a minimum 33% increase over the extent of Lowland Meadow lost from the site. This would contribute to the local BAP target to increase Lowland Meadow in Buckinghamshire and Milton Keynes by 33%[1].

[1] Forward to 2020: Buckinghamshire and Milton Keynes Biodiversity Action Plan

Appendices:

Appendix 5263/1 – Completed BIA Calculator

Appendix 5263/2 – Plan 5263/ECO3 – Habitats and Ecological Features

Appendix 5263/3 – Illustrative Landscape Strategy Plan

Appendix 5263/1:

Completed BIA Calculator

South Caldecotte
Detailed Results

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Summary Figures

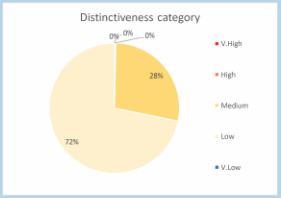
Net project biodiversity units (including all on-site & off-site habitat retention/creation)	*Habitat units*	-156.34
	Hedgerow units	-3.73
	River units	-3.75
Total project biodiversity % change (including all On-site & Off-site Habitat Creation + Retained Habitats)	*Habitat units*	-74.52%
	Hedgerow units	-17.55%
	River units	-65.96%

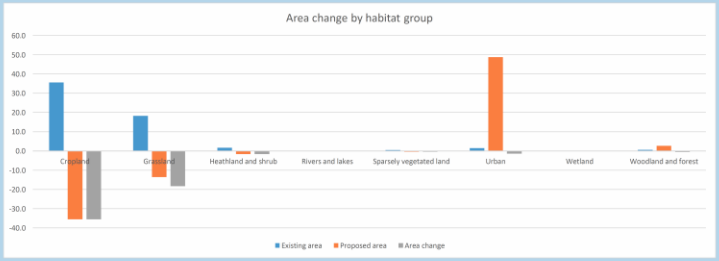
On-site habitat retention and enhancement

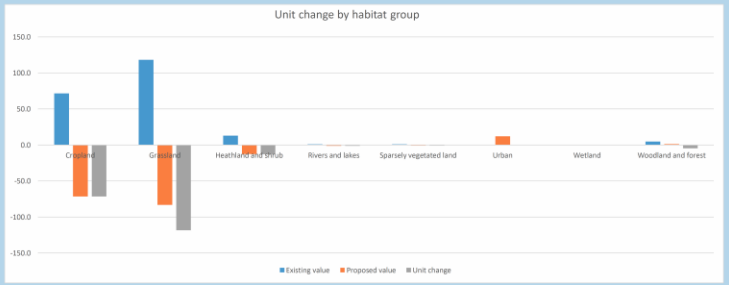
	Habitats	Hedgerows	Rivers
Total site area / length	58.16	5.02	0.71
Total site units	209.78	21.24	5.68
Area / length retained	0.04	0.10	0.00
Units Retained	0.32	0.40	0.00
Area / length enhanced	0.00	0.00	0.00
Baseline units enhanced	0.00	0.00	0.00
Area / length succession	0.00		
Units succession	0.00		
Area / length lost	58.12	4.92	0.71
Units lost	209.46	20.84	5.68

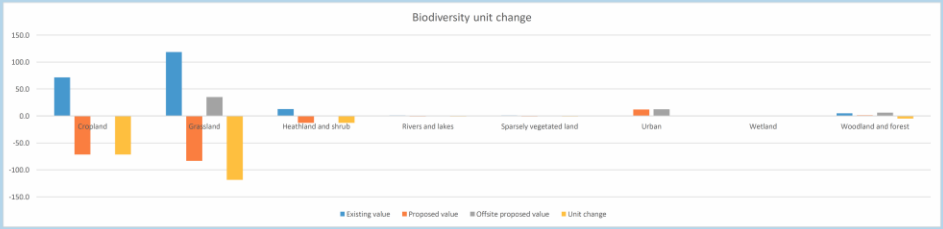
Area lost by distinctiveness band

Category	Area lost (hectares)	Area lost (%)
V.High	0	
High	0.1978	0
Medium	15.8304	28
Low	40.7285	72
V.Low	0	

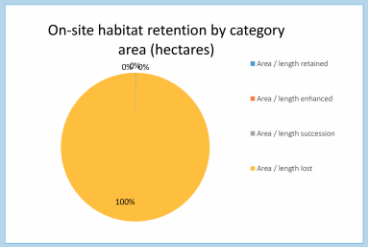


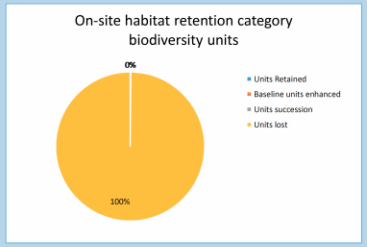






Habitat group	Pre-development		Post development on site		Post Development off site		Total post development		Change	
	Existing area	Existing value	Proposed area	Proposed value	Proposed area	Offsite proposed value	Proposed area	Proposed value	Area change	Unit change
Cropland	35.6	71.5	-35.6	-71.5	0.0	0.0	0.0	0.0	-35.6	-71.5
Grassland	18.3	118.3	-13.6	-83.4	4.7	34.9	0.0	0.0	-18.3	-118.3
Heathland and shrub	1.7	12.9	-1.6	-12.6	0.0	0.3	0.0	0.0	-1.7	-12.9
Rivers and lakes	0.2	1.0	-0.2	-1.0	0.0	0.0	0.0	0.0	-0.2	-1.0
Sparsely vegetated land	0.4	0.9	-0.4	-0.9	0.0	0.0	0.0	0.0	-0.4	-0.9
Urban	1.4	0.1	48.8	12.1	50.2	12.3	0.0	0.0	-1.4	-0.1
Wetland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Woodland and forest	0.6	4.7	2.6	1.2	3.2	5.9	0.0	0.0	-0.6	-4.7





South Caldecotte

A-1 Site Habitat Baseline

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Ref	Habitats and areas: Broad Habitat	Habitats and areas: Habitat type	Habitats and areas: Area (hectares)	Habitat distinctiveness: Distinctiveness	Habitat distinctiveness: Score	Habitat condition: Condition	Habitat condition: Score	Ecological connectivity: Ecological connectivity	Ecological connectivity: Connectivity	Ecological connectivity: Connectivity multiplier	Strategic significance: Strategic significance	Strategic significance: Strategic significance	Strategic significance: Strategic position multiplier	Suggested action to address habitat losses	Ecological: Total habitat units	Retention category biodiversity value: Area retained	Area enhanced	Area succession	Baseline units retained	Baseline units enhanced	Baseline units succession	Area lost	Units lost
1	Cropland	Cropland - Cereal crops	35.5711	Low	2	N/A - Agricultural	1	N/A	Assessment not appropriate	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required	71.14				0.00	0.00	0.00	35.57	71.14
2	Urban	Urban - Amenity grassland	0.0582	Low	2	Poor	1	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required	0.12				0.00	0.00	0.00	0.06	0.12
3	Grassland	Grassland - Other neutral grassland	8.8335	Medium	4	Moderate	2	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required	70.67				0.00	0.00	0.00	8.83	70.67
4	Grassland	Grassland - Other neutral grassland	4.7952	Medium	4	Moderate	2	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required	38.36				0.00	0.00	0.00	4.80	38.36
5	Grassland	Grassland - Modified grassland	4.642	Low	2	Poor	1	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required	9.28				0.00	0.00	0.00	4.64	9.28
6	Cropland	Cropland - Traditional orchards	0.0293	High	6	Moderate	2	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same habitat required	0.35				0.00	0.00	0.00	0.03	0.35
7	Woodland and forest	Woodland and forest - Other woodland; broadleaved	0.302	Medium	4	Moderate	2	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required	2.42				0.00	0.00	0.00	0.30	2.42
8	Woodland and forest	Woodland and forest - Other woodland; broadleaved	0.2897	Medium	4	Moderate	2	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required	2.32				0.00	0.00	0.00	0.29	2.32
9	Heathland and shrub	Heathland and shrub - Mixed scrub	1.1522	Medium	4	Moderate	2	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required	9.22	0.04			0.32	0.00	0.00	1.11	8.90
10	Heathland and shrub	Heathland and shrub - Mixed scrub	0.4378	Medium	4	Moderate	2	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same broad habitat or a higher distinctiveness habitat required	3.38				0.00	0.00	0.00	0.50	3.38
11	Urban	Urban - Introduced shrub	0.0123	Low	2	Poor	1	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required	0.02				0.00	0.00	0.00	0.01	0.02
12	Sparsely vegetated land	Sparsely vegetated land - Ruderal/Ephemeral	0.4449	Low	2	Poor	1	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required	0.89				0.00	0.00	0.00	0.44	0.89
13	Lakes	Lakes - Ponds (Non- Priority Habitat)	0.1685	High	6	Poor	1	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same habitat required	1.01				0.00	0.00	0.00	0.17	1.01
14	Urban	Urban - Developed land; sealed surface	1.3625	V.Low	0	N/A - Other	0	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Compensation Not Required	0.00				0.00	0.00	0.00	1.36	0.00
15																							
16																							
17																							
18																							
19																							
		Total site area ha	58.16											Total Site baseline	209.78	0.04	0.00	0.00	0.32	0.00	0.00	58.12	209.46

South Caldecotte

A-2 Site Habitat Creation

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Post development/ post intervention habitats: Proposed habitat	Area (hectares)	Distinctiveness	Score	Condition	Score	Ecological connectivity: Ecological connectivity	Ecological connectivity: Connectivity	Ecological connectivity: Connectivity multiplier	Strategic significance: Strategic significance	Strategic significance: Strategic significance	Strategic significance: Strategic position multiplier	Temporal multiplier: Time to target condition/years	Temporal multiplier: Time to target multiplier	Difficulty multipliers: Difficulty of creation category	Difficulty multipliers: Difficulty of creation multiplier	Habitat units delivered
Grassland - Other neutral grassland	1.8255	Medium	4	Good	3	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	15	0.586	Low	1	12.84
Grassland - Other neutral grassland	2.8563	Medium	4	Good	3	Medium	Moderately connected habitat	1.1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	15	0.586	Low	1	22.09
Urban - Amenity grassland	3.6907	Low	2	Poor	1	Medium	Moderately connected habitat	1.1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1	0.965	Low	1	7.84
Woodland and forest - Other woodland; broadleaved	3.2276	Medium	4	Moderate	2	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	30	0.343	Medium	0.67	5.94
Urban - Introduced shrub	0.9658	Low	2	Poor	1	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1	0.965	Low	1	1.86
Urban - Sustainable urban drainage feature	0.7585	Low	2	Good	3	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	5	0.837	Medium	0.67	2.55
Urban - Developed land; sealed surface	44.7993	V.Low	0	N/A - Other	0	N/A	Assessment not appropriate	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	0	1.000	Low	1	0.00
Totals	58.12														Total Units	53.12

South Caldecotte

B-1 Site Hedge Baseline

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	UK Habitats – existing habitats			Habitat distinctiveness		Habitat condition		Ecological connectivity			Strategic significance				Ecological	Retention category biodiversity value					
Baseline ref	Hedge number	Hedgerow type	length KM	Distinctiveness	Score	Condition	Score	Ecological connectivity	Connectivity	Connectivity multiplier	Strategic significance	Strategic significance	Strategic position multiplier	Suggested action to address habitat losses	Total hedgerow units	Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost
1		Line of Trees	0.61	Low	2	Moderate	2	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	2.44			0	0	0.61	2.44
2		Native Species Rich Hedgerow	0.29	Medium	4	Moderate	2	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Like for like or better	2.32			0	0	0.29	2.32
3		Native Hedgerow	4.12	Low	2	Moderate	2	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	16.48	0.1007		0.4028	0	4.0193	16.077
4																					
5																					
6																					
7																					
8																					
		Total Site length/KM	5.02											Total Site	21.24	0.10	0.00	0.40	0.00	4.92	20.84

South Caldecotte

B-2 Site Hedge Creation

Condense/ Show Columns | Condense/ Show Rows | Main Menu | Instructions

		Proposed habitats		Habitat distinctiveness		Habitat condition		Multipliers								Hedge units delivered
								Spatial quality						Temporal multiplier		Difficulty of creation multiplier	
								Ecological connectivity			Strategic significance						
Baseline ref	New hedge number	Habitat type	Length km	Distinctiveness	Score	Condition	Score	Ecological connectivity	Connectivity	Connectivity multiplier	Strategic significance	Strategic significance	Strategic position multiplier	Time to target condition/years	Time to target multiplier		
1		Native Species Rich Hedgerow	2.75	Medium	4	Good	3	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	10	0.700	0.67	15.48
2		Line of Trees	0.789	Low	2	Good	3	Low	Unconnected habitat	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	30	0.343	1	1.63
3																	
4																	
5																	
		Creation Length/KM	3.54														17.11

South Caldecotte

C-1 Site River Baseline

Condense/ Show Columns | Condense/ Show Rows | Main Menu | Instructions

Existing river type			Habitat distinctiveness		Habitat condition		Strategic significance			Sugested action	Ecological baseline	Retention category biodiversity value					
Baseline ref	River type	length KM	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier		Total river units	Length retained	Length enhanced	Units retained	Units enhanced	Length impacted	Units Lost
1	Rivers & Streams (Other)	0.71	Medium	4	Fairly Poor	2	Low potential/ action not identified in any plan.	Low Strategic Significance	1	Avoid	5.68			0	0	0.71	5.68
2																	
3																	
4																	
5																	
	Total site length KM	0.71								Total Site	5.68	0.00	0.00	0.00	0.00	0.71	5.68

South Caldecotte

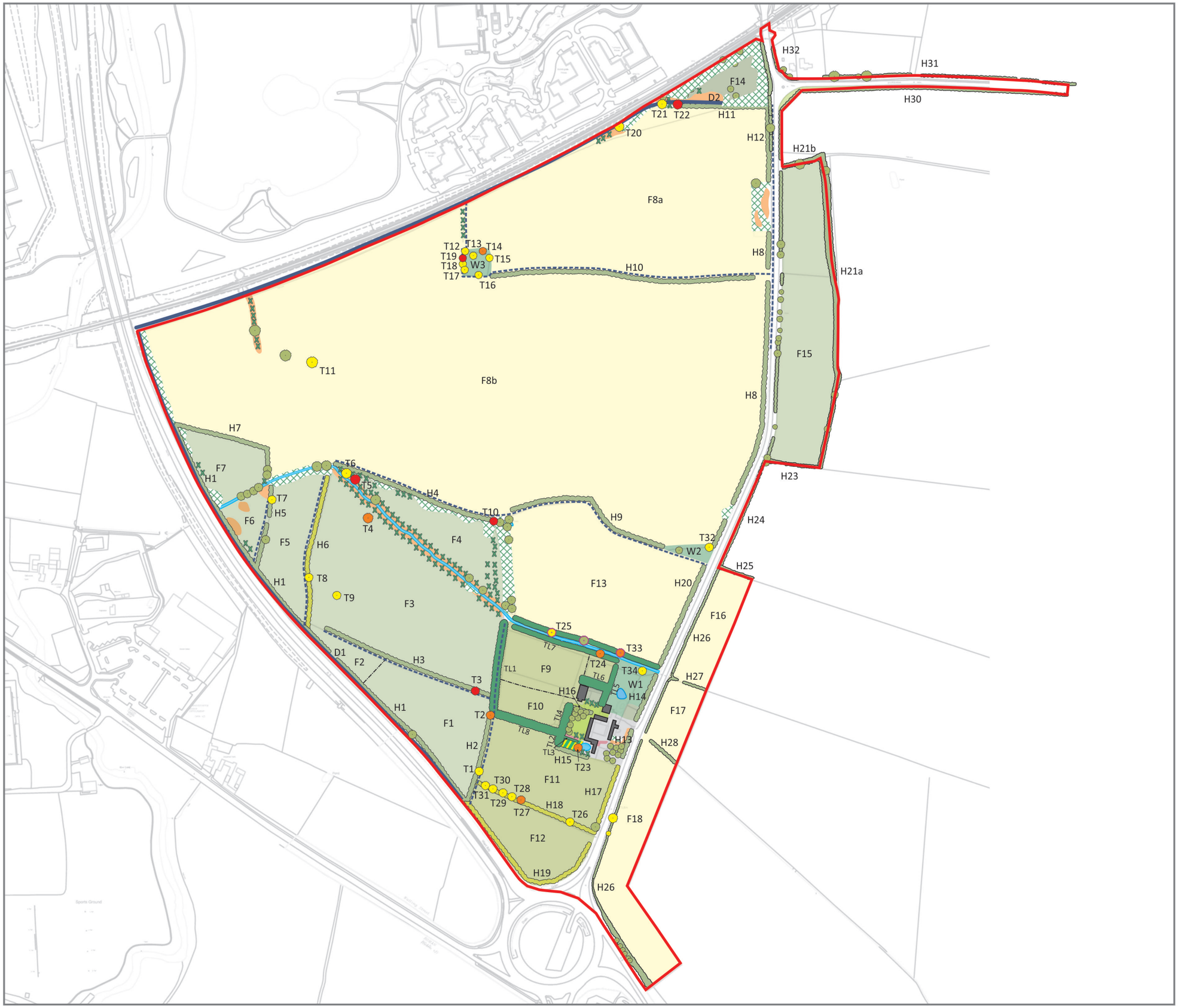
C-2 Site River Creation

Condense/ Show Columns | Condense/ Show Rows | Main Menu | Instructions

	Proposed habitats		Habitat distinctiveness		Habitat condition		Strategic significance			Temporal multiplier		Difficulty of creation category	Difficulty of creation multiplier	Riparian encroachment		River units delivered
Baseline ref	River type	Length km	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier	Time to target condition/years	Time to target multiplier			Extent of encroachment	Multiplier	
1	Rivers & Streams (Other)	0.778	Medium	4	Moderate	3	Low potential/ action not identified in any plan.	Low Strategic Significance	1	5	0.837	High	0.33	8+ m	0.75	1.93
2																
3																
4																
5																
	Creation Length/KM	0.78														1.93

Appendix 5263/2:

Plan 5263/ECO3 – Habitats and Ecological Features



Key:

- Site Boundary
- Arable
- Amenity Grassland
- Semi Improved Grassland
- Improved Grassland
- Rough Grassland
- Orchard
- Amenity Planting
- Tall Ruderal Vegetation
- Woodland
- Dense Scrub
- Scattered Scrub
- Tree
- Tree with Low Potential to Support Roosting Bats
- Tree with Moderate Potential to Support Roosting Bats
- Tree with High Potential to Support Roosting Bats
- Mature Black Poplar
- Treeline
- Hedgerow
- Defunct Hedgerow
- Pond
- Stream
- Dry Ditch
- Wet Ditch
- Fence
- Hardstanding
- Building

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South Caldecotte, Milton Keynes	PROJECT
Habitats and Ecological Features	TITLE
5263/ECO3	DRAWING NO.
A	REV.
October 2018	DATE

Appendix 5263/3:

Illustrative Landscape Strategy Plan

NATIVE TREES & STRUCTURAL PLANTING - *Trees planting in groups, larger blocks and random drifts to provide varied structural edge habitats and robust landscape buffers. The native tree and structural planting will be primarily located around the site boundaries to create wide green buffers, and also internally breaking up the various plots to link the overall green infrastructure and provide a green setting that assists to integrate the built form. Native tree species will include standards, whips and transplants and will include:*

Field Maple	*Acer campestre*
Common Alder	*Alnus glutinosa*
Downy Birch	*Betula pubescens*
Hornbeam	*Carpinus betulus*
Hawthorn	*Crataegus monogyna*
Crab Apple	*Malus sylvestris*
Wild Cherry	*Prunus avium*
Bird Cherry	*Prunus padus*
Blackthorn	*Prunus spinosa*
Pendunculate Oak	*Quercus robur*
Goat Willow	*Salix caprea*
Rowan	*Sorbus aucuparia*

FEATURE INTERNAL & ROADSIDE TREE PLANTING - *Feature tree and ornamental planting along the primary and secondary roads throughout the development will aim to tie in with species used within South Caldecotte to the north, whilst also creating a high quality enviornment to the development. A variation in species for each plot, zone or type of area will help to provide variation and separate character areas within the development. The use of a degree of semi-mature tree planting will provide 3-dimensional depth and instant impact to the green infrastructure. Feature ornamental species will include:*

Acer campestre 'Streetwise'
Betula pendula jacquemontii
Carpinus betulus 'Frans Fontaine'
Liquidambar styraciflua
Prunus avium 'Plena'
Prunus x subhirtella 'Autumnalis'
Sorbus aria 'Lutescens'
Tilia cordata 'Greenspire'

NATIVE HEDGEROWS & WOODLAND EDGE - *Planting using a mix of native hedgerow and shrub species to increase the diversity of hedgerows and woodland edges and provide foraging opportunities for local wildlife. Hedgerow flowering/fruiting species will include:*

Dogwood	*Cornus sanguinea*
Hazel	*Corylus avellana*
Hawthorn	*Crataegus monogyna*
Holly	*Ilex aquifolium*
Wild Privet	*Ligustrum vulgare*
Blackthorn	*Prunus spinosa*
Dog Rose	*Rosa canina*
Common Elder	*Sambucus nigra*
Guelder Rose	*Viburnum opulus*

WILDFLOWER MEADOWS - *Wildflower Meadow grass mix is sown within sections along the boundaries to provide further biodiveristy and ecological benefits. Recommend use of species rich meadow grassland such as Emorsgate EM3 'Special General Purpose Meadow Mixture'*

WETLAND GRASSLAND & VEGETATION - *Appropriate wetland grassland and vegetation will be planted around the existing / proposed watercourse, swales and attenuation areas to enhance the wildlife value. Recommended use of meadow grassland mix along pond edges such as Emorsgate EM8 'Meadow Mixture for Wetlands.*

0m 50m 100m 200m

Key:

- Application Site Boundary
- Existing Vegetation Structure
- Proposed Tree Planting
- Proposed Hedgrows and Shrub Planting
- Proposed Native Structural Woodland Planting
- Proposed Swale and Wetland Planting
- Proposed Wildflower Meadow
- Proposed Marginal Planting
- Pedestrian Links & Public Right of Way Network
- Redway (Shared Cycle & Footpath)
- Landmark with Feature Landscaping / Public Art
- Gas Pipe & 3m Easement (No Tree Planting)
- 9m IDB Easement (No Planting)
- Proposed Highway Ditch

REV	DATE	NOTE	DRAWN	CHK'D
A	03.07.19	Updated to client comments and IDB easement.	SB	CJ

REVISIONS

aspect landscape planning

TITLE
Land at South Caldecotte
Illustrative Landscape Strategy Plan

CLIENT
HB (South Caldecotte) Ltd

SCALE	DATE	DRAWN	CHK'D
1:5,000@A3	JUN 2019	SB	CJ

DRAWING NUMBER	REVISION
6340 / LSP / ASP4	A

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