

**GATWICK GREEN, CRAWLEY,
WEST SUSSEX**

**HEDGEROW REGULATIONS (1997)
ASSESSMENT**

A Report to: Savills

Report No: RT-MME-151186-02

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Triumph House, Birmingham Road, Allesley, Coventry CV5 9AZ

Tel: 01676 525880 Fax: 01676 521400

E-mail: admin@middlemarch-environmental.com Web: www.middlemarch-environmental.com

REPORT VERIFICATION AND DECLARATION OF COMPLIANCE

This study has been undertaken in accordance with British Standard 42020:2013 "Biodiversity, Code of practice for planning and development".

Report Version	Date	Completed by:	Checked by:	Approved by:
DRAFT	23/01/2020	Victoria Aelen BSc (Ecological Consultant)	Paul Roebuck MSc MCIEEM (South East Manager)	Colin Bundy MCIEEM (Associate Director)
Final	27/02/2020	Sophie Moy MSc GradCIEEM (Senior Ecological Consultant)	Paul Roebuck MSc MCIEEM (South East Manager)	Colin Bundy MCIEEM (Associate Director)

The information which we have prepared is true, and has 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.

DISCLAIMER

The contents of this report are the responsibility of Middlemarch Environmental Ltd. It should be noted that, whilst every effort is made to meet the client's brief, no site investigation can ensure complete assessment or prediction of the natural environment.

Middlemarch Environmental Ltd accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

VALIDITY OF DATA

The findings of this study are valid for a period of up to five years from the date of survey. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified ecologist to assess any changes in the habitats present on site, and to inform a review of the conclusions and recommendations made.

NON-TECHNICAL SUMMARY

In November 2019 Savills, on behalf of Wilky Group, commissioned Middlemarch Environmental Ltd to undertake a Hedgerow Regulations (1997) Assessment of the site of a proposed development at Gatwick Green, Crawley, West Sussex. It is understood that Savills are promoting the site for future development, and that the Crawley Local Plan identifies the site as part of an 'Area of Search' for a strategic employment site. The land is also part of an area safeguarded for future airport use. The current survey is required to identify possible biodiversity constraints and opportunities associated with any future development of the site. At the time of writing, no detailed development proposals have been produced.

Two hedgerows recorded on site H1 and H2 were deemed to be 'important' under the wildlife and landscape criteria detailed in the Hedgerow Regulations (1997). Both H1 and H2 satisfy criteria relating to the number of woody species recorded and the criteria for associated features. While remaining hedgerows on site do not satisfy the relevant criteria, it should be noted that importance in respect of the historical and archaeological criteria have not been assessed.

All hedgerows are a Habitat of Principal Importance as defined by Section 41 of the Natural and Rural Communities Act 2006 (NERC) and are a priority habitat on the Local BAP. The hedgerows on site also provide suitable nesting habitat for a number common and widespread birds. Without mitigation, these clearance works could result in a breach of Section 1 of the Wildlife and Countryside Act 1981 (as amended). The following recommendations have therefore been made, with full text provided in Chapter 6:

- R1** Hedgerows H1 and H2 are classified as important under the Hedgerow Regulations (1997) and should therefore be retained and protected during any development of the site. Should any impacts to important hedgerows be unavoidable, permission must first be sought from the local authority.
- R2** The proposed development should be designed to allow for the retention and enhancement of hedgerow features where possible. Where loss of hedgerows is unavoidable, appropriate reinstatement/replacement and site enhancement should be undertaken, using native species of local provenance.
- R3** Any hedgerows on or adjacent to the site that are not to be directly impacted by the proposed works should be protected from harm during the development. Protection should be based on British Standard 5837: 2012 "Trees in relation to design, demolition and construction - recommendations".
- R4** Vegetation clearance should be undertaken outside the nesting bird season. If this is not possible then any vegetation that is to be removed/disturbed should be checked by an experienced ecologist immediately prior to works commencing to establish presence/absence and advise further.

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1. INTRODUCTION

1.1 PROJECT DESCRIPTION

In November 2019 Savills, on behalf of Wilky Group, commissioned Middlemarch Environmental Ltd to undertake a Hedgerow Regulations (1997) Assessment of the site of a proposed development at Gatwick Green, Crawley, West Sussex. It is understood that Savills are promoting the site for future development, and that the Crawley Local Plan identifies the site as part of an 'Area of Search' for a strategic employment site. The land is also part of an area safeguarded for future airport use. The current survey is required to identify possible biodiversity constraints and opportunities associated with any future development of the site. At the time of writing, no detailed development proposals have been produced.

Middlemarch Environmental Ltd has also been instructed to conduct an updated Preliminary Ecological Appraisal at this site (RT-MME-151186-01). Middlemarch Environmental Ltd has previously carried out a Preliminary Ecological Appraisal at the site, the results of which can be found in Report RT-MME-118885-01.

To fulfil the brief to determine whether the site supports any hedgerows considered to be 'important' under the Hedgerow Regulations (1997) a walkover survey was undertaken on the 20th November 2019 and the 25th November 2019.

1.2 DEVELOPMENT SITE DESCRIPTION AND CONTEXT

The site is located to the east of Gatwick Airport, in Crawley, West Sussex, and is centred at National Grid Reference TQ 299 411. The site is low-lying and generally flat in topography, situated on a largely undeveloped greenfield site. It is an irregular shaped parcel of land that measures approximately 48 ha in size.

At the time of the survey, the site comprised multiple fields of improved and semi-improved grassland, which were bound by a network of hedgerows, ditches and trees. Small areas of semi-natural broadleaved woodland and scrub were also present. The site was bisected by Fernhill Road and bordered by the M23 airport spur to the north, Peeks Brook Lane to the east, the B2037 to the south, and the B2036 to the west.

The wider landscape was dominated by further farmland. Gatwick Airport was located to the west, and the urban fringes of Crawley and Horley were located to the south and north respectively.

1.3 DOCUMENTATION PROVIDED

The conclusions and recommendations made in this report are based on information provided by the client regarding the scope of the project. Documentation made available by the client is listed in Table 1.1.

Document Name / Drawing Number	Author
Gatwick Green Ownership Plan	Savills
Final Call for Sites (Employment) 16.09.2019.pdf	Crawley Borough Council

Table 1.1: Documentation Provided by Client

1.4 OVERVIEW OF HEDGEROW REGULATIONS CRITERIA

The Hedgerows Regulations (1997) include various criteria upon which a hedgerow may be classed as 'important' with respect to wildlife and landscape or archaeology and history. A hedgerow is deemed 'important' if it, or the wider hedgerow of which it forms a part:

- (a) has existed for 30 years or more; and,
- (b) satisfies at least one of the criteria listed in Part II of Schedule 1.

The criteria listed in Part II of Schedule 1 consists of the following:

- (i) Historic hedgerow existing before 1850, marking a parish or township boundary.
- (ii) The hedgerow incorporates an archaeological feature.
- (iii) Is part of, or associated with, an archaeological site.
- (iv) Marks the boundary of, or is associated with, a pre-1600 estate or manor.

- (v) Forms an integral part of a pre-Parliamentary enclosure field system.
- (vi) Contains certain categories of species of bird, animals or plants listed in the Wildlife & Countryside Act or JNCC publications.
- (vii) Includes:
 - 1. seven or more woody species in a 30 m length;
 - 2. six woody species, in a 30 m length, and at least three associated features;
 - 3. six woody species, in a 30 m length, and includes one of the following – black poplar, large leafed lime, small leafed lime, wild service tree; or
 - 4. five woody species, in a 30 m length, and at least four associated features.
 - 5. four woody species, in a 30 m length, is adjacent to a footpath, bridleway, road used as a public footpath or a byway open to all traffic and has at least two associated features (a-e only below).

The following are considered to be associated features:

- a. A wall or bank supporting the hedgerow along at least half its length;
- b. Less than 10% gaps;
- c. An average of one standard tree or more per 50 m of hedgerow;
- d. At least 3 species from a list of 57 woodland plants listed in Schedule 2 of the regulations;
- e. A ditch along at least half its length;
- f. A number of connections with other hedgerows, ponds or woodland*[†]; and
- g. A parallel hedge within 15 m.

** to fulfil this category the hedgerow must have at least 4 connection points where: a hedgerow is 1 point; broadleaved woodland is 2 points; and, a pond is 2 points.*

2. METHODOLOGIES

2.1 DESK STUDY

Existing ecological data relating to the site were reviewed in order to determine the potential presence of any protected or Red Data book species likely to be associated with the hedgerows within the site.

In addition, first edition Ordnance Survey maps were used (if available) to assess some of the historical features relating to the hedgerows, e.g. their probability of occurring for over 30 years, or if they form an integral part of a pre-Parliamentary enclosure field system (pre 1845-1854) and any key archaeological features. It should be noted that the assessment is concentrated on the ecological elements of the Hedgerow Regulations assessment, and that a full historic and archaeological desk study was not completed.

2.2 FIELD SURVEY

A site walkover survey was undertaken during the optimal period for assessing woody species and ground flora. All hedgerows within the site were visually assessed, and those that potentially met the criteria for classification as important under the Hedgerow Regulations were subject to a more detailed inspection. Any hedgerows identified in the desk study as being of potential importance were also subject to a detailed inspection. In accordance with the Hedgerow Regulations (1997), features greater than 5 m in width at the base do not qualify for assessment.

3. DESK STUDY RESULTS

3.1 BIOLOGICAL RECORDS

As part of the Preliminary Ecological Assessment completed by Middlemarch Environmental Ltd, a desk study for records of protected species was completed. This study identified the following records relating to notable hedgerows and any relevant protected or notable species, summarised in Table 3.1.

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Study Area	Species of Principal Importance?	Legislation / Conservation Status
Mammals – bats					
Common pipistrelle <i>Pipistrellus pipistrellus</i>	113	2017	260 m south-west	-	ECH 4, WCA 5, WCA 6
Noctule <i>Nyctalus noctula</i>	16	2016	260 m south-west	✓	ECH 4, WCA 5, WCA 6
Unidentified bat <i>Chiroptera</i> sp.	19	2016	300 m south-west	#	ECH 2 #, ECH 4, WCA 5, WCA 6
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	17	2016	300 m south-west	✓	ECH 4, WCA 5, WCA 6
Unidentified Myotis <i>Myotis</i> sp.	22	2014	300 m south-west	#	ECH 2 #, ECH 4, WCA 5, WCA 6
Pipistrelle species <i>Pipistrellus</i> sp.	20	2011	300 m south-west	#	ECH 4, WCA 5, WCA 6
Long-eared bat species <i>Plecotus</i> sp.	3	2011	490 m south-west	#	ECH 4, WCA 5, WCA 6
Brandt's bat <i>Myotis brandtii</i>	2	2011	530 m south-west	-	ECH 4, WCA 5, WCA 6
Brown long-eared bat <i>Plecotus auritus</i>	5	2016	630 m south-west	✓	ECH 4, WCA 5, WCA 6
Daubenton's bat <i>Myotis daubentonii</i>	1	2005	630 m south-west	-	ECH 4, WCA 5, WCA 6
Natterer's bat <i>Myotis nattereri</i>	4	2010	910 m south-west	-	ECH 4, WCA 5, WCA 6
Barbastelle bat <i>Barbastella barbastellus</i>	1	2004	Potentially within 1 km*	✓	ECH 2, ECH 4, WCA 5, WCA 6
Vesper bat <i>Vespertilionidae</i> sp.	1	2000	Potentially within 1 km*	#	ECH 2 #, ECH 4, WCA 5, WCA 6
Whiskered bat <i>Myotis mystacinus</i>	1	1992	Potentially within 1 km*	-	ECH 4, WCA 5, WCA 6
Bechstein's bat <i>Myotis bechsteinii</i>	1	2008	Potentially within 1 km**	✓	ECH 2, ECH 4, WCA 5, WCA 6
Mammals – other					
Dormouse <i>Muscardinus avellanarius</i>	6	2016	170 m south-west	✓	ECH 4, WCA 5, WCA 6
Hedgehog <i>Erinaceus europaeus</i>	5	2015	400 m south	✓	WCA 6
Amphibians					
Common frog <i>Rana temporaria</i>	22	2017	330 m south-west	-	WCA 5 S9(5)
Common toad <i>Bufo bufo</i>	14	2017	350 m south-west	✓	WCA 5 S9(5)
Great crested newt <i>Triturus cristatus</i>	33	2019	400 m south-west	✓	ECH 2, ECH 4, WCA 5
Palmate newt <i>Lissotriton helveticus</i>	8	2017	410 m south-west	-	WCA 5 S9(5)
Smooth newt <i>Lissotriton vulgaris</i>	11	2017	410 m south-west	-	WCA 5 S9(5)
Reptiles					
Grass snake <i>Natrix natrix</i>	79	2017	310 m south-west	✓	WCA 5 S9(1) WCA 5 S9(5)

Table 3.1: Relevant Ecological Records Within 1 km of the Development Boundary (continues)

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Study Area	Species of Principal Importance?	Legislation / Conservation Status
Common lizard <i>Zootoca vivipara</i>	1	2006	770 m south-east	✓	WCA 5 S9(1) WCA 5 S9(5)
Slow worm <i>Anguis fragilis</i>	2	2016	780 m south-west	✓	WCA 5 S9(1) WCA 5 S9(5)
Birds					
Barn owl <i>Tyto alba</i>	3	2018	290 m south-west	-	WCA1i
Kingfisher <i>Alcedo atthis</i>	11	2017	290 m south-west	-	WCA1i
Hobby <i>Falco subbuteo</i>	4	2017	620 m west	-	WCA1i
Red kite <i>Milvus milvus</i>	4	2019	630 m south-west	-	WCA1i
Little ringed plover <i>Charadrius dubius</i>	1	2004	660 m south-west	-	WCA1i
Fieldfare <i>Turdus pilaris</i>	1	2008	Potentially within 1 km*	-	WCA1i
Redwing <i>Turdus iliacus</i>	1	2008	Potentially within 1 km*	-	WCA1i
<p>Key: #: Dependent on species. *: Grid reference provided was four figures only. **: Grid reference provided was two figures only.</p> <p>ECH 2: Annex II of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest whose conservation requires the designation of Special Areas of Conservation.</p> <p>ECH 4: Annex IV of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest in need of strict protection.</p> <p>WCA 1i: Schedule 1 Part 1 of Wildlife and Countryside Act 1981 (as amended). Birds protected by special penalties at all times.</p> <p>WCA 5: Schedule 5 of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds).</p> <p>WCA 5 S9(1): Schedule 5 Section 9(1) of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds). Protection limited to intentional killing, injury or taking.</p> <p>WCA 5 S9(5): Schedule 5 Section 9(5) of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds). Protection limited to selling, offering for sale, processing or transporting for purpose of sale, or advertising for sale, any live or dead animal, or any part of, or anything derived from, such animal.</p> <p>WCA 6: Schedule 6 of Wildlife and Countryside Act 1981 (as amended). Animals which may not be killed or taken by certain methods.</p> <p>WCA 8: Schedule 8 of Wildlife and Countryside Act 1981 (as amended). Protected plants and fungi.</p> <p>WCA 8 S13(2): Schedule 8 Section 13(2) of Wildlife and Countryside Act 1981 (as amended). Protection limited to selling, offering for sale, possessing or transporting for purpose of sale, or advertising for sale, any live or dead plant, or any part of, or anything derived from, such plant.</p> <p>Species of Principal Importance: Species of Principal Importance for Nature Conservation in England.</p> <p>Note. This table does not include reference to the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats), the Bonn Convention on the Conservation of Migratory Species of Wild Animals or the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).</p>					

Table 3.1: Relevant Ecological Records Within 1 km of the Development Boundary (continued)

3.2 HISTORICAL MAPPED DATA

A review of historic maps found that 11 of the surveyed hedgerows within the site were likely to be over 30 years old at the time of survey. These hedgerows are therefore deemed to meet section 4(a) of the Hedgerow Regulations (1997).

3.3 PREVIOUS SURVEY DATA

A previous hedgerow survey has been undertaken on the land to the north-east of Gatwick Airport, West Sussex and north and south of M23 in 2019. The results of these surveys are within the Preliminary Environmental Information Report provided by Your London Gatwick Airport (February 2020). The majority of this land surveyed is outside of the current survey area for these proposed works. Only a small section of the survey area for the previous ecological surveys was Wilky owned land, which is the area of land to the north-west of the site, located directly to the south of the M23 spur road and to the east of Balcombe Road. The rest of the Wilky owned land has not been previously surveyed.

These previous surveys were conducted to inform a Preliminary Environmental Information Report (PEIR) and the results for the Wilky Land: Fields North and South of M23, east of B2036 were provided in February 2020. During the previous hedgerow survey conducted on site, which would have only included hedgerow H7 and H8, no hedgerows surveyed were identified as important hedgerows.

4. FIELD SURVEY RESULTS

4.1 INTRODUCTION

A walkover survey of the site was undertaken by Sophie Moy (Senior Ecological Consultant) and Margarita Smoldareva (Ecological Project Officer) on 20th and the 25th November 2019. This walkover encompassed all boundary features within the site footprint, and those which were considered to conform to the criteria for assessment under the Hedgerow Regulations (1997) were subject to a detailed inspection. The locations of hedgerows assessed are shown on Drawing C151186-02-01 in Chapter 7.

4.2 SURVEY CONSTRAINTS

Due to the presence of electric fencing and livestock within the fields located in the north-east and north-west of the site, it was considered unsafe to access these fields. Therefore, they were not fully assessed.

4.3 DESCRIPTION OF HEDGEROWS SURVEYED

The walkover survey identified a total of 14 hedgerows considered suitable for assessment under the Hedgerow Regulations (1997). The site did include other vegetated boundary features; however, these were noted to be either extremely gappy in nature, or to be in excess of 5 m in width and therefore classified as linear scrub or woodland edge, or less than 30 m wide.

Table 4.1 provides a brief description of each of the hedgerows assessed, and lists woody species recorded in a representative 30 m section of each hedge.

Hedgerow Number	Woody Species Recorded		Description
	Common Name	Scientific Name	
H1	Hawthorn Ash Blackthorn Holly Oak Field Maple Old Man's Beard Bramble	<i>Crataegus monogyna</i> <i>Fraxinus</i> <i>Prunus spinosa</i> <i>Ilex aquifolium</i> <i>Quercus sp</i> <i>Acer campestre</i> <i>Clematis vitalba</i> <i>Rubus</i>	A 700 m length of hedgerow located towards the centre of the site. Approximately 2m in height with a wet ditch running along the northern edge of the hedgerow. Ground flora consisted of bracken, nettle and ground ivy. Average height of 2 m with occasional mature tree present within the hedgerow.
H2	Dogrose Hawthorn Oak Blackthorn Field Maple Elder Sycamore Bramble	<i>Rosa canina</i> <i>Crataegus monogyna</i> <i>Quercus sp</i> <i>Prunus spinosa</i> <i>Acer campestre</i> <i>Sambucus nigra</i> <i>Acer pseudoplatanus</i> <i>Rubus</i>	A 420m length of hedgerow located towards south west of site. Approximately 2-3 m in height towards the northern end of the hedgerow, up to 10m in height due to the mature scattered trees dominant in the south. Ground flora consisted of ivy.
H3	Dogrose Oak Bramble	<i>Rosa canina</i> <i>Quercus sp</i> <i>Rubus</i>	A 350 m length of hedgerow located towards the center of the site. Approximately 2 m in height with a wet ditch running along the southern edge of the hedgerow. Gaps were present within the hedgerow.
H4	Leyland cypress Oak	<i>Cupressus x leylandii</i> <i>Quercus sp</i>	This hedgerow is located off site. Metal heras fencing runs along the western boundary of the hedgerow.
H5	Oak Holly Hawthorn Sycamore Bramble	<i>Quercus sp</i> <i>Ilex aquifolium</i> <i>Crataegus monogyna</i> <i>Acer pseudoplatanus</i> <i>Rubus</i>	A 450 m length of hedgerow located to the east of the site along the side of a road. A wet ditch was also present to the east. The dominant species with the hedgerow was oak. Approximately 10m in height.
H6	Oak Hazel Dogrose Hawthorn Snowberry	<i>Quercus sp</i> <i>Corylus avellana</i> <i>Rosa canina</i> <i>Crataegus monogyna</i> <i>Symphoricarpos</i>	Small section of hedgerow located to the north of the site, along the eastern boundary of grassland field. 100 m in length, 4-5 m in height. Ground flora consisted of bramble. A large quantity gaps were present within southern section of the hedgerow.

Table 4.1: Woody Species Recorded within Each Hedgerow Surveyed (continues)

H7	Hazel Hawthorn	<i>Corylus avellana</i> <i>Crataegus monogyna</i>	Small section of hedgerow located to the north west of the site. Approximately 3m in height. The dominant species within the hedgerow was hazel. A patch of scrub, dominated by bramble, was present along the southern boundary of the hedgerow.
H8	Ash Oak Blackthorn Dogrose	<i>Fraxinus</i> <i>Quercus sp</i> <i>Prunus spinosa</i> <i>Rosa canina</i>	Small section of hedgerow located to the north of the site. Approximately 1.5 m in height. Ground flora consisted of bramble.
H9	Ash Hawthorn Willow sp Oak Dogrose	<i>Fraxinus</i> <i>Crataegus monogyna</i> <i>Salix sp</i> <i>Quercus sp</i> <i>Rosa canina</i>	A 700m length of hedgerow located towards the north of the site. Approximately 1.5-2 m in height with small gaps present to the north of the hedgerow. Ground flora comprised of bramble and nettle.
H10	Ash Hawthorn Willow sp Oak Dogrose	<i>Fraxinus</i> <i>Crataegus monogyna</i> <i>Salix sp</i> <i>Quercus sp</i> <i>Rosa canina</i>	A 300m length of hedgerow located towards the north of the site. Approximately 1.5-2 m in height. Ground flora comprised of bramble.
H11	Leyland cypress	<i>Cupressus x leylandii</i>	A 150m length of hedgerow located towards the north of the site comprising of Leyland cypress. The hedgerow was approximately 5m in height with no ground flora present.
H12	Ash Hawthorn Willow sp Oak Dogrose	<i>Fraxinus</i> <i>Crataegus monogyna</i> <i>Salix sp</i> <i>Quercus sp</i> <i>Rosa canina</i>	A 250m length of hedgerow located towards the north east of the site. Approximately 1.5-2m in height with a 5m gap at the northern end of the hedgerow. Ground flora comprised of bramble and nettles.
H13	Ash Hawthorn Field Maple Oak	<i>Fraxinus</i> <i>Crataegus monogyna</i> <i>Acer campestre</i> <i>Quercus sp</i>	A 220 m length of hedgerow located to the east of the site. Approximately 1.5m in height. Ground flora comprised of bramble and nettles.
H14	Ash Hawthorn Field Maple Oak Dogrose	<i>Fraxinus</i> <i>Crataegus monogyna</i> <i>Acer campestre</i> <i>Quercus sp</i> <i>Rosa canina</i>	A 150m length of hedgerow located to the east of the site. The hedgerow was intact and was approximately 1.5 m in height. Ground flora comprised of bramble and nettles.

Table 4.1: Woody Species Recorded within Each Hedgerow Surveyed (continued)

The majority of hedgerows recorded on site are frequently managed, species-poor specimens typical of arable field boundaries or roadsides. These hedges tend to have an impoverished hedge ground flora, often as a result of nutrient enrichment from agricultural and highways runoff.

Section 3.4 provides an assessment of each of the hedgerows against the Hedgerow Regulations (1997) criteria, in order to assess whether any qualify as 'important' hedgerows.

4.4 HEDGEROW REGULATIONS (1997) ASSESSMENT

Table 4.2 provides a summary of the assessment for each hedgerow in accordance with the criteria summarised in Chapter 2. Where answers to questions are not known, they are left blank rather than estimated. This is not considered to present a significant constraint to a robust assessment.

FEATURE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14
Existed for 30 years or more?	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗	✗
Criteria listed in Part II of Schedule 1 (to be 'important' needs to satisfy one of the following or one from woody species list)														
Historic hedgerow existing before 1850, marking a parish or township boundary	?	?	?	?	?	?	?	?	?	?	?	?	?	?
The hedgerow incorporates an archaeological feature	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Is part of, or associated with, an archaeological site	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Marks the boundary of, or is associated with, a pre-1600 estate or manor	?	?	?	?	?	?	?	?	?	?	?	?	?	?
Forms an integral part of a pre-Parliamentary enclosure field system	?	?	?	?	?	?	?	?	?	?	?	?	?	?
Contains certain categories of species of bird, animals or plants listed in the Wildlife & Countryside Act or JNCC publications.	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
No. woody species in 30 m section	6	7	2	1	4	3	2	4	4	4	0	4	4	4
Greater than seven	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Six (needs 3+ associated features to be classified as 'important')	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Six including one of the following – black poplar, large leafed lime, small leafed lime, wild service tree	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Five (needs 4+ associated features to be classified as 'important')	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Four (needs 2+ associated features & be adjacent to a footpath, bridleway, road used as a public footpath or a byway open to all traffic)	✗	✗	✗	✗	✓	✗	✗	✓	✓	✓	✗	✓	✓	✓
Adjacent to rights of way (footpath, bridleway, road used as a public footpath or a byway open to all traffic)	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Total no. of associated features from those listed below	3	4	2	1	4	0	1	1	2	3	1	2	2	2
A wall or bank supporting the hedgerow	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Less than 10% gaps	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓
An average of one standard tree or more per 50 m of hedgerow	✗	✓	✗	✗	✓	✗	✗	✗	✗	✓	✗	✓	✗	✗
At least 3 species from a list of 57 woodland plants	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
A ditch	✓	✓	✓	✗	✓	✗	✗	✗	✓	✓	✗	✗	✗	✗
In excess of 4 'points' from connections with other hedgerows, ponds or woodland (see Chapter 2)	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
A parallel hedge within 15 m	✓	✓	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✓	✓
'Important' Hedgerow?	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Key: ?: Answer not known / category not assessed.														

Table 4.2: Assessment of Hedgerow Features Based on Hedgerows Regulations (1997) Criteria

A total of 11 of the hedgerows surveyed were believed to be over 30 years old (see Section 3.2) and so meet the criteria in Section 4(a) of the Hedgerow Regulations (1997).

Most of the hedgerows assessed support a limited range of woody species. Of the hedgerows surveyed, only one of the hedgerows (H2) within the survey area was found to support seven or more woody species per 30 m length however it should be noted that for the purposes of the assessment, 'woody species' must be those listed in Schedule 3 of the regulations. As such, not all species count towards the woody species total. Most of the hedgerows assessed support a species poor range of woody species. The greatest diversity of woody species was recorded in the southern western boundary hedgerows H2, supporting 7 woody species and H1, supporting 6 woody species, while remaining hedgerows supported an average of 4 woody species.

The ground flora species listed in Schedule 2 of The Hedgerow Regulations (1997) are all woodland species, which are characterised by low mobility and dispersal distances. The presence of these species in hedgerows indicates that the hedgerow and soil around it has been present and undisturbed for a significant period of time. Almost all of the hedgerows on site had a species-poor ground flora, with none of the woodland indicator species recorded.

Of the hedgerows surveyed, H1 and H2 satisfies the criteria listed in Part II of Schedule 1 as follows:

- six woody species, in a 30 m length, and at least three associated features.

According to the above criteria, H1 and H2 are deemed to be 'important' under the wildlife and landscape criteria detailed in the Hedgerow Regulations (1997). While remaining hedgerows on site do not satisfy the relevant criteria, it should be noted that importance in respect of the historical and archaeological criteria have not been assessed.

5. DISCUSSION AND CONCLUSIONS

5.1 SUMMARY OF SITE PROPOSALS

The site is identified in the Crawley Local Plan as being part of an 'Area of Search' for strategic employment land, and is also part of an area safeguarded for future airport use. Savills are currently promoting the site for future development, although at the time of writing no detailed development proposals have been produced.

The following discussion identifies potential biodiversity opportunities and constraints that could apply to any future development of the site. The discussion, conclusions and recommendations should be reviewed as design proposals for the site evolve.

5.2 STATUS OF HEDGEROWS ON SITE

According to the above criteria, H1 and H2 are deemed to be 'important' under the wildlife and landscape criteria detailed in the Hedgerow Regulations (1997). While remaining hedgerows on site do not satisfy the relevant criteria, it should be noted that importance in respect of the historical and archaeological criteria have not been assessed.

5.3 CONCLUSIONS AND SUMMARY OF POTENTIAL IMPACTS

Removal of any hedgerow features associated with H1 and H2 as part of a proposed development would result in the loss of hedgerow habitat that is deemed to be important under the wildlife and landscape criteria of the Hedgerow Regulations (1997). Subsequently any works that may impact the hedgerows require prior permission from the Local Authority before any hedgerow removal can be undertaken on site to avoid an offence under the Hedgerow Regulations (1997). A recommendation to this effect is provided in Chapter 6.

Although the remained of the surveyed hedgerows on site do not meet the criteria for classification as 'important' hedgerows under the Hedgerow Regulations (1997), it should be noted that all hedgerows are of value to wildlife as they provide suitable habitat for a variety of uncommon species, as well as acting as dispersal corridors between other important habitat types.

Any works scheduled to occur in proximity to hedgerows have the potential to result in root damage and soil compaction, which may ultimately prove fatal to the woody species. Such damage can be minimised through appropriate mitigation such as the incorporation of an appropriate standoff distance for excavation machinery, and ecological supervision of excavations which may occur near to important features. This is particularly important should works be needed at times of year when hedgerows are likely to support nesting bird species.

The creation of gaps within hedgerows can result in habitat fragmentation, whereby species may be dissuaded from crossing open spaces and therefore become isolated. As such, it is advised that hedgerows should be retained and kept intact where possible and reinstated with appropriate native species planting of local provenance if temporary removal is required. Where the permanent loss of hedgerows is perceived, it is recommended that these are replaced elsewhere on site in order to preserve the overall hedgerow resource at the currently level or greater. A recommendation to this effect is made in Chapter 6.

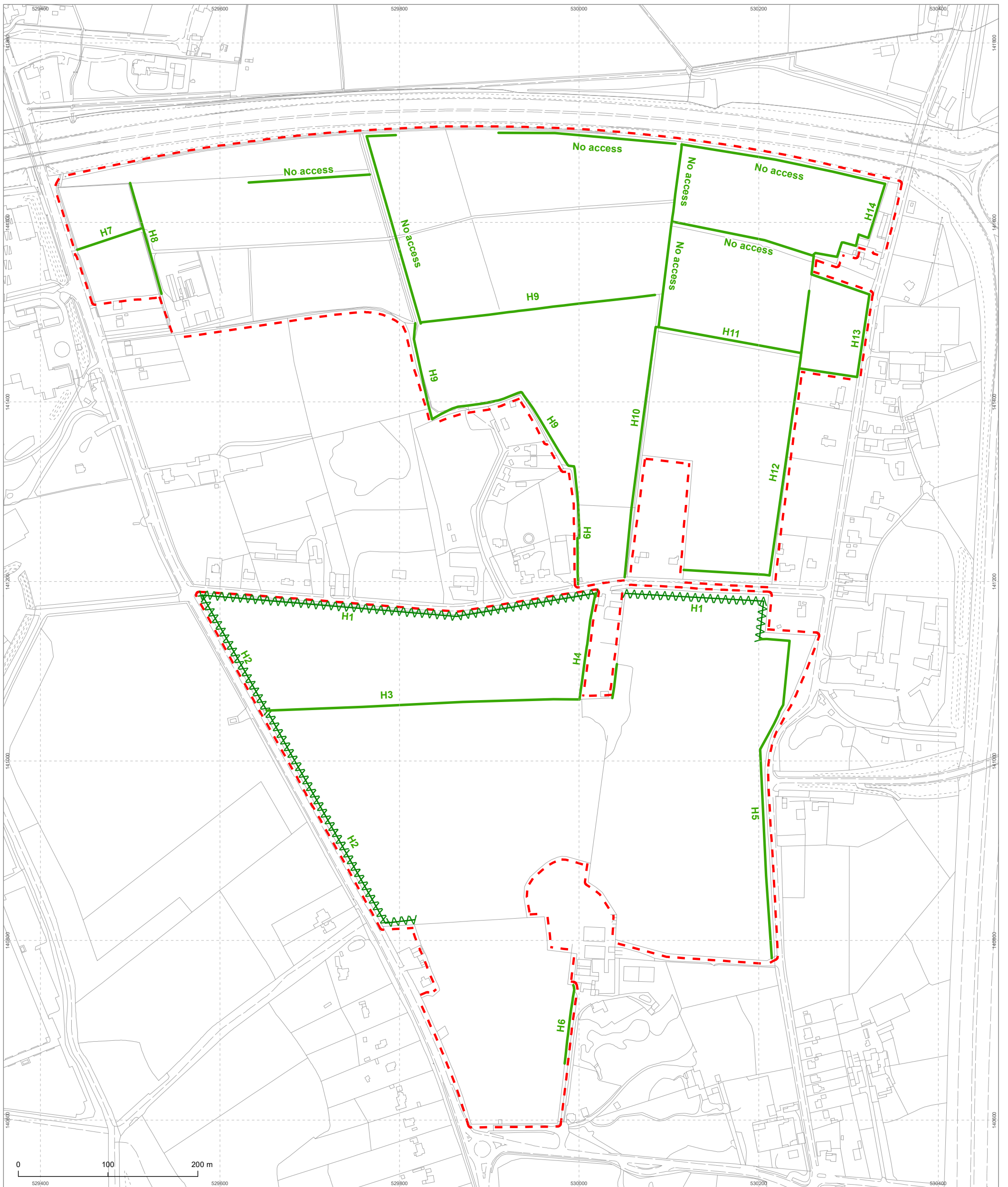
6. RECOMMENDATIONS

All recommendations provided in this section are based on Middlemarch Environmental Ltd's current understanding of the site proposals, correct at the time the report was compiled. Should the proposals alter, the conclusions and recommendations made in the report should be reviewed to ensure that they remain appropriate.


- R1** Hedgerows H1 and H2 are classified as important under the Hedgerow Regulations (1997), and should therefore be retained and protected during any development of the site. Should any impacts to important hedgerows be unavoidable, permission must first be sought from the local authority.
- R2** In accordance with Chapter 15 of the National Planning Policy Framework, the proposed development should be designed to allow for the retention and enhancement of hedgerow features where possible. Where loss of hedgerows is unavoidable, appropriate reinstatement/replacement should be undertaken, using native species of local provenance. Further, it is recommended that the proposed development incorporates the creation of new areas of native species hedgerow.
- R3** Any hedgerows on or adjacent to the site that are not to be directly impacted by the proposed works should be protected from harm during the development. Protection should be based on British Standard 5837: 2012 "Trees in relation to design, demolition and construction - recommendations".
- R4** To ensure compliance with the Wildlife and Countryside Act 1981 (as amended), vegetation clearance should be undertaken outside the nesting bird season. The nesting bird season is weather dependent but generally extends between March and September inclusive. If this is not possible then any vegetation that is to be removed or disturbed should be checked by an experienced ecologist for nesting birds immediately prior to works commencing. If birds are found to be nesting, any works which may affect them will have to be delayed until the young have fledged and the nest has been abandoned naturally.

7. DRAWINGS

Drawing C151186-02-01 – Locations of Hedgerows Assessment



- Legend**
- - - Site boundary
 - Species-poor intact hedgerow
 - - - Species-rich intact hedgerow

Project Gatwick Green, West Sussex	
Drawing Hedgerow Regulation Assessment	
Client Savills	
Drawing Number C151186-02-01	Revision 00
Scale @ A3 1:4,000	Date December 2019
Approved By SM	Drawn By VO
 MIDDLEMARCH ENVIRONMENTAL	
Triumph House, Birmingham Road, Allesley, Coventry CV5 9AZ T: 01676 525880 F: 01676 521400 E: admin@middlemarch-environmental.com	
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8. PHOTOGRAPHS



Plate 1: H1



Plate 2: H2



Plate 3: H5



Plate 4: H8



Plate 5: H9



Plate 6: H12

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Ministry of Housing, Communities and Local Government (2019). *National Planning Policy Framework*. Available: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>