

## High Speed Rail (Crewe – Manchester)

### Background information and data

#### Ecology and biodiversity

BID EC-005-00001

Ecological baseline data - hedgerows

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## Department for Transport

High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

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# 1 Introduction

- 1.1.1 This report presents a summary of the baseline data relating to hedgerows.
- 1.1.2 Baseline data have been collected for the Proposed Scheme in relation to the following community areas (CA):
- Hough to Walley's Green (MA01);
  - Wimboldsley to Lostock Gralam (MA02);
  - Pickmere to Agden and Hulseheath (MA03);
  - Broomedge to Glazebrook (MA04);
  - Risley to Bamfurlong (MA05);
  - Hulseheath to Manchester Airport (MA06);
  - Davenport Green to Ardwick (MA07); and
  - Manchester Piccadilly Station (MA08).
- 1.1.3 This report should be read in conjunction with Map Series EC-10 in the Background Information and Data, Ecology Map Book. There are no important hedgerows in community area MA08, so none appear on pages of the EC-10 Map Book relating to MA08.
- 1.1.4 The Environmental Statement<sup>1</sup> should be referred to for details of the ecology impact assessment.

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<sup>1</sup> High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Environmental Statement*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.

## 2 Hedgerows

### 2.1 Methodology

- 2.1.1 Details of the standard methodology utilised for hedgerow surveys are provided in Technical Note HS2 – Ecology and biodiversity – Ecological Field Survey Methods and Standards (FSMS) included in the Environmental Impact Assessment Scope and Methodology Report (SMR) (see Environmental Statement, Volume 5, Appendix CT-001-00001).
- 2.1.2 Sites for hedgerow survey were identified as those within 100m of the land required for the construction of the Proposed Scheme. Information on designated sites for which hedgerows are the primary feature of interest were obtained from the following sources:
- rECord, Local Biological Records Centre for the Cheshire region;
  - GMLRC, Greater Manchester Local Record Centre; and
  - Merseyside Biobank, Local Biological Records Centre for the North Merseyside Region.

### 2.2 Deviations, constraints and limitations

- 2.2.1 All hedgerows within and up to 100m from the land required for construction of the Proposed Scheme were identified from aerial photography and were then scoped and surveyed in the field.
- 2.2.2 Hedgerow surveys can be undertaken at any time of year, but the optimal period is April to October<sup>2</sup>. All surveys undertaken were carried out within this period.
- 2.2.3 To assess Hedgerow Regulations<sup>3</sup> criterion 2 (see Table 3), desk study records for protected and notable faunal species provided by the data providers listed in paragraph 2.1.2 were used. To verify if a faunal species record was 'contained' in the hedge, only data of 8-figure accuracy or greater (10m accuracy or greater) present within 5m either side of the hedge was used. Data older than 20 years was not used in the assessment.
- 2.2.4 A number of hedgerows were not surveyed due to lack of land access. The likely classification of the hedgerows within these land parcels is detailed in Table 1.

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<sup>2</sup> Department for Environment, Food and Rural Affairs (2007), *Hedgerow Survey Handbook: A standard procedure for local surveys in the UK*, 2nd edition, Defra, London.

<sup>3</sup> The Hedgerow Regulations (1997), SI 1997/1160, London, Her Majesty's Stationery Office.

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**Table 1: Summary of hedgerows where no access was available for survey within MA01 to MA08**

Site name and location	Likely classification	Distance from the Proposed Scheme	CA <sup>4</sup>
Fields north of Church Minshull; land east of Stanley Park; land surrounding Warlingham	121 important hedgerows	Adjacent to the land required for the construction of the Proposed Scheme.	MA01
Fields north of Minshull Vernon; fields between Middlewich and Wharton; fields south of Whatcroft; fields between Plumley and Lostock Gralam	448 important hedgerows	Within and adjacent to the land required for the construction of the Proposed Scheme.	MA02
Fields north of Royal Cheshire Show Ground; fields east of High Legh; fields south of Deansgreen; land east of Over Tabley	163 important hedgerows	Within and adjacent to the land required for the construction of the Proposed Scheme.	MA03
Land north-east of Broomedge; land east of Cross Lane Park; land east of New Moors Wood; land east of Warburton; land south of Glazebrook; land surrounding Cadishead Moss	111 important hedgerows	Within and adjacent to the land required for the construction of the Proposed Scheme.	MA04
Land surrounding Culcheth; land east of Kenyon; land surrounding Lowton Common; land west of Pennington Flash; Land south of Platt Bridge	246 important hedgerows	Within and adjacent to the land required for the construction of the Proposed Scheme.	MA05
Land east of Rostherne Mere; land east of Sunbank Wood; land east of Davenport Green; land south of Ashley; fields surrounding Cheshire East	650 important hedgerows	Adjacent to the land required for the construction of the Proposed Scheme.	MA06
Land east of Didsbury; land south of Heald Green	15 important hedgerows	Within and adjacent to the land required for the construction of the Proposed Scheme.	MA07

2.2.5 Hedgerows that are 'important'<sup>5</sup> because they qualify under The Hedgerows Regulations 1997<sup>3</sup> Wildlife and Landscape criteria are identified in Table 2.

## 2.3 Baseline

2.3.1 The Hedgerow Regulations 1997<sup>3</sup> Wildlife and Landscape criteria referred to in this section are listed in further detail at the end of this document in Table 3 'Key to wildlife and

<sup>4</sup> There are no hedgerows in MA08.

<sup>5</sup> Hedgerow which meets the necessary criteria defined in the Hedgerow Regulations 1997. Note the current assessment only takes into consideration the wildlife and landscape criteria, as archaeological and historical value does not form part of the scope of the ecological assessment.

landscape criteria used in Table 2'. Reference to 'Schedule 3' is in relation to The Hedgerow Regulations 1997<sup>3</sup>.

## **Hough to Walley's Green (MA01)**

- 2.3.2 Within this area and within 100m of the land required for the construction of the Proposed Scheme, a total of 46 hedgerows (with a combined length of approximately 7.4km) were surveyed, to determine whether they meet the Wildlife and Landscape criteria to be considered an 'important' hedgerow under the Hedgerow Regulations 1997<sup>3</sup>. Of those, six qualify as important hedgerows (with a combined length of approximately 1.0km) and are detailed in Table 2. In total, four of these important hedgerows (with a combined length of approximately 750m) are located within the land required for the construction of the Proposed Scheme.
- 2.3.3 One important hedgerow qualifies under criterion two (that the hedgerow supports or has desk study records of species protected in Schedules 1, 5 or 8 of the Wildlife and Countryside Act 1981<sup>6</sup>, or red data book species). Two important hedgerows qualify under criterion three (at least seven woody species from Schedule 3). Two important hedgerows qualify under criterion four (six woody species on Schedule 3 and three additional features). Three important hedgerows qualify under criterion six (at least five woody species and at least four of the features specified under criterion four). One important hedgerow qualifies under criterion seven, which is that the hedgerow is adjacent to a bridleway or footpath, a road used as a public path, or a byway open to all traffic and, that it includes at least four woody species and at least two of the specified features, such as a ditch, bank or mature trees.
- 2.3.4 Typical species recorded within important hedgerows in Hough to Walley's Green (MA01) include crab apple (*Malus Sylvestris*), blackthorn (*Prunus spinosa*), hawthorn (*Crataegus monogyna*), pedunculate oak (*Quercus robur*) and rose (*Rosa species*).
- 2.3.5 The citation for Spring Plantation Grassland Local Wildlife Site (LWS) references 'species-rich hedgerows, containing veteran crack willows'. The LWS is located at SJ696587, north of Crewe and is within the land required for the construction of the Proposed Scheme. Of the hedgerows surveyed within Spring Plantation Grassland, one qualifies as 'important'.

## **Wimboldsley to Lostock Gralam (MA02)**

- 2.3.6 Within this area and within 100m of the land required for the construction of the Proposed Scheme), a total of 189 hedgerows (with a combined length of approximately 30.1km) were surveyed, to determine whether they meet the Wildlife and Landscape criteria to be considered an 'important' hedgerow under the Hedgerow Regulations 1997<sup>3</sup>. Of those, 28 qualify as important hedgerows (with a combined length of approximately 5.4km) and are

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<sup>6</sup> The Wildlife and Countryside Act (1981), London, Her Majesty's Stationery Office.



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detailed in Table 2. In total, 21 of those important hedgerows (with a combined length of approximately 4.7km) are located within the land required for construction of the Proposed Scheme.

- 2.3.7 Seven important hedgerows qualify under criterion three (at least seven woody species from Schedule 3). Ten important hedgerows qualify under criterion four (six woody species on Schedule 3 and three additional features). One important hedgerow qualifies under criterion five (at least six woody species on Schedule 3, including native black poplar (*Populus nigra* ssp. *beautifolia*), small-leaved lime (*Tilia cordata*) or large-leaved lime (*Tilia platyphyllos*) or wild service tree (*Sorbus torminalis*). Six important hedgerows qualify under criterion six (contains at least five woody species and at least four of the features specified under criterion four). Thirteen important hedgerows qualify under criterion seven, which is that the hedgerow is adjacent to a bridleway or footpath, a road used as a public path, or a byway open to all traffic and, that it includes at least four woody species and a least two of the specified features, such as a ditch, bank or mature trees.
- 2.3.8 Typical species recorded within important hedgerows in Wimboldsley to Lostock Gralam (MA02) include ash (*Fraxinus excelsior*), blackthorn, elder (*Sambucus nigra*), hawthorn, pedunculate oak, hazel (*Corylus avellane*) and rose. Small-leaved lime is present in one of the important hedgerows surveyed.
- 2.3.9 The River Dane Bostock LWS designation refers to species rich hedgerows. The LWS, located east of Winsford, is within the land required for the construction of the Proposed Scheme. Whatcroft Hedge LWS, located near Whatcroft, is designated for the hedgerow itself, which is species-rich and contains a veteran ash tree.

## Pickmere to Agden and Hulseheath (MA03)

- 2.3.10 Within this area, a total of 280 hedgerows with a combined length of approximately 46.6km were surveyed (within 100m of the land required for the construction of the Proposed Scheme) to determine whether they meet the Wildlife and Landscape criteria to be considered an ‘important’ hedgerow under the Hedgerow Regulations 1997<sup>3</sup>. Of those, 23 qualify as important hedgerows (with a combined length of approximately 4.9km) and are detailed in Table 2. In total, 22 of those important hedgerows (with a combined length of approximately 4.85km) are located within the land required for the construction of the Proposed Scheme.
- 2.3.11 Five important hedgerows qualify under criterion two (that the hedgerow supports or has desk study records of species protected in Schedules 1, 5 or 8 of the Wildlife and Countryside Act 1981<sup>6</sup>, or red data book species). Seven important hedgerows qualify under criterion four (at least six woody species on Schedule 3 and three additional features). Three important hedgerows qualify under criterion six (at least five woody species and at least four of the features specified under criterion four). Eleven important hedgerows qualify under criterion seven, which is that the hedgerow is adjacent to a bridleway or footpath, a road used as a public path, or a byway open to all traffic and that it includes at least four woody species and at least two of the features specified, such as a ditch, bank or mature trees.

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- 2.3.12 Typical species recorded within important hedgerows in Pickmere to Agden and Hulseheath (MA03) include ash, blackthorn, hawthorn, pedunculate oak, hazel and rose. Small-leaved lime is present in eight of the important hedgerows surveyed.
- 2.3.13 No designated sites for which hedgerows are the primary feature of interest were identified within Pickmere to Agden and Hulseheath (MA03).

### Broomedge to Glazebrook (MA04)

- 2.3.14 Within this area, a total of 144 hedgerows with a combined length of approximately 19.0km were surveyed (within 100m of the land required for the construction of the Proposed Scheme) to determine whether they meet the Wildlife and Landscape criteria to be considered an ‘important’ hedgerow under the Hedgerow Regulations 1997<sup>3</sup>. Of those, four qualify as important hedgerows (with a combined length of approximately 500m) and are detailed in Table 2. In total three of those important hedgerows (with a combined length of approximately 400m) are located within the land required for the construction of the Proposed Scheme.
- 2.3.15 Two important hedgerows qualify under criterion three (they have at least seven woody species from Schedule 3). Two important hedgerows qualify under criterion four (at least six woody species on Schedule 3 and three additional features). Two important hedgerows qualify under criterion six (that the hedgerow contains at least five woody species and at least four of the features specified under criterion four). Two important hedgerows qualify under criterion seven (that the hedgerow is adjacent to a bridleway or footpath, a road used as a public path, or a byway open to all traffic and that it includes at least four woody species and a least two of the features specified such as a ditch, bank or mature trees).
- 2.3.16 Typical species recorded within important hedgerows in Broomedge to Glazebrook (MA04) include alder, ash, hawthorn, pedunculate oak and willow.
- 2.3.17 No designated sites for which hedgerows are the primary feature of interest were identified within Broomedge to Glazebrook (MA04).

### Risley to Bamfurlong (MA05)

- 2.3.18 Within this area, a total of 146 hedgerows with a combined length of approximately 17.2km were surveyed (within 100m of the land required for the construction of the Proposed Scheme) to determine whether they meet the Wildlife and Landscape criteria to be considered an ‘important’ hedgerow under the Hedgerow Regulations 1997<sup>3</sup>. Of those, four qualify as important hedgerows (with a combined length of approximately 1.1km) and are detailed in Table 2. In total four of those important hedgerows (with a combined length of approximately 1.1km) are located within the land required for the construction of the Proposed Scheme.
- 2.3.19 Two important hedgerows qualify under criterion three (they have at least seven woody species from Schedule 3). One important hedgerow qualifies under criterion four (six woody

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species on Schedule 3 and three additional features). One important hedgerow qualifies under criterion six, which is that the hedgerow contains at least five woody species and at least four of the features specified under criterion four. Two important hedgerow qualifies under criterion seven, which is that the hedgerow is adjacent to a bridleway or footpath, a road used as a public path, or a byway open to all traffic and that it includes at least four woody species and a least two of the features specified such as a ditch, bank or mature trees.

- 2.3.20 Typical species recorded within important hedgerows in Risley to Bamfurlong (MA05) include alder, hawthorn, ash, pedunculate oak, and willow.
- 2.3.21 No designated sites for which hedgerows are the primary feature of interest were identified within Risley to Bamfurlong (MA05).

## Hulseheath to Manchester Airport (MA06)

- 2.3.22 Within this area, a total of 166 hedgerows with a combined length of approximately 24.1km were surveyed (within 100m of the land required for the construction of the Proposed Scheme) to determine whether they meet the Wildlife and Landscape criteria to be considered an ‘important’ hedgerow under the Hedgerow Regulations 1997<sup>3</sup>. Of those, 15 qualify as important hedgerows (with a combined length of approximately 2.6km) and are detailed in Table 2. In total, 11 of those important hedgerows (with a combined length of approximately 2.2km) are located within the land required for the construction of the Proposed Scheme.
- 2.3.23 Three important hedgerows qualify under criterion two (that the hedgerow supports or has desk study records of species protected in Schedules 1, 5 or 8 of the Wildlife and Countryside Act 1981<sup>6</sup>, or red data book species). One hedgerow qualifies under criterion three (they have at least seven woody species from Schedule 3). Two important hedgerows qualify under criterion four (i.e. six woody species on Schedule 3 and three additional features). Two important hedgerows qualify under criterion six (i.e. the hedgerow contains at least five woody species and at least four of the features specified under criterion four). Seven important hedgerows qualify under criterion seven (i.e. the hedgerow is adjacent to a bridleway or footpath, a road used as a public path, or a byway open to all traffic and that it includes at least four woody species and a least two of the features specified such as a ditch, bank or mature trees).
- 2.3.24 Typical species recorded within important hedgerows in Hulseheath to Manchester Airport (MA06) include ash, blackthorn, elder, hawthorn, hazel, pedunculate oak and rose.
- 2.3.25 No designated sites for which hedgerows are the primary feature of interest were identified within Hulseheath to Manchester Airport (MA06).

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### **Davenport Green to Ardwick (MA07)**

- 2.3.26 Within this area, a total of three hedgerows with a combined length of approximately 200m were surveyed (within 100m of the land required for the construction of the Proposed Scheme) to determine whether they meet the Wildlife and Landscape criteria to be considered an important hedgerow under the Hedgerow Regulations 1997<sup>3</sup>. Of those, no hedgerows qualify as important.
- 2.3.27 No designated sites for which hedgerows are the primary feature of interest were identified within Davenport Green to Ardwick (MA07).

### **Manchester Piccadilly Station (MA08)**

- 2.3.28 No hedgerows requiring survey, as defined by the Hedgerow Regulations 1997<sup>3</sup>, were present within the survey area.
- 2.3.29 No designated sites for which hedgerows are the primary feature of interest were identified within Manchester Piccadilly (MA08).

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**Table 2: Summary of hedgerows qualifying as 'important' within MA01 to MA08**

Ecology survey code	Centroid OS (Ordnance Survey) grid reference	Survey date	Qualifying wildlife and landscape criteria							CA	Within the land required for the construction of the Proposed Scheme (Yes/No)
			(1)	(2)	(3)	(4)	(5)	(6)	(7)		
CH253449_L8496_H S1_F002_140819	SJ6918358431	14 August 2019	Yes	Yes	No	No	No	Yes	No	MA01	No
CH455194- CH606449_L5379_H S1_F007_030919	SJ6924061031	3 September 2019	Yes	No	No	No	No	Yes	Yes	MA01	Yes
CH252879- CH616525_L8121_H S1_F002_040719	SJ6956158789	4 July 2019	Yes	No	No	No	No	Yes	No	MA01	Yes
CH252879- CH616525_L8121_H S1_F001_030719	SJ6958258733	3 July 2019	Yes	No	Yes	No	No	No	No	MA01	Yes
CH597265_L5956_H S1_F002_050918	SJ6963359301	5 September 2018	Yes	No	No	Yes	No	No	No	MA01	Yes
CH496892- CH562148_L16313_ HS1_F001_080920	SJ7075659153	8 September 2020	Yes	No	Yes	Yes	No	No	No	MA01	No
CH263562_L11168_ HS1_F002_240920	SJ6770965366	24 September 2020	Yes	No	Yes	No	No	No	No	MA02	No
CH446766_L5497_H S1_F003_121017	SJ6824769668	12 October 2017	Yes	No	No	No	No	Yes	Yes	MA02	Yes
CH446575- CH512447_L5292_H	SJ6836865075	8 September 2020	Yes	No	Yes	Yes	Yes	No	No	MA02	Yes

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Ecology survey code	Centroid OS (Ordnance Survey) grid reference	Survey date	Qualifying wildlife and landscape criteria							CA	Within the land required for the construction of the Proposed Scheme (Yes/No)	
			(1)	(2)	(3)	(4)	(5)	(6)	(7)			
S1_F008_080920												
CH120256-CH649829_L5391_H S1_F020_251018	SJ6849071099	25 October 2018	Yes	No	Yes	No	No	No	No	No	MA02	Yes
CH515800_CH53489 2_L5206_HS1_F002_240719	SJ6850670089	24 July 2019	Yes	No	No	No	No	No	No	Yes	MA02	Yes
CH333308-U204382_L6083_HS1_F004_190619	SJ6854671501	19 June 2019	Yes	No	No	No	No	No	Yes	No	MA02	Yes
CH333308-U204382_L6083_HS1_F016_190619	SJ6858071516	19 June 2019	Yes	No	No	Yes	No	No	No	No	MA02	Yes
L4715_HS1_F001_28 0920	SJ6861665624	28 September 2020	Yes	No	No	No	No	No	No	Yes	MA02	Yes
CH5202-CH672512-U204269_L8949_HS1_F006_250719	SJ6861966577	25 July 2019	Yes	No	No	Yes	No	No	No	No	MA02	No
CH446575-CH512447_L5292_H S1_F003_080920	SJ6862665272	8 September 2020	Yes	No	Yes	No	No	No	No	No	MA02	Yes
CH566710-U204268_L9015_HS1_F001_040919	SJ6862670332	4 September 2019	Yes	No	Yes	Yes	No	No	Yes	Yes	MA02	Yes

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Ecology survey code	Centroid OS (Ordnance Survey) grid reference	Survey date	Qualifying wildlife and landscape criteria							CA	Within the land required for the construction of the Proposed Scheme (Yes/No)
			(1)	(2)	(3)	(4)	(5)	(6)	(7)		
CH203954_L5382_H S1_F014_170817	SJ6865066077	17 August 2017	Yes	No	No	No	No	Yes	No	MA02	Yes
CH5202-CH672512-U204269_HS1_F005_250719	SJ6865266574	25 July 2019	Yes	No	No	No	No	No	No	MA02	No
CH515800_CH53489 2_L5206_HS1_F003_240719	SJ6865270015	24 July 2019	Yes	No	No	No	No	No	Yes	MA02	Yes
CH614475_L5152_H S1_F004_090920	SJ6867470615	9 September 2020	Yes	No	No	Yes	No	No	No	MA02	Yes
CH402012-CH505004_L6340_H S1_F002_091018	SJ6871571888	9 October 2018	Yes	No	No	No	No	Yes	No	MA02	Yes
CH505004_L6247_H S1_F007_111018	SJ6878671890	11 October 2018	Yes	No	No	No	No	Yes	Yes	MA02	Yes
CH120256-CH649829_L5391_H S1_F007_251018	SJ6878971356	25 October 2018	Yes	No	Yes	Yes	No	No	No	MA02	Yes
CH402012-CH505004_L6340_H S1_F005_091018	SJ6881671519	9 October 2018	Yes	No	No	Yes	No	No	Yes	MA02	Yes
CH568808_L5404_H S1_F005_090920	SJ6883564334	9 September 2020	Yes	No	No	Yes	No	No	No	MA02	Yes

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			(1)	(2)	(3)	(4)	(5)	(6)	(7)		
CH568808_L5404_H S1_F006_090920	SJ6891364356	9 September 2020	Yes	No	No	Yes	No	No	No	MA02	No
CH505004_L6247_H S1_F003_111018	SJ6894771665	11 October 2018	Yes	No	No	No	No	No	Yes	MA02	No
CH505004_L6247_H S1_F004_111018	SJ6896771890	11 October 2018	Yes	No	No	No	No	No	Yes	MA02	No
CH505004_L6247_H S1_F002_111018	SJ6901671940	11 October 2018	Yes	No	No	No	No	No	Yes	MA02	Yes
L8027_HS1_F001_28 0920	SJ6914264923	28 September 2020	Yes	No	Yes	Yes	No	No	No	MA02	No
CH344686_L5011_H S1_F001_161018	SJ6993976063	16 October 2018	Yes	No	No	No	No	No	Yes	MA02	Yes
CH345412_L5865_H S1_F001_270918	SJ7018376042	27 September 2018	Yes	No	No	No	No	No	Yes	MA02	Yes
CH373977- CH557156- CH583753-U200950- U201196_L5489_HS1 _F011_200619	SJ7050975093	20 June 2019	Yes	No	No	No	No	No	Yes	MA02	Yes
CH568445- CH64082_L5306_HS 1_F003_170920	SJ7052977336	17 September 2020	Yes	Yes	No	No	No	No	No	MA03	Yes
CH434587_L5232_H	SJ7054480505	24 October 2018	Yes	No	No	No	No	No	Yes	MA03	No



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Ecology survey code	Centroid OS (Ordnance Survey) grid reference	Survey date	Qualifying wildlife and landscape criteria							CA	Within the land required for the construction of the Proposed Scheme (Yes/No)	
			(1)	(2)	(3)	(4)	(5)	(6)	(7)			
S1_F001_241018												
CH568445_L5498_H S1_F004_231018	SJ7065976965	23 October 2018	Yes	No	No	No	No	No	Yes	No	MA03	Yes
CH561651_L5486_H S1_F001_060918	SJ7080978985	6 September 2018	Yes	No	No	Yes	No	No	Yes	No	MA03	Yes
CH561651_L5486_H S1_F002_060918	SJ7085378920	6 September 2018	Yes	No	No	Yes	No	No	Yes	No	MA03	Yes
CH145138_L6053_H S1_F001_111018	SJ7085679013	11 October 2018	Yes	No	No	No	No	No	No	Yes	MA03	Yes
CH145138_L6053_H S1_F002_111018	SJ7088879099	11 October 2018	Yes	No	No	No	No	No	No	Yes	MA03	Yes
CH439987_L6250_H S1_F001_040918	SJ7101081471	4 September 2018	Yes	No	No	No	No	No	No	Yes	MA03	Yes
U203264_L9022_HS1 _F004_250820	SJ7112782201	25 August 2020	Yes	No	No	No	No	No	No	Yes	MA03	Yes
CH517829_L6291_H S1_F001_251018	SJ7113680647	25 October 2018	Yes	Yes	No	No	No	No	No	No	MA03	Yes
CH258462_L5350_H S1_F004_060918	SJ7118079937	6 September 2018	Yes	No	No	No	No	No	No	Yes	MA03	Yes
CH517829_L6301_H S1_F009_260919	SJ7119980499	26 September 2019	Yes	No	No	No	No	No	No	Yes	MA03	Yes
CH614513_L9023_H S1_F001_250820	SJ7123682991	25 August 2020	Yes	No	No	Yes	No	No	No	Yes	MA03	Yes

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Ecology survey code	Centroid OS (Ordnance Survey) grid reference	Survey date	Qualifying wildlife and landscape criteria							CA	Within the land required for the construction of the Proposed Scheme (Yes/No)	
			(1)	(2)	(3)	(4)	(5)	(6)	(7)			
U203264_L9022_HS1_F001_250820	SJ7129982239	25 August 2020	Yes	No	No	No	No	No	No	Yes	MA03	Yes
CH517829_L6301_HS1_F001_260919	SJ7130281009	26 September 2019	Yes	Yes	No	No	No	No	No	No	MA03	Yes
CH517829_L6291_HS1_F014_250918	SJ7133881693	25 September 2018	Yes	No	No	Yes	No	No	No	No	MA03	Yes
CH517829_L6301_HS1_F008_260919	SJ7135780798	26 September 2019	Yes	Yes	No	No	No	No	No	No	MA03	Yes
CH517829_L6291_HS1_F004_250918	SJ7140982305	25 September 2018	Yes	No	No	No	No	No	No	Yes	MA03	Yes
CH177427_L5968_HS1_F001_060918	SJ7144284308	6 September 2018	Yes	No	No	Yes	No	No	No	No	MA03	Yes
CH517829_L6301_HS1_F006_260919	SJ7163080791	26 September 2019	Yes	Yes	No	No	No	No	No	No	MA03	Yes
U203280_L8123_HS1_F005_250820	SJ7173084956	25 August 2020	Yes	No	No	Yes	No	No	No	No	MA03	Yes
GM451813-MAN44064_L5470_HS1_F002_060918	SJ7187483979	6 September 2018	Yes	No	No	Yes	No	No	No	No	MA03	Yes
CH408969_L21123_HS1_F001_091018	SJ7190984833	9 October 2018	Yes	No	No	No	No	No	No	Yes	MA03	Yes
CH198535-CH485519-CH94838-	SJ6839092285	27 August 2019	Yes	No	Yes	Yes	No	No	No	Yes	MA04	No

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Ecology survey code	Centroid OS (Ordnance Survey) grid reference	Survey date	Qualifying wildlife and landscape criteria							CA	Within the land required for the construction of the Proposed Scheme (Yes/No)	
			(1)	(2)	(3)	(4)	(5)	(6)	(7)			
U201257_L21471_H S1_F002_270819												
GM711551-GM932762_L4700_H S1_F001_251018	SJ7096289571	25 October 2018	Yes	No	Yes	Yes	No	No	No	MA04	Yes	
GM711551_GM932762_L4700_HS1_F003_251018	SJ7100889515	25 October 2018	Yes	No	No	No	No	Yes	Yes	MA04	Yes	
U201296_L21515_HS1_F002_290919	SJ7132788738	29 September 2019	Yes	No	No	No	No	Yes	No	MA04	Yes	
CH379959_CH380746_CH380493_CH380494_CH432551_CH542636_U204259_U202575_L21388_HS1_F002_200819	SJ6362795702	20 August 2019	Yes	No	Yes	No	No	No	No	MA05	Yes	
CH422183_L4993_H S1_F003_161018	SJ6383096561	16 October 2018	Yes	No	Yes	Yes	No	Yes	No	MA05	Yes	
CH557945_L21166_HS1_F001_181018	SJ6504294481	18 October 2018	Yes	No	No	No	No	No	Yes	MA05	Yes	
CH260679_L6102_H S1_F006_190918	SJ6576293772	19 September 2018	Yes	No	No	No	No	No	Yes	MA05	Yes	
CH363792_L5751_H S1_F001_091018	SJ7245885051	9 October 2018	Yes	No	No	No	No	No	Yes	MA06	Yes	

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Ecology survey code	Centroid OS (Ordnance Survey) grid reference	Survey date	Qualifying wildlife and landscape criteria							CA	Within the land required for the construction of the Proposed Scheme (Yes/No)	
			(1)	(2)	(3)	(4)	(5)	(6)	(7)			
CH573339-CH577100_L5194_H S1_F002_120619	SJ7273883750	12 June 2019	Yes	Yes	No	No	No	No	No	No	MA06	No
CH573339-CH577100_L5328_H S1_F002_110619	SJ7282384337	11 June 2019	Yes	No	No	No	No	No	No	Yes	MA06	Yes
CH573339-CH622028_L5370_H S1_F001_110619	SJ7314784424	11 June 2019	Yes	Yes	No	No	No	No	No	No	MA06	Yes
CH134215-CH490825-CH573339_L5417_H S1_F004_080519	SJ7353284998	8 May 2019	Yes	Yes	No	No	No	No	No	No	MA06	Yes
CH480792_L5149_H S1_F002_181018	SJ7920883730	18 October 2018	Yes	No	No	No	No	No	Yes	No	MA06	Yes
CH480792_L5149_H S1_F001_181018	SJ7923283840	18 October 2018	Yes	No	No	Yes	No	No	No	No	MA06	No
CH542392_L5218_H S1_F008_111018	SJ7938483890	11 October 2018	Yes	No	No	No	No	No	No	Yes	MA06	Yes
CH542392_L5218_H S1_F007_111018	SJ7952083869	11 October 2018	Yes	No	No	No	No	No	No	Yes	MA06	No
CH542392_L5218_H S1_F006_111018	SJ7952683866	11 October 2018	Yes	No	No	No	No	No	No	Yes	MA06	No

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Ecology survey code	Centroid OS (Ordnance Survey) grid reference	Survey date	Qualifying wildlife and landscape criteria							CA	Within the land required for the construction of the Proposed Scheme (Yes/No)	
			(1)	(2)	(3)	(4)	(5)	(6)	(7)			
GM478972-MAN157768_L5040_HS1_F001_251018	SJ7968384276	25 October 2018	Yes	No	No	No	No	No	No	Yes	MA06	Yes
GM742096_L5884_HS1_F001_251018	SJ7986284510	25 October 2018	Yes	No	No	No	No	No	Yes	No	MA06	Yes
GM17960_L43438_HS1_F001_181018	SJ7994784839	18 October 2018	Yes	No	No	Yes	No	No	No	No	MA06	Yes
GM225194_L4633_HS1_F001_251018	SJ8002484599	25 October 2018	Yes	No	Yes	No	No	No	No	No	MA06	Yes
MAN212521_L43441_HS1_F003_181018	SJ8015684959	18 October 2018	Yes	No	No	No	No	No	No	Yes	MA06	Yes

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**Table 3: Key to wildlife and landscape criteria<sup>3</sup> used in Table 2**

Criteria	Definition
1	Hedgerow is obviously more than 30 years old.
2	Hedgerow currently supports or has desk study records of species protected in Schedules 1, 5 or 8 of the Wildlife and Countryside Act 1981 <sup>6</sup> , or red data book species for which relevant data is available.
3	Hedgerow contains at least seven woody species (from schedule 3).
4	Hedgerow contains at least six woody species (from schedule 3) and at least three of the following features identified in Schedule 1 Part II paragraph 7 sub-paragraph 4 of the Hedgerow Regulations 1997 <sup>3</sup> , which are: <ul style="list-style-type: none"> <li>• a bank or wall which supports the hedgerow along at least one half of its length;</li> <li>• gaps which in aggregate do not exceed 10% of the length of the hedgerow;</li> <li>• where the length of the hedgerow does not exceed 50m, at least one standard tree;</li> <li>• where the length of the hedgerow exceeds 50m but does not exceed 100m, at least two standard trees;</li> <li>• where the length of the hedgerow exceeds 100m such number of standard trees (within any part of its length) as would when averaged over its total length amount to at least one for each 50m;</li> <li>• at least three woodland species within 1m, in any direction, of the outermost edges of the hedgerow;</li> <li>• a ditch along at least one half of the length of the hedgerow;</li> <li>• connections scoring four points or more – connection with another hedgerow scores one point and a connection with a pond or a woodland in which the majority of trees are broad-leaved trees scores two points; and a hedgerow is connected with something not only if it meets it but also if it has a point within 10m of it and would meet it if the line of the hedgerow continued; and</li> <li>• a parallel hedge within 15m of the hedgerow.</li> </ul>
5	Hedgerow contains at least six woody species (from Schedule 3), including one of the following: <ul style="list-style-type: none"> <li>• black-poplar tree (<i>Populus nigra</i> ssp <i>betulifolia</i>);</li> <li>• large-leaved lime (<i>Tilia platyphyllos</i>);</li> <li>• small-leaved lime (<i>Tilia cordata</i>); and</li> <li>• wild service-tree (<i>Sorbus torminalis</i>).</li> </ul>
6	Hedgerow containing at least five woody species and at least four of the features specified under criteria 3.
7	Hedgerow is adjacent to a bridleway or footpath, a road used as a public path, a byway open to all traffic and includes at least four woody species and a least two of the features specified under criteria 3.

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### 3 References

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The Wildlife and Countryside Act (1981), London, Her Majesty's Stationery Office.

The Hedgerow Regulations (1997), SI 1997/1160, London, Her Majesty's Stationery Office.







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