M11 Junction 7a

Essex Highways

Hedgerow Assessment

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Document history and status

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Contents

1. Introduction **1**
2. Methodology **2**
2.1 Limitations 2
3. Results **3**
4. Discussion **5**
5. Conclusion **6**
6. References **7**

1. Introduction

Essex County Council Major Programmes and Infrastructure is developing a proposal for improving access to and from the M11 near to Harlow. The project is for the provision of a new motorway Junction (7A) for the M11 between Junctions 7 and 8, new roads linking the proposed junction to the existing B183 (Gilden Way) and widening of Gilden Way itself. This work is hereafter referred to as the 'Proposed Scheme'.

This report has been prepared in response to consultation comments received on the planning application for the Proposed Scheme (application number CC/EPF/08/17) regarding effects on hedgerows. The comment regarding hedgerows is presented below:

'There will be loss of native mature hedgerows. The hedgerows within the Link Area and Gilden Way are considered likely to fall within the Essex Biodiversity Action Plan (BAP) habitat descriptions for hedgerows and to be priority habitats. However, these have not been described in any detail within the nature conservation / ecology reports.'

2. Methodology

The Essex BAP uses the national description of hedgerows, where a hedgerow is defined as "*any boundary line of trees or shrubs over 20m long and less than 5m wide, and where any gaps between the trees or shrub species are less than 20m wide (Bickmore, 2002). Any bank, wall, ditch or tree within 2m of the centre of the hedgerow is considered to be part of the hedgerow habitat, as is the herbaceous vegetation within 2m of the centre of the hedgerow. All hedgerows consisting predominantly (i.e. 80% or more cover) of at least one woody UK native species are covered by this priority habitat, where each UK country can define the list of woody species native to their respective country. Climbers such as honeysuckle and bramble are recognised as integral to many hedgerows, however they require other woody plants to be present to form a distinct woody boundary feature, as such they are not included in the definition of woody species. The definition is limited to boundary lines of trees or shrubs, and excludes banks or walls without woody shrubs on top of them.*"

Several surveys have been undertaken that have assessed the status of hedgerows surrounding the Proposed Scheme, including a Phase 1 Habitat Survey (Jacobs, 2016a) and a Tree Survey and Arboricultural Impact Assessment Report (Jacobs 2016b). For those hedgerows which will be totally or partially lost due to construction of the Proposed Scheme, these reports have been reviewed to identify:

- Species present;
- Length (calculated using ArcGIS);
- Width (calculated using ArcGIS);
- Whether the hedgerow qualifies as a local (Essex) BAP habitat.

2.1 Limitations

The information contained within this report relating to the hedgerow descriptions i.e. lengths, widths and removal information, is considered to be reliable and accurate. The information has been collated from a variety of sources including the Phase 1 Habitat Survey data and arboricultural plans, compared against Google mapping and aerial imagery. Should there be any inconsistencies within the ES chapters relating to the hedgerow information, this report is considered to be the most accurate.

There may be discrepancies between the hedgerow lengths in this report and the landscape assessment. This is simply due to differences in measurements undertaken by different field surveyors. The difference for individual hedgerows is minor and therefore this is not considered to be significant.

3. Results

The Phase 1 Habitat Survey Report (Jacobs, 2016a) identifies a number of mature, intact hedgerows and hedgerows with trees bordering arable fields within the Link Area to the east of the Proposed Scheme. The hedgerows and hedgerows with trees are generally tall and thick and without significant gaps. There are a number of hedgerows along Gilden Way containing woody species such as oak *Quercus robur*, beech *Fagus sylvatica*, elm *Ulmus procera*, plum *Prunus* sp., blackthorn *Prunus spinosa*, hawthorn *Crataegus monogyna*, field maple *Acer campestre*, sycamore *Acer pseudoplatanus*, Leylandii x *Cupressocyparis leylandii*, hazel *Corylus avellana*, elder *Sambucus nigra* and ash *Fraxinus excelsior*.

Table 1 details the hedgerows due to be removed, the dominant species recorded within them and their length and width. The locations of these hedgerows are identified in Figure 1, Hedgerow Removal Plan.

Table 1 : List of hedgerows identified within the survey area to be totally or partially removed during construction of the Proposed Scheme

Hedgerow reference	Species	Approx length (m)	Width (m)	Length to be removed	Essex BAP Habitat
Totally removed					
G14	Elm, hawthorn, damson *Prunus domestica subsp. insititia*	52	3	52m	Yes
H27	Hornbeam *Carpinus betulus*, elder and sycamore	109	4	109m	Yes
H32	Leyland cypress *Cupressus* x *leylandii*	16	4	16m	No (less than 20m in length)
H48	Sycamore, hazel, field maple and hawthorn	38	2	38m	Yes
H76	Hawthorn, sycamore and field maple	101	2	101m	Yes
H95	Viburnum and sycamore	19	2	19m	No (less than 20m in length)
H98	Damson and purple plum	14	4	14m	No (less than 20m in length)
H107	Blackthorn	10	2	10m	No (less than 20m in length)
H154	Elm, elder and hornbeam *Carpinus betulus*	60	4	60m	Yes
T97(H97)	Cotoneaster	14	2	14m	No (less than 20m in length) and less than 80% woody UK native species
Partially removed					
H7	Maple, damson, viburnum and hazel	230	2	128m	Yes
H50	Hawthorn, sycamore and field maple	83	4	8m	Yes

H53	Field maple, Viburnum sp., beech and cherry *Prunus* sp.	473	2	289m	Yes
H61	Blackthorn, elder, field maple, oak *Quercus robur*, hawthorn	26	1	15m	Yes
H176	Blackthorn, goat willow *Salix caprea*, hazel and hawthorn	70	4	70m	Yes
Ha	Unknown*	99	2	39m	Yes
Hb	Sycamore, ash, blackthorn, elder, oak	75	1	64m	Yes
Hc	Unknown*	42	2	24m	Yes
Hd	Unknown*	125	6	98	No – greater than 5m in width
He	Unknown*	78	1	72	Yes
Hf	Alder *Alnus glutinosa*, Leyland cypress, black poplar *Populus nigra*, ash	60	3	40	Yes
Total	**-**	**1794**	**-**	**1280**	**-**

*Information unavailable in the reports reviewed and therefore presence of UK native woody species has been assumed

4. Discussion

As highlighted in Table 1, 21 hedgerows will be removed or partially removed as a result of construction of the Proposed Scheme, and of these 15 qualify as Essex BAP Habitat. Approximately 1280m of hedgerow will be removed of which 1109m is classified as priority habitat.

The unmitigated impact of hedgerow removal during construction and operation of the Proposed Scheme is predicted to be adverse, with the effects being permanent and confined to the local geographic area.

In order to mitigate for the loss of these hedgerows, approximately 4647m of replacement hedgerow will be planted along the boundaries of the Proposed Scheme once construction is completed. This will act as habitat replacement and enhancement as well as a visual and noise barrier to the surrounding countryside. Furthermore, existing mature trees, tree lines and hedgerows located immediately adjacent to the proposed construction footprint will be retained and protected.

The net gain in hedgerow habitat will contribute to the Essex 2020 BAP targets for hedgerows by ‘contributing to maintaining the net extent of hedgerows in the county’. The removal of some of the cotoneaster hedgerow (H97) will also contribute to the target of ‘improving the overall condition of hedgerows on site by removing non-native hedgerows’.

From an ecological perspective, all hedgerows are important as they provide habitat for commuting bats, nesting birds and other priority species such as hedgehogs *Erinaceus europaeus* and dormice *Muscardinus avellanarius* (although dormice have not been recorded on the M11). A detailed assessment of the impact the Proposed Scheme may have on protected and notable species can be found in the Ecology chapter of the Environmental Statement (Jacobs, 2017).

5. Conclusion

Following the submission of a planning application and Environmental Statement for the Proposed Scheme, Place Services of Essex County Council requested further information relating to the effects of the Proposed Scheme on hedgerows within the site boundary.

This report and supporting drawing document the lengths of hedgerow to be removed (total length 1280m, of which 1109m is Essex BAP habitat). Removal will be adequately mitigated through the provision of 4647m of replacement hedgerow planting providing a significant overall net increase in the length of hedgerow habitats. The creation of hedgerow habitats alongside the Proposed Scheme would facilitate the movement of bats and other species throughout the local landscape and ensure that connectivity to adjacent woodland habitats is maintained.

In conclusion, the proposed mitigation is considered to be proportionate to the anticipated impacts to hedgerows. There will be no long-term residual effects resulting from the loss of hedgerow within the Proposed Scheme boundary.

6. References

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