# A12 Chelmsford to A120 widening scheme TR010060

# 6.3 ENVIRONMENTAL STATEMENT APPENDIX 9.8 PHASE 1 HABITAT SURVEY REPORT

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# A12 Chelmsford to A120 widening scheme

Development Consent Order 202[ ]

## ENVIRONMENTAL STATEMENT
## APPENDIX 9.8 PHASE 1 HABITAT SURVEY REPORT

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## LIST OF CONTENTS

## LIST OF FIGURES



## LIST OF PLATES



## LIST OF TABLES

# 1 Executive summary

1.1.1 This report is an appendix of the A12 Chelmsford to A120 Widening Scheme Environmental Statement. This report presents the results of a desk study and field survey of habitats, ancient woodland, vascular plants and invasive non-native plants for the scheme and evaluation of the results. Also described is the policy and legislative context with respect to habitats, vascular plants and invasive non-native plants and within which the environmental impact assessment for the Scheme has been carried out. Likely significant effects on, and mitigation for hedgerows, are considered in Chapter 9 of the Environmental Statement [TR010060/APP/6.1].

1.1.1 The habitat survey covered land within approximately 600m of the Scheme, and used the Phase 1 habitat survey methodology to classify and map habitats.

1.1.2 Seven priority habitats were identified during the habitat survey, the resources of which within the study area for the habitat survey and within the Scheme area are summarised in Table 1.

1.1.3 Twenty-three sites in the Ancient Woodland Inventory were identified within 1km of the Scheme. Thirteen sites not in the inventory were identified as potential ancient woodland based on field survey results and available documentary evidence. None of these sites are within the footprint of Design Fix 1 of the Scheme.

1.1.4 Eighteen notable plant species were identified within 50m of the Scheme. The species, their distance from the Scheme based on Design Fix 1 and importance for biodiversity are listed in Table 2.

1.1.5 Thirty-eight invasive non-native plant species were identified from the desk study and field survey. Of these, there were records of ten species within 50m of the Design Fix 1 Scheme boundary.

**Table 1 Summary of Data**

| Priority habitat | Study area | | Scheme (Design Fix 1) | |
|---|---|---|---|---|
| | Total area / length | Number of features | Total area / length | Number of features |
| Arable Field Margins | 2.49ha | 2 | 0 | 0 |
| Eutrophic Standing Waters | 13.36ha | 6 | 0.42ha | 2 |
| Hedgerows | 175.08km | 1,180 | 44.40km | 342 |
| Lowland Mixed Deciduous Woodland | 47.89ha | 52 | 1.26ha | 7 |
| Open Mosaic Habitats on Previously Developed Land | 3.80ha | 1 | 0 | 0 |
| Wet Woodland | 9.03ha | 20 | 2.11ha | 6 |
| Wood-Pasture and Parkland | 45.85ha | 4 | 0.30ha | 2 |

**Table 2 Summary of notable plants within 50m of the Scheme**

| Scientific name | Common name | Nearest distance (m) | Importance for biodiversity |
|---|---|---|---|
| *Anacamptis pyramidalis* | Pyramidal orchid | 0 | Local |
| *Berula erecta* | Lesser water-parsnip | 4 | County |
| *Bromus secalinus* | Rye brome | 2 | County |
| *Campanula rotundifolia* | Harebell | 20 | County |
| *Clinopodium calamintha* | Lesser calamint | 0 | National |
| *Dipsacus pilosus* | Small teasel | 0 | County |
| *Euphorbia exigua* | Dwarf spurge | 0 | Local |
| *Filago vulgaris* | Common cudweed | 0 | Local |
| *Galium parisiense* | Wall bedstraw | 0 | National |
| *Hyoscyamus niger* | Henbane | 0 | County |
| *Knautia arvensis* | Field scabious | 0 | Local |
| *Mentha arvensis* | Corn mint | 0 | Local |
| *Oenanthe fluviatilis* | River water-dropwort | 0 | County |
| *Polygonum rurivagum* | Cornfield knotgrass | 29 | County |
| *Populus nigra* subsp. *betulifolia* | Black-poplar | 0 | County |
| *Rosa obtusifolia x tomentosa* | - | 8 | County |
| *Spergula arvensis* | Corn spurrey | 0 | Local |
| *Veronica officinalis* | Heath speedwell | 0 | Local |

# 2 Introduction

## 2.1 Background

2.1.1 The A12 Chelmsford to A120 Widening Scheme (the 'proposed scheme') comprises improvements to the A12 between junction 19 (Boreham) at TL 741094, and junction 25 (Marks Tey) at TL 917238, a distance of approximately 24km, or 15 miles. The proposed scheme involves widening the A12 to three lanes throughout. It also includes safety improvements, including closing of existing at grade accesses, and reducing access to cyclists along the dual carriageway by providing an alternative route for walkers, cyclists and horse riders (WCH).

2.1.2 The proposed scheme would require new crossings of watercourses and potential improvements to existing culvert and bridge crossings. There are eight crossings of main rivers, six of which comprise existing crossings and two of which comprise new crossings on proposed offline sections of road. Three of the crossings would require minor realignments at the crossing points.

2.1.3 Land would be required both temporarily and permanently to construct, operate and maintain the proposed scheme. Permanent land-take requirements include the footprint of all the proposed highway infrastructure and associated earthworks, drainage works and access roads, together with environmental mitigation areas such as landscape planting and biodiversity habitat creation.

2.1.4 The proposed scheme is classed as a Nationally Significant Infrastructure Project (NSIP) under the Planning Act (2008), triggering the need to apply for a Development Consent Order (DCO).

2.1.5 The selection criteria in the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 have been used to screen the proposed scheme and identified the potential for significant effects. The proposed scheme is therefore required to be accompanied by an Environmental Statement to provide information on likely significant effects.

2.1.6 The Scoping Report (Highways England, 2020a) identified a number of ecological receptors which have the potential to be impacted by construction of operation of the proposed scheme. Surveys are therefore required to establish an accurate baseline against which the impacts of the scheme could be assessed in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) guidance for Ecological Impact Assessment (EcIA) (CIEEM, 2019) and DMRB LA 108 – Biodiversity (Highways England, 2020b). Scoping opinions received from statutory and non-statutory consultees during this process were also taken into consideration (refer to Chapter 9 of the Environmental Statement [TR010060/APP/6.1]).

## 2.2 Purpose of this report

2.2.1 This report is an appendix of the A12 Chelmsford to A120 Widening Scheme Environmental Statement (ES). It presents:

a. The policy and legislative context with respect to habitats and plants, including invasive non-native species, and within which the environmental impact assessment (EIA) is being carried out. Likely significant effects on, and mitigation for these receptors, are considered in Chapter 9 of the ES [TR010060/APP/6.1].

b. results of a habitat survey of land around the proposed scheme, undertaken between August 2016 and July 2020

c. records of notable and invasive non-native plant species, compiled from desk and field sources

d. evaluation of the results to identify the value to biodiversity of the habitats and plants around the proposed scheme.

2.2.2 The results of this work were used to inform stages of the proposed scheme prior to submission of the DCO application, including the Scoping Report.

2.2.3 The study area for this work covered land around options considered at Stage 2 of the proposed scheme, a larger area than that covered by the DCO application. The study area is shown in figure A.1.

## 2.3 Survey objectives

2.3.1 The objectives of the survey were to:

a. carry out a Phase 1 habitat survey of land within 600m of the Stage 2 options for the proposed scheme

b. identify priority habitat and populations of notable and invasive non-native plant species within this study area

c. carry out a desk study to identify records of notable and invasive non-native plant species within this study area

# 3 Legislation and policy

## 3.1 Conservation of Habitats and Species Regulations 2017

3.1.1 Articles 1 and 2 of the Habitats Directive require that the UK maintains at favourable conservation status the habitats and species listed in the Annexes to the Directive. Annex I of the Directive lists 78 habitats occurring in the UK (hereafter, Annex I Habitats), and Annex II lists four bryophyte and nine vascular plant species occurring in the UK (JNCC, 2014). Twenty-three of the Annex I Habitats are a priority for conservation within the European Union (hereafter, priority Annex I Habitats).

3.1.2 The main way in which the UK implements the requirements of the Habitats Directive to conserve the listed species and habitats is by the designation of sites supporting Annex I habitats or populations of Annex II species of community importance as Special Areas of Conservation (SAC). These sites contribute to the EU-wide network of sites known as the Natura 2000 network.

## 3.2 Wildlife and Countryside Act 1981

3.2.1 Wild plants are protected in domestic legislation under the Wildlife and Countryside Act 1981 (as amended). Section 13 of the Act makes it an offence if any person:

a. intentionally picks, uproots or destroys any wild plant included in Schedule 8 of the Act;

b. not being an authorised person, intentionally uproots any wild plant not included in Schedule 8;

c. sells, offers or exposes for sale, or has in his possession or transports for the purpose of sale, any live or dead wild plant included in Schedule 8, or any part of, or anything derived from, such a plant; or

d. publishes or causes to be published any advertisement likely to be understood as conveying that he buys or sells, or intends to buy or sell, any of those things.

3.2.2 Schedule 8 of the Act lists five fungi, 30 lichens, two stoneworts, 37 bryophytes and 113 vascular plants which are afforded special protection the special protection described in items a. and c. above.

3.2.3 In addition to protection of wild plants, Section 14(2) of the Act makes it an offence to plant or otherwise cause to grow in the wild any plant which is included in Part II of Schedule 9 of the Act. The Schedule is a list of invasive non-native species, comprising 12 algae and 42 vascular plants.

## 3.3 The Invasive Alien Species (Enforcement and Permitting) Order 2019

3.3.1 The Invasive Alien Species (Enforcement and Permitting) Order 2019 makes it an offence to plant or otherwise cause to grow in the wild any plant species listed on Schedule 2 of the Order and requires due diligence to be exercised to avoid committing such an offence. The Order provides for the licensing of certain activities with respect to the controlled species, such as eradication or management. Schedule 2 lists nine plant species, all of which are also listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

## 3.4 Natural Environment and Rural Communities Act 2006

3.4.1 The Natural Environment and Rural Communities Act 2006 (NERC) ties together wildlife legislation and planning policies. Section 40 of the Act places a duty on government and statutory bodies in England, such as National Highways, to consider the conservation of biodiversity when carrying out their normal functions.

3.4.2 Section 41 of the NERC requires the secretary of state to publish a list of species and habitats that are of principal importance for the conservation of biodiversity in England (hereafter referred to as 'priority species and habitats'), and to promote the conservation of these species and habitats. The list is published by Natural England and comprises 943 species and 56 terrestrial, freshwater, coastal and marine habitats.

## 3.5 National planning policy framework

3.5.1 The National Planning Policy Framework (NPPF) 2019 sets out the government's economic, environmental and social planning policies. It provides the Government's view on how planners should balance nature conservation with development and helps ensure that Government meets its biodiversity commitments. The framework focuses on planning for prosperity, people and places, promoting increased levels of development and supporting infrastructure, whilst also protecting and enhancing the natural and historic environment. It also has core principles that include the need to "proactively drive and support sustainable economic development to deliver the homes, business and industrial units, infrastructure and thriving local places that the country needs. Every effort should be made objectively to identify and then meet the housing, business and other development needs of an area, and respond positively to wider opportunities for growth".

3.5.2 Local planning authorities should set criteria based policies against which proposals for any development on or affecting protected wildlife or geodiversity sites or landscape areas will be judged. Distinctions should be made between the hierarchy of international, national and locally designated sites, so that protection is commensurate with their status and gives appropriate weight to their importance and the contribution that they make to wider ecological networks.

# 4 Methodology

## 4.1 Desk study

4.1.1 A desk study was carried out to identify:

a. priority habitat within 1km of the Scheme

b. ancient woodland within 1km of the Scheme

c. records of notable vascular plant species within 1km of the Scheme

d. records of invasive non-native species of vascular plant within 1km of the Scheme.

4.1.2 The relevant sources and dates for the desk study are described below. Definitions of notable and invasive non-native vascular plants are also given.

### Priority habitats

4.1.3 Priority habitat was identified from the national inventories of priority habitats published by Natural England:

a. Open Mosaic Habitat (Draft)

b. Priority Habitat Inventory (England)

c. Wood Pasture and Parkland (England)

4.1.4 The search did not include the inventory for Rivers priority habitat as rivers will be assessed elsewhere in the ES.

4.1.5 There is no local inventory of priority habitat held by data sources in Essex, but citations of LWS were reviewed to identify priority habitat.

4.1.6 The search was carried out during the winter of 2019/2020 to inform future survey. The search was repeated in March 2021 for inclusion in this report.

### Ancient woodland

4.1.7 Ancient woodland was identified from the Ancient Woodland Inventory published by Natural England.

4.1.8 The search was carried out during the winter of 2019/2020 in order to inform future survey. The search was repeated in March 2021 for inclusion in this report.

### Notable plants

4.1.9 Notable plants were defined as:

a. Annex IV species

b. species listed on Schedule 8 of the Wildlife and Countryside Act 1981 (as amended)

c. priority species

d. taxa listed on the red lists of vascular plants for Great Britain or England (Cheffings *et al*., 2005, Stroh *et al*., 2014)

e. taxa listed as nationally rare or scarce in Great Britain (Botanical Society of Britain and Ireland, 2013)

f. taxa listed on the Essex Red List (Essex Field Club, 2002) or as scarce in Essex (Adams, n.d.)

4.1.10 The desk study used biological records within 2km of the Scheme held by Essex Field Club and Essex Wildlife Trust and provided in July and December 2020, respectively. The Essex Field Club records of vascular plants were dated back to 1688 and were provided aggregated by site (unique combinations of grid reference and named locality), with the year of latest record provided. The Essex Wildlife Trust records dated back to 2005.

### Invasive non-native plants

4.1.11 Invasive non-native plants were defined as:

a. species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended)

b. other species considered invasive or potentially invasive, such as those identified by the Great Britain Non-native Species Secretariat

4.1.12 The record sources used were the same as for the search for records of notable plants.

## 4.2 Field Survey

4.2.1 The field survey comprised the following elements:

a. habitat survey

b. survey of potential ancient woodland sites

c. survey of populations of notable plants

d. survey of invasive non-native plants

4.2.2 These elements, including study areas, survey design, survey periods and data collection and processing are described in the sections below.

### Habitat survey

4.2.3 The habitat survey aimed to:

a. map and classify the habitats within the study area following the phase 1 habitat survey methodology published by the Joint Nature Conservation Committee (JNCC, 2010)

b. collect additional contextual information about habitats, including identification of priority habitats

4.2.4 The survey was undertaken by pairs of Jacobs ecologists, including at least one surveyor competent to lead the habitat survey. The survey lead from 2019 to 2020 was Principal Ecologist David Morris MCIEEM.

4.2.5 The survey period and study area are described in the sections 'Survey period' and 'Study area', respectively. The design of the habitat mapping, including mapping scale, is described in the section 'Habitat mapping'. The additional information collected is described in the section 'Additional information'.

## Survey period

4.2.6 The field survey was carried out during the following periods between 2016 and 2020:

a. August to October 2016

b. May to October 2017

c. September to November 2018

d. October to December 2019

e. February 2020

f. July to August 2020

## Study area

4.2.7 The study area for the habitat survey over the whole survey period was defined as land within 600m of Options 1, 2, 2+, A, B, C and D of the Scheme, and of the 12 borrow pits sites being considered at the time of survey in 2019/20. This area was chosen to allow for potential changes in scheme design and includes Scheme boundary except for small areas at the northern and southern ends of the Scheme, which are completely within the existing A12. Within this area, the Coleman's Quarry site east of Witham was not covered by the survey as this area was being actively quarried. This study area is shown in figure A.1 and has a total area of 49.44km$^2$.

4.2.8 Within this area the following land was generally not covered:

a. built-up areas, including the settlements of Copford, Mark's Tey, Feering, Kelvedon, Rivenhall, Witham, Hatfield Peverell, Boreham and Chelmsford

b. land along the A12, including verges and embankments, unless accessible from adjacent land

c. embankments of the railway, though this land was largely visible from adjacent areas

4.2.9 Other areas not covered due to refusal of land access are described in the survey limitations in section 4.4.

4.2.10 During July 2020, the habitat survey focused on the following areas within 200m of the Scheme based on the design up to May 2020:

a. land not surveyed in previous years, or

b. areas surveyed during the period up to November 2018 but where the information gathered was not sufficient to identify priority habitats and where it was considered that there was potential for priority habitats or notable species to be present

4.2.11 The latter areas were identified from the national inventories of priority habitats (see section 4.1), satellite imagery and additional information gathered during previous survey.

4.2.12 The 200m distance was used as this is the study area for assessment of air quality impacts to priority habitats and designated sites in LA105 (Highways England 2020c). Based on the habitats identified up to 2020, other indirect impacts (such as via surface water or groundwater pathways) that might extend the zone of influence of the project on habitats of potential biodiversity value beyond 200m were considered to be unlikely.

## Habitat mapping

4.2.13 Habitat mapping followed the Handbook for phase 1 habitat survey (JNCC, 2010) to classify and map habitats identified in the field. As the Handbook does not specify detailed mapping rules and was not developed for surveys associated with large linear infrastructure projects, to ensure that the habitat mapping was undertaken consistently across the survey period and survey area and the information collected would be relevant to the Scheme, a mapping protocol was developed for the survey to supplement the methodology set out in the Handbook. This protocol is set out below. The mapping protocol was developed for the 2019-2020 period of the survey and was applied retrospectively to earlier results to ensure consistently.

4.2.14 The survey collected a large amount of complex information. This was required to be compiled and processed to produce a dataset of high quality, both in terms of spatial data quality and ecological accuracy. How the information was managed and processed is described in the section ‘Data management and processing’. Data collection methods are described in the section ‘Data collection methods.’

4.2.15 Processing of the survey results identified that the habitat mapping for some land covered by the survey was incomplete. These areas were mapped from desk sources, as described in the section ‘Desk mapping’. The gaps predominantly comprised relatively insignificant features such as tracks, buildings or parts of gardens, and mapping these from desk sources rather than field survey was considered to be sufficient. However, some hedgerows additional to those mapped during the survey were identified; these were assumed to be intact species-rich hedgerows.

## Mapping scale

4.2.16 The mapping scale for the survey was set at 1:5,000. Although the survey area was large, a smaller mapping scale (e.g. 1:10,000 or larger) was not chosen: a preliminary review of aerial imagery and land use information determined that the survey area largely comprised uniform areas of arable farmland with semi-natural habitats limited to small areas or linear habitats, and such features may not have been mappable if a smaller scale were chosen. As the data collected for the survey were intended to be used for e.g. biodiversity metric calculation which is predominantly based on area, a large mapping scale relative to the extent of the survey area was adopted. Based on this mapping scale, a minimum mappable unit (MMU) of 100m$^2$ was chosen for the survey (equivalent to a square area of dimensions 10m x 10m).

4.2.17 The above scale and MMU were applied across most of the survey area. Locally, however, a larger scale and smaller MMU were adopted to map artificial habitats in residential properties and built-up areas where these were covered by the survey.

## Feature geometry

4.2.18 The following rules were applied to determine the geometry of the feature to map to represent habitat identified in the field:

i. Points – scattered broadleaved or coniferous trees were mapped as points.

ii. Lines – hedgerows, ditches, and watercourses narrower than 5m were mapped as line features. A minimum length was applied only to hedgerows (see section 0).

iii. Polygons – linear habitats wider than 5m or other habitats with an area greater than or equal to the MMU were mapped as polygons. Roads and other linear infrastructure were mapped as polygon features, even if narrower than 5m.

4.2.19 No habitats of biodiversity value, such as priority habitats, smaller than the MMU were encountered during the survey. Target notes were therefore not used to map habitats smaller than the MMU, which were included in larger adjacent features.

## Feature topology

4.2.20 In order to ensure the production of good quality spatial data and to enable biodiversity metrics to be meaningfully calculated, the following rules prescribing the topology of features were followed:

i. No overlapping polygon features

ii. No gaps between polygon features covering land that had been surveyed

iii. No multi-part polygon features

iv. No overlapping or self-intersecting line features, except for permanent streams adjacent to hedgerows

v. Line features to be coincident with the edges of polygon features, except line features that do not completely split a polygon feature (e.g. features representing hedgerows with an endpoint in the interior of an arable field).

4.2.21 These rules were supplemented by further rules for mapping linear habitats, described in the section 'Linear habitats' below.

## Linear habitats

4.2.22 The *Handbook for Phase 1 Habitat Survey* does not specify rules for mapping hedgerows and other linear habitats. The rules for mapping linear habitats developed for the survey are listed below.

4.2.23 Hedgerows were identified and mapped following the *Hedgerow Survey Manual* (DEFRA, 2007), as follows:

i. A hedgerow was defined as any boundary line of trees or shrubs over 20m long and less than 5m wide at the base, provided that at one time the trees and shrubs were likely continuous. This included shrubby hedgerows, lines of trees and hedgerows with many gaps, where each section may have been less than 20m long, but each gap was less than 20m.

ii. The end points of a hedgerow were defined as the points where the hedgerow met (within 20m) another hedgerow or stands of scrub or woodland.

iii. Any bank, fence, wall, ditch or tree within 2m of the centre of a hedgerow and the herbaceous vegetation within 2m of the centre of the hedgerow, were mapped as part of the hedgerow.

iv. Hedgerows were generally not mapped adjacent to edges of wooded habitats. However, hedgerows were mapped in this way on a case-by-case basis, for instance hedgerows adjacent to mappable stands of bramble or other low-growing scrub or around young plantation woodland.

v. Hedgerows were classified as species-rich where the structural species making up the hedgerow included at least five woody species that were either native to the UK or introduced before 1500 AD, excluding brambles (*Rubus* spp.) and climbers other than roses (*Rosa* spp.).

vi. Tracks or green lanes with parallel hedgerows were mapped to represent both hedgerows with the intervening space mapped as a polygon habitat feature, even if smaller than allowed by rules 1 and 2.

vii. In order to be consistent with the above, a feature representing a hedgerow was mapped as a multi-part feature when the hedgerow (using the above definition) extended across a gap that included a polygon feature that was required to be mapped, such as a farm track wider than 5m.

viii. The phase 1 habitat type 'J2.2 defunct hedge' was only used for defunct hedgerows without trees. Hedgerows with trees were mapped as 'J2.3 hedge with trees', regardless of whether they were stock proof. This included lines of trees.

4.2.24 The above rules were chosen to be consistent with the priority habitat description for hedgerows (Maddock, 2011).

4.2.25 No further rules were applied to other linear habitats. Watercourses were mapped in sections according to the land from which they were surveyed rather than being mapped using natural units (such as river reaches).

4.2.26 During the July 2020 period of the habitat survey, hedgerows were not surveyed but were covered by separate hedgerow survey. The field survey results for hedgerows presented in this report comprise the results of the hedgerow survey within the study area for that survey, and the results of the habitat survey outside of that area. For hedgerows within the hedgerow survey study area, the Phase 1 habitat type was inferred from the attributes recorded by the hedgerow survey. Full methods and results of the hedgerow survey are given in Appendix 9.7 of the ES [TR010060/APP/6.3].

4.2.27 As the phase 1 habitat survey did not aim to undertake the formal hedgerow survey set out in the *Hedgerow Survey Manual*, the identification of species-rich hedgerows outside of the hedgerow survey study area did not follow the procedure for sampling a hedgerow using 30m sections but was based on arbitrary 30m sections.

## Desk mapping

4.2.28 Compilation of the survey results identified that the habitat mapping for some land covered by the survey was incomplete. The gaps predominantly comprised relatively insignificant features such as tracks, buildings or parts of gardens, but a small number of hedgerows identifiable from recent satellite imagery had not been mapped. These gaps were completed by digitizing features from satellite imagery and using professional judgement to interpret an appropriate phase 1 habitat type. This used ESRI and Bing satellite imagery, as described above, but also Google Earth and, where possible, Google Street View. Hedgerows digitized from desk sources were classified as species-rich. The confidence with which habitat type was determined was recorded as a score from 0 to 1, 1 being certain.

4.2.29 Features digitized from desk sources were distinguished from results of field survey by recording the 'Source' attribute in the geodatabase as 'Desk', and a note was recorded on the interpretation. The 'Source' attribute of features digitized from survey results was recorded as 'Phase 1'.

## Additional information

4.2.30 In addition to mapping habitat features and recording the phase 1 habitat type, further contextual information about habitat features was recorded. Additional information comprised:

a. photographs

b. notes on vegetation type, structure and management

c. lists of vascular plant species and their abundance

d. presence of priority habitat

e. identification of potential groundwater dependent terrestrial ecosystems (GWDTE)

4.2.31 Vegetation types were recorded using the National Vegetation Classification (Rodwell, 1991-2000), using professional judgement to identify the plant communities present within a habitat.

4.2.32 For priority habitat and potential GWDTE, complete lists of vascular plants and their abundances were collected. Where considered relevant, bryophytes were also recorded. For other habitats, species lists were collected on a case-by-case basis, such as for habitats that were relatively more floristically diverse compared to most habitats across the study area, and were not necessarily complete, being used to record the main elements of the vegetation.

4.2.33 Priority habitats were identified using descriptions published by the JNCC (BRIG, 2011) and the *Farm Environment Plan Manual* (Natural England, 2010).

4.2.34 Potential GWDTE were identified using guidance published by the UK Technical Advisory Group (UKTAG) on the Water Frame Directive (UKTAG, 2009) and professional judgement, taking into consideration vegetation, observed groundwater and surface water levels and flows, topography and landscape situation.

## Data collection

4.2.35 During 2016, habitat mapping in the field was carried out by annotating paper survey maps. The survey maps used Ordnance Survey Master Map as a base map and were printed at a scale of 1:5,000 on A3 paper.

4.2.36 From 2017 to 2020, habitat mapping in the field was carried out using the *Collector* app on an iPad. For each habitat feature identified in the field, a corresponding point, line or polygon feature was digitized in the app using the iPad's Global Position System (GPS) receiver and the ESRI satellite imagery as a base map. Data collection for each of these feature classes used the common data schema shown in Table 3. Photographs were taken and attached to features within Collector.

4.2.37 Due to limitations of the Collector for ArcGIS app and in order to be efficient during the survey, habitat mapping using the app was approximate. Sufficient information was gathered for features to be accurately re-digitized at a desktop machine following the field survey, as described in the section 'Data management and processing'

**Table 3 Data schema for habitat features digitized in Collector for ArcGIS**

| Field name | Data type | Description |
|---|---|---|
| Date | Date | Date feature digitized during survey |
| Surveyors | Text | Initials of surveyors |
| Phase 1 habitat | Text | Phase 1 habitat type, limited to allowed values for points, lines and polygons |
| Notes | Text | Additional information – see section 'Additional information' |

## Data management and processing

4.2.38 Information collected during the survey was managed using ArcGIS Pro (ESRI, 2020). The survey results were compiled throughout the survey and completed in March 2021.

4.2.39 The spatial dataset representing the habitat mapping was compiled using a file geodatabase comprised of three feature classes, one each representing point, line and polygon habitat features. The attributes and values included in the data schema for each feature class is set out in Annex B. The geodatabase included data validation rules to validate the topology of the dataset (see 'Feature topology' section) and restrict attributes to defined ranges or lists of values, such as phase 1 and priority habitat types. Photograph attachments and other additional information associated with features were retained in the final dataset.

4.2.40 The habitat features mapped in the field were processed to produce a final dataset of good quality. To accurately represent habitat features, the features mapped in the field were redigitized using Ordnance Survey Master Map (OSMM) and Bing satellite imagery. Following the mapping rules in the section 'Habitat mapping', polygon habitat features were digitized by merging, splitting and clipping OSMM polygons, and line habitat features were digitized by tracing the edges of digitized habitat polygons. Attachments and attributes from the features mapped in the field, including phase 1 habitat type, were reviewed and transposed to the digitized features in the geodatabase.

4.2.41 Species lists collected were compiled in a table in the geodatabase. Species lists were related to the corresponding point, line or polygon habitat features by a relationship class using the GlobalID of the feature.

4.2.42 As described in the section 'Linear habitats', the field survey results for hedgerows presented in this report comprise the results of the hedgerow survey within the study area for that survey, and the results of the habitat survey outside of that area.

4.2.43 As part of the data compilation, field results of habitat mapping were checked to ensure they complied with the habitat mapping rules and to check the accuracy of the ecological information collected. As the survey between 2016 and 2018 had different objectives and methods to the 2019 to 2020 period, the earlier results were comprehensively reviewed.

4.2.44 The following corrections were carried out:

a. spatial errors were corrected, e.g. features in the wrong location or of inaccurate extent

b. habitats that had clearly changed since the data were collected due to development were deleted from the dataset

c. methodological discrepancies, such as where small habitat features had not been mapped due to differing mapping scales or survey objectives, were digitised from desk sources (see 'Desk mapping') or where there was uncertainty over habitat type or value were identified for survey in 2020

4.2.45 Over the survey period, in the course of surveying additional land due to changes in Scheme design, some land within the same ownership was visited more than once. Only the most up-to-date results were included in the final dataset presented in this report.

## Ancient woodland

4.2.46 Sites in the Ancient Woodland Inventory were not targeted for survey as all the sites were more than 200m from the Scheme. Where sites in the inventory were visited during the 2019/2020 period of survey then these were surveyed as for priority habitats, collecting a similar level of detail of additional information (see 'Additional information' section), including description of vegetation structures and types, and full lists of vascular plants.

4.2.47 The results of the habitat survey identified numerous woodland sites that were not shown in the Ancient Woodland Inventory. Following Sansum and Bannister (2018), the potential for these sites to be ancient woodland was assessed using the first edition of the OS map (National Library of Scotland, 2021), and additional information gathered during the survey. Evidence of ancient woodland considered included features such as:

a. presence of vascular plants indicative of ancient woodland in Essex (Rose and O'Reilly)

b. vegetation types typical of ancient woodland in Essex (Rackham, 2003), such as stands of hornbeam (*Carpinus betulus*)

c. vegetation structures consistent with ancient woodland, such as coppice with standards and other artefacts of past management

d. archaeological features such as boundary banks and ditches

e. named woodland sites present on the first edition of the OS map

f. sites with an irregular boundary

4.2.48 Woodland sites not included in the national inventory of ancient woodland were classed as 'potential ancient woodland' where there was field evidence indicative of ancient woodland and where the site is shown on the first edition of the OS map. Documentary evidence alone was not considered sufficient to identify potential ancient woodland as the first edition of the OS map dates from the second half of the nineteenth century.

### Notable plants

4.2.49 Targeted survey of notable vascular plants (defined in section 4.1) was not carried out for the Project as it was considered that populations could most efficiently and effectively be surveyed as they were observed during the habitat survey, with records supplemented by populations observed incidentally during other ecological surveys for the Scheme. The desk study did not identify any species within the study area that would require targeted survey.

4.2.50 The approximate centre of populations of notable species were recorded as points, together with an estimate of population size and description of other ecological attributes considered relevant.

### Invasive non-native plants

4.2.51 Records of invasive non-native plants (defined in section 4.1) were made where these were observed during the habitat survey or incidentally during other ecological surveys for the Scheme.

4.2.52 The approximate centre of populations of INNS were recorded as points, together with an estimate of population size and description of other ecological attributes considered relevant.

## 4.3 Nomenclature

4.3.1 The nomenclature for vascular plants used during the desk study and field survey, and throughout this report, followed Stace (2010). The nomenclature for bryophytes followed Hill *et al.* (2008).

## 4.4 Limitations

4.4.1 The methods described above are considered to have been proportionate to the large scale of the project. Potential limitations are described below.

### Habitat survey

#### Spatial completeness

4.4.2 The study area for the habitat survey was very large, covering approximately 50km$^2$, of which approximately 69% was surveyed. Land that was not surveyed is indicated by gaps in figures A.2 and A.3.

4.4.3 Although built-up areas were excluded from the study area, it was not possible to survey all the remaining land due to refusal of land access in some areas. Excluding built-up areas, approximately 80% of the study area was surveyed.

4.4.4 Approximately 73% of the Scheme area was surveyed. Excluding the existing A12 carriageway and other roads, approximately 85% of the Scheme area was surveyed.

4.4.5 The larger areas of land within the Scheme area not covered by the survey were an arable field north-east of Witham, the land around the Coleman's Quarry and arable south from the Bull's Lodge Quarry to the railway, between Springfield and Boreham. Permission to survey the latter area was not given, and the Coleman's Quarry area was not surveyed as explained in the 'Study area' section. Other areas within the Scheme not covered were parts of the embankment of the A12 where there was not footway, which were not surveyed due to health and safety risks from accessing from and working near the live carriageway.

4.4.6 Some land within 200m of the Scheme that was surveyed before 2019 was not surveyed in 2019-2020 to gain further information due to changes in the Scheme boundary. This includes Brockwell Meadows Local Nature Reserve and a woodland to the east, which are outside of the Scheme area but within 200m, located south-east of Kelvedon (figure A.4, sheet 8).

**Temporal completeness**

4.4.7 The survey was carried out cumulatively over five years beginning in 2016. The year during which areas of land were covered by the survey is shown in figure A.2 and summarised in Table 4.

4.4.8 In order to ensure that the results were up-to-date, results from 2016-2018 were compared to aerial imagery to identify any changes in habitat type or extent (see section 'Data management and processing'). The changes identified were due to housing or other developments, such as those around Witham which began during the survey period. As described in the section 'Data management and processing', where such changes were identified and the survey results believed to be inaccurate as a result, these results were removed from the final dataset. Where areas were revisited during habitat and hedgerow surveys in 2019-2020, the accuracy of previous results was reviewed and updated as required.

4.4.9 Given the land use across the habitat study area, undetected changes that might have occurred over the survey period are most likely to be a result of agricultural practices, e.g. by taking arable land out of production or the ploughing up or creation of grass headlands. Such changes are unpredictable, could happen anywhere or at any time across the survey area and would also be reversible. Habitats of biodiversity value, such as priority habitats, would be very unlikely to have become established on land since being surveyed for the Scheme. The priority habitat Arable Field Margins were very rarely found during the survey and do not appear to be a feature of farms across the study area. It is therefore considered unlikely that new areas of this habitat would have been created.

4.4.10 In summary, the results of the survey are not considered to be limited by the long period over which they were collected, and they provide a robust baseline for which to assess impacts of the Scheme as part of the ES. Impacts to new habitat not identified in the results would be straightforward to mitigate through

habitat creation, so that this would not represent a significant adverse effect of the Scheme.

### Seasonal limitations

4.4.11 The survey was largely carried out during the autumn or winter months, which are generally an unfavourable time for habitat survey. The year and month during which areas of land were covered by the survey is shown in figure A.2 and summarised in Table 4. Survey effort by year and month is summarised in Plate 4.1.

4.4.12 The timing of the survey is considered not to have limited the identification and mapping of habitats and the identification of priority habitats. The surveyed land was found to be dominated by agricultural and other highly modified habitats with smaller areas of relatively simple semi-natural habitats, that could be confidently identified at any time of year by the experienced ecologists who carried out the survey.

4.4.13 Habitats that were identified as having the potential to be of greater biodiversity value but that were initially surveyed at a season unfavourable for determining their value, including priority habitats, were surveyed again in July 2020 in order to fully assess their value (section 'Study area'). As described in the section 'Data management and processing', all data were comprehensively reviewed for accuracy, including identification of habitats of biodiversity value, and the results of the survey are therefore considered to be accurate.

4.4.14 For hedgerows the timing of the survey may have limited the identification of species-rich hedgerows. However, hedgerows were subject to a separate detailed survey during 2020 (see Appendix 9.7 of the ES [TR010060/APP/6.3]).

## Ancient woodland

4.4.15 Woodlands were surveyed outside the spring season that is generally most favourable for surveying woodland ground flora, potentially limiting the use of field survey results to identify potential ancient woodland. However, a range of evidence was used in this assessment, including features visible year-round such as the structure of the woody component of vegetation and archaeological features. In all woodlands visited, the diversity and abundance of ancient woodland indicator species were sufficiently detectable to enable a robust assessment, or the woodland was clearly not ancient. The timing of survey of woodlands is therefore not a limitation on the assessment of potential ancient woodland.

## Notable plants

4.4.16 It is considered that there are no limitations on the results of the field survey for notable plants. As most of the study area was found to be dominated by intensive land uses, habitats that tend to be of greater value for notable plants were rare and local, and these habitats were targeted and thoroughly surveyed. Populations of more widespread or less specialised notable plants may have been overlooked but these would have been likely to be common species of less conservation concern, such as common cudweed and field scabious many populations of which were found throughout the area surveyed.

## Invasive non-native plants

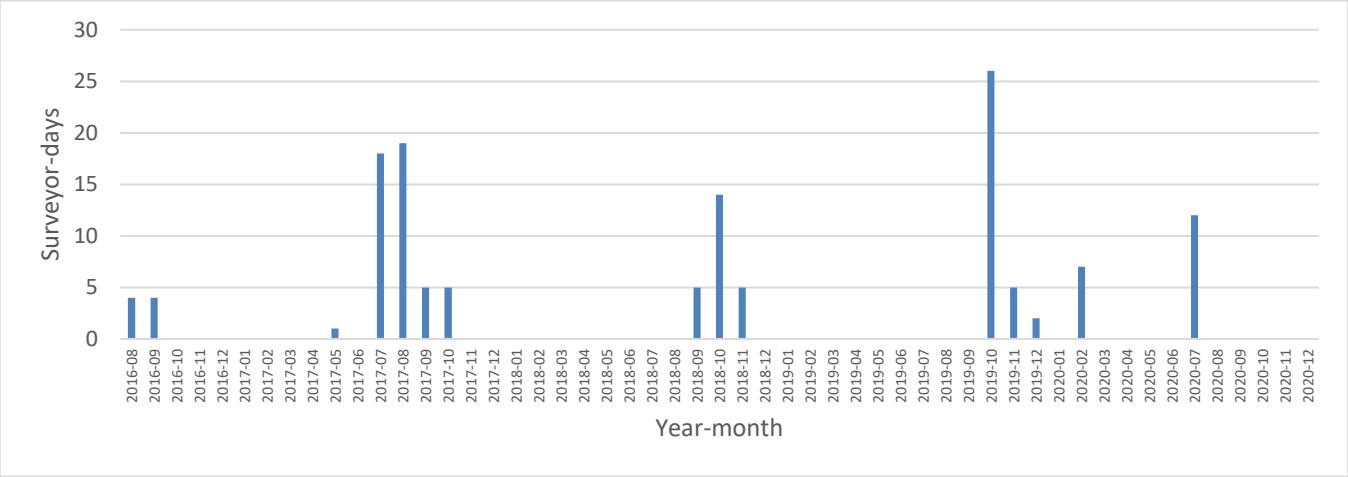
4.4.17 The approach to survey of invasive non-native plants is considered to have been proportionate to the large scale of the project. The results provide a robust baseline for assessment of likely impacts to biodiversity from the Scheme that could arise through the spread of invasive non-native species, and mitigation for these impacts. However, it is possible that some populations of invasive non-native plants could have been overlooked due to the timing or other aspects of the survey; this would be rectified through pre-construction surveys.

**Table 4 Summary of area surveyed each year during the habitat survey period[1]**

| Year of survey | Area within study area (ha) and percentage | | Area within Scheme (ha) and percentage | |
|---|---|---|---|---|
| | Annual | Cumulative | Annual | Cumulative |
| 2016 | 388.59 (7.86%) | 388.59 (7.86%) | 68.77 (7.69%) | 68.77 (7.69%) |
| 2017 | 1,025.83 (20.75%) | 1,414.41 (28.61%) | 412.72 (46.15%) | 481.49 (53.84%) |
| 2018 | 893.85 (18.08%) | 2,308.27 (46.68%) | 80.34 (8.98%) | 561.83 (62.83%) |
| 2019 | 633.43 (12.81%) | 2,941.70 (59.49%) | 35.09 (3.92%) | 596.92 (66.75%) |
| 2020 | 485.41 (9.82%) | 3,427.11 (69.31%) | 52.37 (5.86%) | 649.29 (72.61%) |
| N/A - Desk mapping | - | 30.06 (0.61%) | - | 2.89 (0.32%) |

[1] The percentages of the study area include built-up and other areas not covered by the survey

**Plate 4.1 Number of surveyor-days per month over the period of the habitat survey[2]**




[2] A surveyor-day is defined as a unique combination of date and surveyor

# 5 Results

## 5.1 Habitats

### Desk study

5.1.1 National inventories identify five types of habitat within 1km of the Scheme:

a. 'deciduous woodland'
b. 'no main habitat but additional habitats present'
c. Coastal and Floodplain Grazing Marsh
d. Traditional Orchard
e. Wood-Pasture and Parkland

5.1.2 Types a. and b. are not priority habitat types but may include priority habitats, e.g. Lowland Mixed Deciduous Woodland in 'deciduous woodland'.

5.1.3 There were ten sites in the inventory of Wood-Pasture and Parkland within 1km of the Scheme, including large sites such as Braxted Park and smaller sites such as Boreham Place. All sites are outside of the Scheme boundary.

### Field survey

#### Summary

5.1.4 The habitat survey found the study area to be a predominantly farmed landscape, with most land given over to arable cultivation. Arable areas contrasted with land use in the river floodplains, largely used for forestry. Other land uses within the surveyed area were localised, comprising pasture, quarries, and residential, industrial and amenity areas in built-up areas.

5.1.5 Figure A.3 shows a plan of phase 1 habitat types mapped across the area surveyed. Summaries of the phase 1 habitat types recorded is presented in Table 5 and Table 6. Target notes are provided in annex C and shown on figure A.3.

5.1.6 Seven priority habitats were recorded, shown in figure A.4 and summarised in Table 7.

5.1.7 Habitats are described below by broad habitat type.

**Table 5 Summary of polygon habitat features recorded**

| Phase 1 habitat | Study area | | Scheme (DF1) | |
|---|---|---|---|---|
| | Area (ha) and percentage of study area | Number of features | Area (ha) and percentage of Scheme area | Number of features |
| A1.1.1 Broadleaved woodland - semi-natural | 95.45 (1.93%) | 216 | 10.23 (1.14%) | 37 |
| A1.1.2 Broadleaved woodland - plantation | 167.20 (3.38%) | 197 | 29.33 (3.28%) | 73 |

| Phase 1 habitat | Study area | | Scheme (DF1) | |
|---|---|---|---|---|
| | Area (ha) and percentage of study area | Number of features | Area (ha) and percentage of Scheme area | Number of features |
| A1.2.2 Coniferous woodland - plantation | 4.83 (0.1%) | 14 | 0.07 (0.01%) | 3 |
| A1.3.1 Mixed woodland - semi-natural | 7.13 (0.14%) | 8 | 0.16 (0.02%) | 2 |
| A1.3.2 Mixed woodland - plantation | 20.07 (0.41%) | 27 | 3.84 (0.43%) | 9 |
| A2.1 Scrub - dense/continuous | 54.22 (1.1%) | 246 | 18.49 (2.07%) | 99 |
| B1.2 Acid grassland - semi-improved | 1.10 (0.02%) | 4 | 0 | 0 |
| B2.1 Neutral grassland - unimproved | 3.92 (0.08%) | 12 | 3.72 (0.42%) | 11 |
| B2.2 Neutral grassland - semi-improved | 22.21 (0.45%) | 24 | 3.42 (0.38%) | 11 |
| B4 Improved grassland | 238.61 (4.83%) | 181 | 26.86 (3%) | 41 |
| B5 Marsh/marshy grassland | 1.06 (0.02%) | 4 | 0.29 (0.03%) | 1 |
| B6 Poor semi-improved grassland | 131.94 (2.67%) | 200 | 37.76 (4.22%) | 65 |
| C1.1 Bracken - continuous | 0.01 (0%) | 1 | 0 | 0 |
| C3.1 Other tall herb and fern - ruderal | 32.90 (0.67%) | 130 | 5.98 (0.67%) | 31 |
| F1 Swamp | 1.69 (0.03%) | 11 | 0.09 (0.01%) | 2 |
| G1 Standing water | 19.15 (0.39%) | 87 | 0.25 (0.03%) | 7 |
| G1.1 Standing water - eutrophic | 11.62 (0.24%) | 29 | 0.79 (0.09%) | 5 |
| G1.2 Standing water - mesotrophic | 0.02 (0%) | 1 | 0 | 0 |
| G2 Running water | 0.22 (0%) | 4 | 0 | 0 |
| G2.1 Running water - eutrophic | 11.07 (0.22%) | 15 | 0.48 (0.05%) | 4 |
| I2.1 Quarry | 0.12 (0%) | 1 | 0 | 0 |
| I2.4 Refuse-tip | 0.06 (0%) | 1 | 0 | 0 |
| J1.1 Cultivated/disturbed land - arable | 2,433.94 (49.23%) | 345 | 487.17 (54.48%) | 118 |
| J1.2 Cultivated/disturbed land - amenity grassland | 125.35 (2.54%) | 354 | 7.65 (0.86%) | 61 |

| Phase 1 habitat | Study area | | Scheme (DF1) | |
|---|---|---|---|---|
| | Area (ha) and percentage of study area | Number of features | Area (ha) and percentage of Scheme area | Number of features |
| J1.3 Cultivated/disturbed land - ephemeral/short perennial | 14.81 (0.3%) | 25 | 7.71 (0.86%) | 10 |
| J1.4 Introduced shrub | 0.09 (0%) | 4 | 0 | 0 |
| J3.6 Buildings | 33.22 (0.67%) | 894 | 3.23 (0.36%) | 47 |
| J4 Bare ground | 24.89 (0.5%) | 116 | 4.67 (0.52%) | 33 |
| J5 Other habitat | 0.26 (0.01%) | 1 | 0 | 0 |

**Table 6 Summary of line habitat features recorded**

| Phase 1 habitat | Study area | | Scheme (DF1) | |
|---|---|---|---|---|
| | Length (km) | Number of features | Length (km) | Number of features |
| F2.1 Marginal and inundation - marginal vegetation | 0.92 | 8 | 0 | 0 |
| G1 Standing water | 6.72 | 48 | 2.16 | 23 |
| G2 Running water | 10.70 | 76 | 0.95 | 4 |
| G2.1 Running water - eutrophic | 13.01 | 29 | 1.35 | 11 |
| J1.4 Introduced shrub | 0.81 | 11 | 0 | 0 |
| J2.1.1 Intact hedge - native species-rich | 8.76 | 71 | 2.68 | 22 |
| J2.1.2 Intact hedge - species-poor | 22.03 | 193 | 4.20 | 52 |
| J2.2.1 Defunct hedge - native species-rich | 5.17 | 33 | 1.69 | 10 |
| J2.2.2 Defunct hedge - species-poor | 23.66 | 202 | 4.44 | 55 |
| J2.3.1 Hedge with trees - native species-rich | 41.27 | 219 | 12.43 | 81 |
| J2.3.2 Hedge with trees - species-poor | 87.55 | 556 | 24.58 | 176 |
| J2.4 Fence | 14.78 | 107 | 0.86 | 12 |
| J2.5 Wall | 0.61 | 8 | 0.03 | 2 |
| J2.6 Dry ditch | 9.27 | 78 | 0.35 | 5 |
| J2.8 Earth bank | 0.76 | 6 | 0 | 0 |

**Table 7 Summary of priority habitats recorded**

| Priority habitat | Study area | | Scheme (DF1) | |
|---|---|---|---|---|
| | Total area / length | Number of features | Total area / length | Number of features |
| Arable Field Margins | 2.49ha | 2 | 0 | 0 |
| Eutrophic Standing Waters | 13.36ha | 6 | 0.42ha | 2 |
| Hedgerows | 175.08km | 1,180 | 44.40km | 342 |
| Lowland Mixed Deciduous Woodland | 47.89ha | 52 | 1.26ha | 7 |
| Open Mosaic Habitats on Previously Developed Land | 3.80ha | 1 | 0 | 0 |
| Wet Woodland | 9.03ha | 20 | 2.11ha | 6 |
| Wood-Pasture and Parkland | 45.85ha | 4 | 0.30ha | 2 |

## Broadleaved semi-natural woodland

5.1.8 Stands of broadleaved semi-natural woodland (phase 1 habitat type 'A1.1.1 broadleaved woodland - semi-natural ') were concentrated in certain parts of the study area, with small stands scattered elsewhere. There were particular concentrations between Boreham and Witham (figure A.3, sheets 3 to 13).

5.1.9 Most of the larger stands of semi-natural woodland appeared to be long established, though some were clearly more recent and associated with human activity, such as around former quarries, roads and railways. Smaller stands of semi-natural woodland included small copses within field boundaries and linear woods following tracks and footpaths.

5.1.10 The stands of semi-natural woodland surveyed encompassed a range of types, largely reflective of past land use. Most distinctive were stands along rivers, around former quarries and other low-lying places, with canopies dominated by alder (*Alnus glutinosa*) and willows (*Salix* spp.). Such woodland was identified as Wet Woodland priority habitat, shown in figure A.3, and are potential GWDTE, shown in figure A.3 (target notes 1, 3, 5, 14, 16, 18, 30-32, 37, 40, 45, 49, 51, 53, 59 and 79).

5.1.11 Semi-natural woodland on higher ground comprised mixed canopies of ash (*Fraxinus excelsior*) and pedunculate oak (*Quercus robur*), though a small number of woods had significant canopies of elm (*Ulmus* spp.). Long-established woodland had the structure of coppice-with-standards, with some comprised of hornbeam (*Carpinus betulus*) coppice, such as Kelvedon Hall Wood, Inworth Wood and Porter's Grove (target notes 26, 19 and 78, respectively). Some stands of woodland were semi-natural in origin but had been replanted with broadleaved and/or coniferous trees and were therefore mapped as plantation woodland, including Job's Wood, south-west of Witham, Titbeech Wood, Topinghoehall Wood and part of Whitegate Grove, north-west of Hatfield Peverel (target notes 47, 54 and 52, respectively). The ground flora of these woodlands was rich in woodland vascular plants such as bluebell (*Hyacinthoides non-scripta*). Such woodland was identified as Lowland Mixed

Deciduous Woodland priority habitat, shown in figure A.4 (target notes 2, 4, 6, 8, 9, 13, 17, 19-21, 23, 24, 26-20, 36, 38, 39, 43, 46-48, 52, 54, 56, 57, 61, 67-78, 80 and 81).

5.1.12 Woodlands of apparently more recent origin lacked such floristic and structural diversity, tending to be dominated by pedunculate oak or ash and sycamore (*Acer pseudoplatanus*) and with a species-poor understorey. Such woodland is not priority habitat.

## Plantation woodland

5.1.13 In contrast to semi-natural woodland, extensive areas of plantation woodland were mapped across the surveyed area. These were largely found on river floodplains and used for the cultivation of willows (phase 1 habitat type 'A1.1.2 broadleaved woodland – plantation'), mainly cricket-bat willow (*Salix alba* var. *caerulea*). Plantation woodland elsewhere most frequently comprised small stands, such as along the A12 and around some larger residential properties in rural areas. There were some larger stands, such as James Cooke Wood, south of Witham (figure A.3, sheet 13).

## Parkland and scattered trees

5.1.14 Scattered trees were occasional across the surveyed area (trees in field boundaries are discussed in the section 'Hedgerows and boundary features'). Trees were often recorded as individuals or scattered along linear features, such as the railway. Areas with groups of trees were predominantly confined to gardens, comprised of relatively young non-native ornamental species.

5.1.15 Older trees of parkland were recorded in the grounds and adjacent arable fields of Berwick Place, north of Hatfield Peverel (target note 63), Crix House, south-west of Hatfield Peverel (target note 66), and Boreham House, Boreham (target note 82). The grounds of Crix House supported several veteran pedunculate oak trees. These areas were identified as Wood-pasture and Parkland priority habitat following the national inventory of this habitat, shown in figure A.4.

## Scrub

5.1.16 Stands of scrub (phase 1 habitat type 'A2.1 scrub – dense/continuous') were common across the surveyed area. Most frequently, scrub comprised small stands at the edges of fields and other unmanaged areas, but extensive stands were mapped from along of the A12 and railway. Scrub was most commonly dominated by bramble (*Rubus fruticosus* agg.) but stands along the A12 and railway embankments were often dominated by common hawthorn (*Crataegus monogyna*), dewberry (*Rubus caesius*) or traveller's-joy (*Clematis vitalba*).

## Grassland

5.1.17 After arable land, grassland covered the largest proportion of the surveyed area. Nearly half of this grassland comprised improved grassland (phase 1 habitat type 'B4 improved grassland'). Approximately a quarter was amenity grassland (phase 1 habitat type 'J1.2 cultivated/disturbed land – amenity grassland'), mapped from gardens, parks and other amenity areas.

5.1.18 Next most extensive was species-poor neutral grassland (phase 1 habitat type 'B6 poor semi-improved grassland'), which was mapped from less intensively managed or unmanaged fields, areas of rough grassland around arable fields and on road verges. Stands of this habitat frequently dominated the banks of ditches, vegetation adjacent to hedgerows and headlands of arable fields, but were generally too narrow to map.

5.1.19 Less modified diverse stands of neutral grassland comprising unimproved and semi-improved neutral grassland (phase 1 habitat types 'B2.1 neutral grassland – unimproved' and 'B2.2 neutral grassland – semi-improved') were recorded occasionally, with the largest stand mapped from Whetmead LNR (target note 35). The more diverse stands were recorded from along the A12 and other less intensively managed places, with vegetation dominated by false oat-grass and high cover of wildflowers such as common knapweed (*Centaurea nigra*) or oxeye daisy (*Leucanthemum vulgare*), and some supporting lesser calamint (*Clinopodium calamintha*) (see section 5.3; target notes 7, 11, 12, 15, 25, 33, 44 and 50). These habitats did not qualify as Lowland Meadows priority habitat. A stand of species-rich grassland recorded from the edge of a housing development in Witham was likely originally sown (target note 42).

5.1.20 Other types of grassland were rare. Acid grassland (phase 1 habitat type 'B1.2 acid grassland – semi-improved) was recorded from two locations, in the lawns around Boreham Place and in an unmanaged area to the south (target notes 58 and 64). Four stands of marshy grassland (phase 1 habitat type 'B5 marshy grassland) were recorded, the largest by the River Blackwater at Brockwell Meadows LNR (target note 22). There were stands of rush-dominated marshy grassland by the Domsey Brook and River Ter that supported a diversity of wetland tall-herb species (target notes 10 and 62, respectively), and there was a small stand around a pond in the Benton Hall Golf and Country Club (figure A.3, sheet 15).

## Flowing water

5.1.21 There were several rivers and numerous smaller streams within the study area. Most of the study area is divided between the catchments of the Chelmer, which extends across the survey area between Chelmsford and Witham and includes the River Ter, and the Blackwater, from Witham to Mark's Tey. The north-eastern end of the survey area, where the Roman River flows through Copford, falls within the catchment of the Colne.

5.1.22 Only a short section of the River Chelmer flows through the survey area, at the southern end, east of Chelmsford (figure A.3, sheet 1). The River Ter flows into the study area south of Terling, flowing south through the study area for approximately 3.5 km and out of the survey area to the south of Hatfield Peverel. There was also a small tributary of the River Chelmer to the north-east of Springfield and Chelmsford around the Bulls Lodge Quarry (figure A.3, sheet 3).

5.1.23 The River Blackwater flows south into the study area at Kelvedon, flowing generally south-west through the survey area for approximately 10km and out of the study area south-east of Witham. The Domsey Brook flows south-west from Easthorpe and into the River Blackwater at Kelvedon. The River Brain

flows south-east into the survey area at Witham, where it meets the River Blackwater at Whetmead Local Nature Reserve (LNR).

5.1.24 The Rivers Blackwater, Brain and Ter and the Domsey Brook were mapped as the phase 1 habitat type 'G2.1 running water – eutrophic', supporting extensive stands of emergent vegetation along their courses. Smaller watercourses and headwaters were mapped as 'G2 running water'.

## Standing water

5.1.25 Numerous bodies of standing water were mapped. These were predominantly manmade features, of a range of sizes and associated with a range of uses. The largest bodies of standing water were along the River Blackwater in the Witham area, comprising flooded former quarries and used for angling. Smaller bodies of standing water were scattered across the surveyed area, comprising ponds in woodlands, field boundaries and gardens, and flooded depressions and ditches.

5.1.26 Standing waterbodies over 2ha in extent qualified as Eutrophic Standing Waterbodies priority habitat. There were seven examples of this priority habitat, mostly located around Witham, and comprising former gravel workings, many of which are fished by private angling clubs.

## Hedgerows and boundary features

5.1.27 Across arable areas, field boundaries, lanes and tracks supported an extensive and complex network of ditches and hedgerows, with a total of 1,274 hedgerow features mapped. Most hedgerows incorporated other features, such as ditches and banks, so that the number of the latter features given in Table 6 is an underestimate. A small number of hedgerows had been recently planted, but the majority were clearly very old landscape features.

5.1.28 Approximately 60% of the hedgerows were classified as having trees (phase 1 habitat type 'J2.3 hedge with trees'). The most frequent tree species was pedunculate oak, with many large mature trees across the area surveyed and old pollards in some parts, as well as field maple (*Acer campestre*) and, less frequently, ash. Some hedgerows supported large small-leaved elm (*Ulmus minor* subsp*. minor*) trees.

5.1.29 A diversity of other woody species was recorded from hedgerows across the surveyed area. Many hedgerows were dominated by a small number of species, particularly common hawthorn and elm, but most comprised combinations of these and blackthorn (*Prunus spinosa*), elder (*Sambucus nigra*), elm-leaved bramble (*Rubus ulmifolius*), field maple, hazel (*Corylus avellana*), ivy (*Hedera helix*), pedunculate oak, roses (*Rosa*) and traveller's-joy. Richer hedgerows were distinguished by species such as dogwood (*Cornus sanguinea subsp. sanguinea*), goat willow (*Salix caprea*), holly (*Ilex aquifolium*), hornbeam, hybrid hawthorn (*Crataegus laevigata x monogyna = C. x media*), midland hawthorn (*Crataegus laevigata*), spindle (*Euonymus europaeus*) and a greater diversity of brambles and roses, including field rose (*Rosa arvensis*), round-leaved dog-rose (*R. obtusifolia*), short-styled field rose (*R. stylosa*) and a diversity of hybrids. Small-leaved lime (*Tilia cordata*) and wild service tree (*Sorbus torminalis*) were recorded from a small number of hedgerows.

5.1.30 Approximately 25% of hedgerows were species-rich. There were concentrations in some parts, such as north-east of Feering (figure A.3, sheets 27, 31, 34 and 35).

5.1.31 Most hedgerows qualified as Hedgerows priority habitat, being comprised of at least 80% native trees and shrubs. Out of a total of 1,042 such hedgerows, 261 were within the boundary of the Scheme.

5.1.32 For more detailed information about hedgerows within and around the Scheme, see the hedgerow survey report (Appendix 9.7 of the ES [TR010060/APP/6.3]).

### Other habitats

5.1.33 Several other habitats were mapped during the survey, largely associated with human disturbance. The most extensive was arable land (phase 1 habitat type 'J1.1 cultivated/disturbed land – arable'), comprising approximately 70% of the area surveyed. Arable fields in some parts of the survey area incorporated crops of maize sown as over-winter cover for gamebirds, but such crops were not mapped as separate features. Around the boundary of two fields north of Boreham were areas sown with arable flowers, which were identified as Arable Field Margins priority habitat.

5.1.34 Other kinds of habitat were of small extent, and most were rare. The most frequently mapped such habitat was tall ruderal vegetation (phase 1 habitat type 'C3.1 other tall herb and fern – ruderal'), commonly dominated by common nettle (*Urtica dioica*) and mapped from unmanaged areas such as edges of fields and settlements. Narrow stands of this habitat were also frequently dominant along the banks of ditches, streams and rivers, but were too narrow to be mappable.

5.1.35 Finally, there were two areas of the priority habitat Open Mosaic Habitats on Previously Developed Land. These comprised a mosaic of short open vegetation, grassland and scrub, found at the edge of a housing development on the southern edge of Witham (target note 41). There was also an area of brownfield to the south of Coleman's quarry (target note 34) but this did not qualify as priority habitat.

## 5.2 Ancient woodland

### Desk study

5.2.1 Twenty-three sites in the Ancient Woodland Inventory were identified within 1km of the Scheme, labelled on figure A.4. No sites were within 200m of the Scheme.

### Field survey

5.2.2 Table 8 lists the sites from the Ancient Woodland Inventory and potential ancient woodland sites identified within the field survey study area, their distances from the Scheme and cross references to target notes in Annex C and shown in figure A.4.

5.2.3 Five sites in the Ancient Woodland Inventory were within the study area for the field survey. Of these, Sparkey Wood was not visited during the field survey as only a small part of this large site was within the study area, lying to the south-east of the Benton Hall Golf and Country Club.

5.2.4 Thirteen potential ancient woodland sites were identified. At all of these sites there was a diversity of ancient woodland indicator species and other features indicative of ancient woodland, such as boundary banks. Job's Wood and Whitegate Grove had been recently replanted with native broadleaved species but retained such features. The northern part of The Grove near Boreham appeared very disturbed and may not be ancient in origin (target note 80).

5.2.5 Other woodlands surveyed were considered to be of recent origin. These included stands of mature broadleaved semi-natural woodland which were not shown on the first edition of the OS map and lacked features of ancient woodland (e.g. target notes 23 and 43).

**Table 8 Summary of Ancient Woodland Inventory sites and potential ancient woodland sites surveyed**

| Site name | Ancient Woodland Inventory | Potential ancient woodland | Distance from DF1 boundary (m) | Year surveyed | Target note no. |
|---|---|---|---|---|---|
| Bishop's Wood | | ✓ | 354 | 2020 | 68 |
| Brewhouse Wood | | ✓ | 425 | 2020 | 70 |
| Church Hills | | ✓ | 227 | 2020 | 57 |
| Inworth Wood | ✓ | | 401 | 2020 | 19 |
| Job's Wood | | ✓ | 14 | 2020 | 47 |
| Jubb's Row | | ✓ | 662 | 2020 | 24 |
| Kelvedon Hall Wood | ✓ | | 423 | 2020 | 26 |
| Long Wood | | ✓ | 565 | 2019 | 69 |
| Porter's Grove | | ✓ | 142 | 2020 | 78 |
| Sandpit Wood | | ✓ | 409 | 2019 | 67 |
| Sparkey Wood | ✓ | | 518 | NA | NA |
| Spitman's Gardens | | ✓ | 311 | 2020 | 71 |
| The Grove (1) | | ✓ | 563 | 2020 | 56 |
| The Grove (2) | | ✓ | 170 | 2020 | 79, 80, 81 |
| Titbeech Wood | ✓ | | 425 | 2020 | NA |
| Topinghoehall Wood | ✓ | | 495 | 2017 | 72 |
| Unnamed wood | | ✓ | 389 | 2018 | 6 |
| Whitegate Grove | | ✓ | 1,036 | 2019 | 52, 53 |

## 5.3 Notable plants

### Desk study

5.3.1 The desk study identified 568 records of 114 notable plant species within 1km of the Scheme. Of these, 117 records were recorded with a precision of 1-100m metres, covering 38 species. A summary of all notable plant species identified is provided in table 9.

5.3.2 Three of the species recorded with a precision of 1-100m were within the Scheme boundary: lesser calamint, recorded from two locations within the Scheme boundary south of Witham, pyramidal orchid (*Anacamptis pyramidalis*), recorded from the Whet Mead LNR and from a field south of Witham, and henbane (*Hyoscyamus niger*) recorded from around the Latney's cattery south of junction 21 of the A12. Other records were at least 50m from the Scheme or were localised only to 1km or 10km OS grid square.

5.3.3 There were records of two species listed on Schedule 8 of the Wildlife and Countryside Act 1981 (as amended): bluebell and Jersey cudweed (*Gnaphalium luteoalbum*). The nearest record of bluebell was from Long Wood, approximately 82m south of the Scheme near Hatfield Peverel. Records of Jersey cudweed were localised only to 1km OS grid square.

5.3.4 The records include species the native UK range of which does not include the area around the Scheme (Preston *et al.*, 2002), i.e. annual beard-grass (*Polypogon monspeliensis*), bloody cranesbill (*Geranium sanguineum*), box (*Buxus sempervirens*), Italian lord's-and-ladies (*Arum italicum*), Scots pine (*Pinus sylvestris*), stinking hellebore (*Helleborus foetidus*) and Welsh poppy (*Meconopsis cambrica*).

### Field survey

5.3.5 Twenty-eight notable plant species were recorded during surveys for the scheme, listed with their legal / conservation status and distance from the Scheme (DF1) in Table 9.

5.3.6 Included are two rose (*Rosa*) hybrids recorded during the hedgerow survey that do not meet the criteria in paragraph 4.1.9 but that each had only one previous record in Essex and are uncommon nationally.

5.3.7 Twelve of the notable plants recorded were present within the Scheme boundary:

a. black-poplar (*Populus nigra* subsp. *betulifolia*) – recorded as a single mature tree on the boundary of a residential property next to the A12 between J22 and J23

b. common cudweed (*Filago vulgaris*) – many populations were recorded from disturbed sparsely vegetated ground throughout the study area

c. corn mint (*Mentha arvensis*)– four populations were recorded, the closest of which were in a field margin along the Domsey Brook east of Kelvedon, and in a sandy pasture north-east of Witham

d. corn spurrey (*Spergula arvensis*) – recorded from the margins of three arable fields near Hatfield Peverell managed for game birds

e. field scabious (*Knautia arvensis*) – many populations were recorded from rough grassland across the study area, including verges of the A12, arable headlands and railways embankments

f. heath speedwell (*Veronica officinalis*) – three populations were recorded, of which the population within the Scheme boundary was in an area of rough species-poor grassland south of Kelvedon

g. henbane – two small populations were recorded from the boundary of an arable field next to the A12 south of Witham

h. lesser calamint – many populations were recorded, mostly in rabbit-grazed grass verges overlying thin soil on banks along the A12 between Kelvedon and Witham. Many populations were extensive, with the largest extending over most of the island between the A12 and the southbound slip road of junction 23, with other populations along the northern side of the A12.

i. river water-dropwort (*Oenanthe fluviatilis*) – two populations were recorded from the River Blackwater at Kelvedon

j. Scots pine – this was present as planted trees and is not native in Essex

k. small teasel (*Dipsacus pilosus*) – recorded from along the River Brain through Whet Mead LNR

l. wall bedstraw (*Galium parisiense*) – a large population was recorded form a sandy pasture north-east of Witham, where it was abundant

5.3.8 Within 10m of the Scheme boundary were bluebell (*Hyacinthoides non-scripta*), lesser water-parsnip (*Berula erecta*), rye brome (*Bromus secalinus*) and the hybrid rose *Rosa obtusifolia x tomentosa*. The populations of bluebell were in woodland, except for one in a hedgerow west of Hatfield Peverell, and the closest was next to the railway in Job's Wood south-west of Witham. Lesser water-parsnip was recorded from a drainage ditch connected to the River Ter near Hatfield Peverell. One plant of rye brome was recorded from a layby on the A12 near Marks Tey. The hybrid rose was recorded from a hedgerow near Wickham Bishops.

5.3.9 Within 10-30m of the Scheme boundary were cornfield knotgrass (*Polygonum rurivagum*), harebell (*Campanula rotundifolia*), large-leaved lime (*Tilia platyphyllos*), stinking hellebore (*Helleborus foetidus*) and thin-spiked wood sedge (*Carex strigosa*). Cornfield knotgrass was recorded from an arable field managed for game birds near Hatfield Peverell. Harebell was recorded from an of brownfield land south of Coleman's Quarry and in an unmanaged area of semi-improved acid grassland southwest of Hatfield Peverell. Large-leaved lime was found in three locations but all populations were of recent planted origin.

Stinking hellebore was present as a naturalised population likely originating from dumped garden rubbish by J21 of the A12. Thin-spiked wood sedge was recorded from the potential ancient woodland sites Spitman's Garden, adjacent to the Scheme, and The Grove, approximately 300m to the north.

5.3.10 The species recorded beyond 30m were only found in one location each. Of these, corncockle (*Agrostemma githago*) was present as plants sown in an arable field margin near Terling. Hoary plantain (*Plantago media*) and wild clary (*Salvia verbenaca*) occurred in areas of grassland sown with wildflowers and may have been introduced. White ramping-fumitory (*Fumaria capreolata*) was recorded from one location, at the edge of an arable field between Marks Tey and Kelvedon, where it was seen in 2017 and not subsequently.

## 5.4 Invasive non-native plants

### Desk study

5.4.1 The desk study identified 210 records of 35 invasive non-native plant species within 1km of the Scheme. Of these, 63 were recorded with a precision of 1-100m metres, covering 14 species. A summary of all invasive non-native plants identified is provided in Table 10.

5.4.2 Five of the species recorded with a precision of 1-100m were within the Scheme boundary: alexanders (*Smyrnium olusatrum*), butterfly-bush (*Buddleja davidii*), goat's-rue (*Galega officinalis*), Himalayan balsam (*Impatiens glandulifera*) and Japanese knotweed (*Fallopia japonica*). Of these, Himalyan balsam and Japanese knotweed are listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). All records of Himalayan balsam are from along the River Blackwater near Kelvedon. The closest record of Japanese knotweed is from the rail station at Hatfield; the other closest record is over 140m from the Scheme.

### Field survey

5.4.3 Nineteen invasive non-native plant species were recorded during surveys for the Scheme, listed with their legal status and distance from the Scheme in Table 10. Fifteen of the species are listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). Three of the species are listed on Schedule 2 of the Invasive Alien Species (Enforcement and Permitting) Order 2019.

5.4.4 Six invasive non-native plants were recorded within the boundary of the Scheme:

a. Himalayan balsam – stands of this species were recorded in several places along the River Blackwater south-west of Kelvedon and along a tributary near Rivenhall

b. Himalayan cotoneaster (*Cotoneaster simonsii*) – three populations were recorded from hedgerows and a woodland, likely originating from bird-sown seed

c. Japanese knotweed – several populations were recorded scattered across the scheme, with two populations within the Scheme boundary

d. least duckweed (*Lemna minuta*) – one population was recorded, from a pond east of Kelvedon

e. montbretia (*Crocosmia x crocosmiiflora*) – seven populations were recorded, four from within the Scheme boundary, all of which were in hedgerows

f. three-cornered garlic (*Allium triquetrum*) – was recorded from the driveway of Prested Hall, east of Feering

5.4.5 The other invasive non-native species recorded were located at least 30m from the Scheme boundary. Some species could occur more widely, including within the Scheme boundary, such as the mobile aquatic species floating pennywort (*Hydrocotyle ranunculoides*) and water fern (*Azolla filiculoides*).

**Table 9 Notable plants recorded from desk study and field survey[3]**

| | | | Desk study | | | Field survey | |
|---|---|---|---|---|---|---|---|
| **Scientific name** | **Common name** | **Legal / conservation status** | **Number of locations** | **Latest year** | **Nearest distance (m)** | **Number of locations** | **Nearest distance (m)** |
| *Achillea ptarmica* | Sneezewort | Essex Scarce, Essex Red List - Rare | 2 | 2008 | - | 0 | - |
| *Agrostemma githago* | Corncockle | Essex Red List - Extinct in the Wild | 0 | - | - | 1 | 935 |
| *Agrostis canina s.s.* | Velvet bent | Essex Scarce, Essex Red List - Rare | 1 | 1970 | - | 0 | - |
| *Aira caryophyllea* | Silver hair-grass | Essex Scarce, Essex Red List - Rare | 1 | 1978 | - | 0 | - |
| *Anacamptis pyramidalis* | Pyramidal orchid | Essex Scarce, Essex Red List - Rare | 6 | 2017 | 0 | 0 | - |
| *Anthemis arvensis* | Corn chamomile | Great Britain Endangered, England Endangered, Essex Scarce, Essex Red List - Rare | 3 | 1985 | - | 0 | - |
| *Anthemis cotula* | Stinking chamomile | Great Britain Vulnerable, England Vulnerable, Essex Scarce, Essex Red List - Rare | 13 | 1989 | - | 0 | - |
| *Arum italicum* subsp. *neglectum* | Italian lord's-and-ladies | Nationally Scarce, Great Britain Near Threatened, Essex Red List | 1 | 2013 | - | 0 | - |
| *Asplenium adiantum-nigrum s.s.* | Black spleenwort | Essex Scarce, Essex Red List - Rare | 3 | 2018 | 317 | 0 | - |
| *Asplenium ruta-muraria* | Wall-rue | Essex Scarce, Essex Red List - Rare | 2 | 1992 | 593 | 0 | - |
| *Asplenium trichomanes* | Maidenhair spleenwort | Essex Scarce, Essex Red List - Rare | 1 | 1981 | - | 0 | - |
| *Athyrium filix-femina* | Lady-fern | Essex Scarce, Essex Red List - Rare | 1 | 2015 | - | 0 | - |

[3] Nearest distance was calculated using records localised to a 100m OS grid square or more accurately

| | | | Desk study | | | Field survey | |
|---|---|---|---|---|---|---|---|
| **Scientific name** | **Common name** | **Legal / conservation status** | **Number of locations** | **Latest year** | **Nearest distance (m)** | **Number of locations** | **Nearest distance (m)** |
| *Berberis vulgaris* | Barberry | Essex Scarce, Essex Red List - Rare | 1 | 1987 | - | 0 | - |
| *Berula erecta* | Lesser water-parsnip | Essex Scarce, Essex Red List - Rare | 2 | 1995 | 249 | 1 | 4 |
| *Bromus secalinus* | Rye brome | Nationally Scarce, Great Britain Vulnerable, England Near Threatened, Essex Scarce, Essex Red List - Rare | 0 | - | - | 1 | 2 |
| *Buxus sempervirens* | Box | Nationally Rare | 1 | 2017 | 87 | 0 | - |
| *Campanula rapunculus* | Rampion bellflower | Section 41, Nationally Rare, Great Britain Endangered, England Endangered | 3 | 2018 | 723 | 0 | - |
| *Campanula rotundifolia* | Harebell | England Near Threatened, Essex Scarce, Essex Red List - Rare | 0 | - | - | 2 | 20 |
| *Cardamine amara* | Large bitter-cress | Essex Scarce, Essex Red List - Rare | 5 | 2016 | - | 0 | - |
| *Carex nigra* | Common sedge | Essex Scarce, Essex Red List - Rare | 2 | 2008 | - | 0 | - |
| *Carex paniculata* | Greater tussock-sedge | Essex Scarce, Essex Red List - Rare | 1 | 2006 | - | 0 | - |
| *Carex strigosa* | Thin-spiked wood-sedge | Essex Scarce, Essex Red List - Rare | 0 | - | - | 3 | 16 |
| *Catabrosa aquatica* | Whorl-grass | England Vulnerable, Essex Scarce, Essex Red List - Rare | 1 | 1960 | - | 0 | - |
| *Cerastium arvense* | Field mouse-ear | England Near Threatened, Essex Scarce, Essex Red List - Rare | 1 | 1977 | - | 0 | - |
| *Cerastium semidecandrum* | Little mouse-ear | Essex Scarce, Essex Red List - Rare | 1 | 2015 | - | 0 | - |
| *Chaenorhinum minus* | Small toadflax | Essex Scarce, Essex Red List - Rare | 1 | 1989 | - | 0 | - |

| | | | Desk study | | | Field survey | |
|---|---|---|---|---|---|---|---|
| **Scientific name** | **Common name** | **Legal / conservation status** | **Number of locations** | **Latest year** | **Nearest distance (m)** | **Number of locations** | **Nearest distance (m)** |
| *Chenopodium bonus-henricus* | Good-king-henry | Great Britain Vulnerable, England Vulnerable, Essex Scarce, Essex Red List - Rare | 2 | 2011 | 134 | 0 | - |
| *Chrysosplenium oppositifolium* | Opposite-leaved golden-saxifrage | Essex Scarce, Essex Red List - Rare | 3 | 2015 | - | 0 | - |
| *Cichorium intybus* | Chicory | England Vulnerable | 3 | 1986 | - | 0 | - |
| *Clinopodium ascendens* | Common calamint | Essex Scarce, Essex Red List - Rare | 2 | 2018 | 970 | 0 | - |
| *Clinopodium calamintha* | Lesser calamint | Nationally Scarce, Great Britain Vulnerable, Essex Red List | 46 | 2017 | 0 | 17 | 0 |
| *Cruciata laevipes* | Crosswort | England Near Threatened, Essex Scarce, Essex Red List - Rare | 1 | 2017 | - | 0 | - |
| *Cyperus longus* | Galingale | Nationally Scarce, Great Britain Near Threatened, England Near Threatened, Essex Red List | 1 | 2007 | - | 0 | - |
| *Dactylorhiza incarnata* | Early marsh-orchid | Essex Scarce, Essex Red List - Rare | 2 | 2015 | 839 | 0 | - |
| *Dactylorhiza praetermissa* | Southern marsh-orchid | Essex Scarce, Essex Red List - Rare | 2 | 1995 | 149 | 0 | - |
| *Dipsacus pilosus* | Small teasel | Essex Scarce, Essex Red List - Rare | 4 | 2018 | 54 | 8 | 0 |
| *Dryopteris carthusiana* | Narrow buckler-fern | Essex Scarce, Essex Red List - Rare | 2 | 1988 | - | 0 | - |
| *Eleogiton fluitans* | Floating club-rush | Essex Scarce, Essex Red List - Rare | 1 | 1952 | - | 0 | - |
| *Epilobium obscurum* | Short-fruited willowherb | Essex Scarce, Essex Red List - Rare | 1 | 2015 | - | 0 | - |

| | | | Desk study | | | Field survey | |
|---|---|---|---|---|---|---|---|
| **Scientific name** | **Common name** | **Legal / conservation status** | **Number of locations** | **Latest year** | **Nearest distance (m)** | **Number of locations** | **Nearest distance (m)** |
| *Erodium moschatum* | Musk stork's-bill | Essex Red List | 1 | 2015 | - | 0 | - |
| *Erysimum cheiranthoides* | Treacle-mustard | England Near Threatened | 1 | 1980 | - | 0 | - |
| *Euphorbia exigua* | Dwarf spurge | Great Britain Near Threatened, England Vulnerable | 18 | 2015 | 938 | 0 | - |
| *Filago minima* | Small cudweed | England Near Threatened | 1 | 2013 | - | 0 | - |
| *Filago vulgaris* | Common cudweed | Great Britain Near Threatened, England Near Threatened | 24 | 2017 | 600 | 16 | 0 |
| *Fragaria vesca* | Wild strawberry | England Near Threatened | 7 | 2015 | - | 0 | - |
| *Fumaria capreolata* | White ramping-fumitory | Essex Red List | 0 | - | - | 1 | 96 |
| *Galium parisiense* | Wall bedstraw | Nationally Scarce, Great Britain Vulnerable, England Vulnerable, Essex Red List | 0 | - | - | 1 | 0 |
| *Geranium sanguineum* | Bloody crane's-bill | England Near Threatened, Essex Scarce, Essex Red List - Rare | 1 | 2013 | - | 0 | - |
| *Glebionis segetum* | Corn marigold | Great Britain Vulnerable, England Vulnerable | 1 | 2014 | - | 0 | - |
| *Gnaphalium luteoalbum* | Jersey cudweed | Schedule 8, Essex Red List | 1 | 2013 | - | 0 | - |
| *Helleborus foetidus* | Stinking hellebore | Nationally Scarce, Essex Red List | 4 | 2018 | - | 1 | 17 |
| *Hyacinthoides non-scripta* | Bluebell | Schedule 8 | 49 | 2017 | 82 | 16 | 7 |

| | | | Desk study | | | Field survey | |
|---|---|---|---|---|---|---|---|
| **Scientific name** | **Common name** | **Legal / conservation status** | **Number of locations** | **Latest year** | **Nearest distance (m)** | **Number of locations** | **Nearest distance (m)** |
| *Hyoscyamus niger* | Henbane | Great Britain Vulnerable, England Vulnerable, Essex Scarce, Essex Red List | 5 | 2015 | 0 | 2 | 0 |
| *Hypericum maculatum x perforatum = H. x desetangsii* | Des etangs' st john's-wort | Essex Scarce, Essex Red List - Rare | 1 | 1997 | 545 | 0 | - |
| *Hypericum pulchrum* | Slender st john's-wort | Essex Scarce, Essex Red List - Rare | 4 | 2012 | - | 0 | - |
| *Inula conyzae* | Ploughman's-spikenard | Essex Scarce, Essex Red List - Rare | 2 | 2013 | 57 | 0 | - |
| *Knautia arvensis* | Field scabious | England Near Threatened | 47 | 2017 | 134 | 26 | 0 |
| *Lepidium campestre* | Field pepperwort | England Near Threatened | 1 | 1988 | - | 0 | - |
| *Lepidium latifolium* | Dittander | Nationally Scarce, Essex Red List | 2 | 1985 | - | 0 | - |
| *Lithospermum arvense* | Field gromwell | Great Britain Endangered, England Endangered, Essex Scarce, Essex Red List - Rare | 4 | 2009 | - | 0 | - |
| *Lonicera xylosteum* | Fly honeysuckle | Nationally Rare, Essex Red List | 1 | 1994 | 799 | 0 | - |
| *Lythrum portula* | Water-purslane | Essex Scarce, Essex Red List - Rare | 1 | 1988 | - | 0 | - |
| *Meconopsis cambrica* | Welsh poppy | Nationally Scarce, Essex Red List | 2 | 2015 | - | 0 | - |
| *Mentha arvensis* | Corn mint | England Near Threatened | 12 | 2018 | 57 | 4 | 0 |
| *Myosotis discolor* | Changing forget-me-not | Essex Scarce, Essex Red List - Rare | 1 | 1978 | - | 0 | - |

| | | | Desk study | | | Field survey | |
|---|---|---|---|---|---|---|---|
| **Scientific name** | **Common name** | **Legal / conservation status** | **Number of locations** | **Latest year** | **Nearest distance (m)** | **Number of locations** | **Nearest distance (m)** |
| *Myosotis ramosissima* | Early forget-me-not | Essex Scarce, Essex Red List - Rare | 3 | 2017 | - | 0 | - |
| *Nepeta cataria* | Cat-mint | Great Britain Vulnerable, England Vulnerable, Essex Scarce, Essex Red List - Rare | 1 | 1996 | 587 | 0 | - |
| *Oenanthe fluviatilis* | River water-dropwort | Essex Scarce, Essex Red List | 10 | 2015 | 639 | 2 | 0 |
| *Onobrychis viciifolia* | Sainfoin | Great Britain Near Threatened, England Vulnerable | 1 | 2010 | - | 0 | - |
| *Papaver argemone* | Prickly poppy | Great Britain Vulnerable, England Endangered, Essex Red List | 3 | 2018 | 723 | 0 | - |
| *Persicaria bistorta* | Common bistort | Essex Scarce, Essex Red List - Rare | 1 | 1984 | - | 0 | - |
| *Petasites hybridus* | Butterbur | Essex Scarce, Essex Red List - Rare | 8 | 2012 | - | 0 | - |
| *Pinus sylvestris* | Scots pine | Nationally Scarce | 26 | 2018 | - | 13 | 0 |
| *Plantago media* | Hoary plantain | England Near Threatened | 9 | 2018 | 134 | 1 | 193 |
| *Poa compressa* | Flattened meadow-grass | Essex Scarce, Essex Red List - Rare | 1 | 1965 | - | 0 | - |
| *Poa infirma* | Early meadow-grass | Nationally Scarce, Essex Red List | 1 | 2017 | - | 0 | - |
| *Polygonum rurivagum* | Cornfield knotgrass | Essex Red List | 2 | 2014 | - | 1 | 29 |
| *Polypogon monspeliensis* | Annual beard-grass | Nationally Scarce, Essex Red List | 1 | 2017 | - | 0 | - |
| *Polystichum setiferum* | Soft shield-fern | Essex Scarce, Essex Red List - Rare | 1 | 1986 | - | 0 | - |

| | | | Desk study | | | Field survey | |
|---|---|---|---|---|---|---|---|
| **Scientific name** | **Common name** | **Legal / conservation status** | **Number of locations** | **Latest year** | **Nearest distance (m)** | **Number of locations** | **Nearest distance (m)** |
| *Populus nigra* subsp. *betulifolia* | Black-poplar | Essex Scarce, Essex Red List - Rare | 2 | 2012 | 307 | 1 | 0 |
| *Potamogeton berchtoldii* | Small pondweed | Essex Scarce, Essex Red List - Rare | 1 | 1987 | - | 0 | - |
| *Potamogeton lucens* | Shining pondweed | Essex Scarce, Essex Red List - Rare | 2 | 2010 | - | 0 | - |
| *Potamogeton perfoliatus* | Perfoliate pondweed | Essex Scarce, Essex Red List - Rare | 3 | 2018 | - | 0 | - |
| *Potamogeton polygonifolius* | Bog pondweed | Essex Scarce, Essex Red List - Rare | 1 | 1952 | - | 0 | - |
| *Potamogeton praelongus* | Long-stalked pondweed | Great Britain Near Threatened, England Endangered, Essex Red List | 2 | 1964 | - | 0 | - |
| *Potentilla anglica* | Trailing tormentil | Essex Scarce, Essex Red List - Rare | 1 | 1997 | - | 0 | - |
| *Potentilla argentea* | Hoary cinquefoil | Great Britain Near Threatened, England Near Threatened, Essex Red List | 1 | 2016 | - | 0 | - |
| *Potentilla erecta* | Tormentil | England Near Threatened | 2 | 2015 | 905 | 0 | - |
| *Ranunculus circinatus* | Fan-leaved water-crowfoot | Essex Scarce, Essex Red List - Rare | 3 | 1997 | 441 | 0 | - |
| *Ranunculus flammula* | Lesser spearwort | England Vulnerable | 4 | 2017 | 905 | 0 | - |
| *Ranunculus hederaceus* | Ivy-leaved crowfoot | Essex Scarce, Essex Red List - Rare | 1 | 1998 | 587 | 0 | - |
| *Rhinanthus minor* | Yellow-rattle | Essex Scarce, Essex Red List - Rare | 1 | 2015 | - | 0 | - |
| *Ribes nigrum* | Black currant | Essex Scarce, Essex Red List - Rare | 2 | 1989 | - | 1 | 130 |

| | | | Desk study | | | Field survey | |
|---|---|---|---|---|---|---|---|
| **Scientific name** | **Common name** | **Legal / conservation status** | **Number of locations** | **Latest year** | **Nearest distance (m)** | **Number of locations** | **Nearest distance (m)** |
| *Rosa obtusifolia x tomentosa* | - | Essex notable other | 0 | - | - | 1 | 8 |
| *Rosa stylosa x arvensis = R. x pseudorusticana (f x m)* | - | Essex notable other | 0 | - | - | 1 | 94 |
| *Rumex hydrolapathum* | Water dock | Essex Scarce, Essex Red List - Rare | 6 | 2013 | - | 0 | - |
| *Rumex maritimus* | Golden dock | Essex Red List | 2 | 2012 | - | 0 | - |
| *Rumex palustris* | Marsh dock | Essex Red List | 2 | 2013 | - | 0 | - |
| *Salix purpurea* | Purple willow | Essex Scarce, Essex Red List - Rare | 3 | 1989 | - | 0 | - |
| *Salvia verbenaca* | Wild clary | England Near Threatened, Essex Scarce, Essex Red List - Rare | 3 | 2013 | - | 1 | 451 |
| *Sanicula europaea* | Sanicle | England Near Threatened | 1 | 1997 | - | 0 | - |
| *Saxifraga granulata* | Meadow saxifrage | Essex Scarce, Essex Red List - Rare | 4 | 2015 | - | 0 | - |
| *Scirpus sylvaticus* | Wood club-rush | Essex Scarce, Essex Red List - Rare | 1 | 2012 | - | 0 | - |
| *Scleranthus annuus* | Annual knawel | Section 41, Great Britain Endangered, England Endangered | 2 | 1989 | - | 0 | - |
| *Silaum silaus* | Pepper-saxifrage | Essex Scarce, Essex Red List - Rare | 3 | 1984 | - | 0 | - |
| *Silene flos-cuculi* | Ragged-robin | England Near Threatened | 1 | 2015 | 741 | 0 | - |
| *Sparganium emersum* | Unbranched bur-reed | Essex Scarce, Essex Red List - Rare | 13 | 2016 | 639 | 0 | - |

| | | | Desk study | | | Field survey | |
|---|---|---|---|---|---|---|---|
| **Scientific name** | **Common name** | **Legal / conservation status** | **Number of locations** | **Latest year** | **Nearest distance (m)** | **Number of locations** | **Nearest distance (m)** |
| *Spergula arvensis* | Corn spurrey | Great Britain Vulnerable, England Vulnerable | 2 | 1992 | 917 | 3 | 0 |
| *Stachys arvensis* | Field woundwort | Great Britain Near Threatened, England Near Threatened, Essex Scarce, Essex Red List - Rare | 1 | 1985 | 490 | 0 | - |
| *Stellaria pallida* | Lesser chickweed | Essex Scarce, Essex Red List - Rare | 4 | 2018 | - | 0 | - |
| *Succisa pratensis* | Devil's-bit scabious | England Near Threatened, Essex Scarce, Essex Red List - Rare | 2 | 2019 | - | 0 | - |
| *Thalictrum flavum* | Common meadow-rue | Essex Scarce, Essex Red List - Rare | 2 | 2008 | - | 0 | - |
| *Thymus pulegioides* | Large thyme | Essex Scarce, Essex Red List - Rare | 1 | 1986 | - | 0 | - |
| *Tilia platyphyllos* | Large-leaved lime | Nationally Scarce, Essex Red List | 4 | 2018 | - | 3 | 27 |
| *Trifolium ochroleucon* | Sulphur clover | Nationally Scarce, Great Britain Near Threatened, England Vulnerable, Essex Red List | 1 | 2008 | - | 0 | - |
| *Trifolium scabrum* | Rough clover | Essex Scarce, Essex Red List - Rare | 1 | 2018 | - | 0 | - |
| *Valeriana officinalis* | Common valerian | England Near Threatened, Essex Scarce, Essex Red List - Rare | 5 | 1990 | 813 | 1 | 81 |
| *Valerianella locusta* | Common cornsalad | Essex Scarce, Essex Red List - Rare | 1 | 2013 | - | 0 | - |
| *Verbena officinalis* | Vervain | Essex Scarce, Essex Red List - Rare | 2 | 2017 | 54 | 0 | - |
| *Veronica officinalis* | Heath speedwell | England Near Threatened | 5 | 2016 | - | 3 | 0 |

| | | | Desk study | | | Field survey | |
|---|---|---|---|---|---|---|---|
| **Scientific name** | **Common name** | **Legal / conservation status** | **Number of locations** | **Latest year** | **Nearest distance (m)** | **Number of locations** | **Nearest distance (m)** |
| *Viola canina* | Heath dog-violet | Great Britain Near Threatened, England Vulnerable, Essex Scarce, Essex Red List - Rare | 1 | 1997 | 424 | 0 | - |
| *Viscum album* | Mistletoe | Essex Scarce, Essex Red List - Rare | 16 | 2018 | 594 | 0 | - |

**Table 10 Invasive non-native plants recorded from desk study and field survey[4]**

| | | | Desk study | | | Field survey | |
|---|---|---|---|---|---|---|---|
| **Scientific name** | **Common name** | **Legal status** | **Number of locations** | **Latest year** | **Nearest distance (m)** | **Number of locations** | **Nearest distance (m)** |
| *Ailanthus altissima* | Tree-of-heaven | - | 0 | - | - | 1 | 340 |
| *Allium triquetrum* | Three-cornered garlic | Schedule 9 | 0 | - | - | 1 | 0 |
| *Alnus cordata* | Italian alder | - | 6 | 2018 | 134 | 0 | - |
| *Azolla filiculoides* | Water fern | Schedule 9 | 1 | 1989 | - | 2 | 75 |
| *Buddleja davidii* | Butterfly-bush | - | 22 | 2018 | 0 | 0 | - |
| *Cotoneaster* | Cotoneaster | Schedule 9 | 0 | - | - | 1 | 407 |
| *Cotoneaster horizontalis* | Wall cotoneaster | Schedule 9 | 0 | - | - | 2 | 71 |

[4] Nearest distance was calculated using records localised to a 100m OS grid square or more accurately

| | | | Desk study | | | Field survey | |
|---|---|---|---|---|---|---|---|
| **Scientific name** | **Common name** | **Legal status** | **Number of locations** | **Latest year** | **Nearest distance (m)** | **Number of locations** | **Nearest distance (m)** |
| *Cotoneaster simonsii* | Himalayan cotoneaster | Schedule 9 | 0 | - | - | 3 | 0 |
| *Crassula helmsii* | New Zealand pigmyweed | Schedule 9 | 6 | 2018 | 587 | 6 | 100 |
| *Crocosmia aurea x pottsii = C. x crocosmiiflora* | Montbretia | Schedule 9 | 0 | - | - | 7 | 0 |
| *Elodea canadensis* | Canadian waterweed | Schedule 9 | 2 | 2015 | 891 | 0 | - |
| *Elodea nuttallii* | Nuttall's waterweed | Schedule 9 | 10 | 2018 | 441 | 0 | - |
| *Fallopia baldschuanica* | Russian-vine | - | 1 | 2012 | - | 0 | - |
| *Fallopia japonica* | Japanese knotweed | Schedule 9 | 17 | 2017 | 0 | 11 | 0 |
| *Galega officinalis* | Goat's-rue | - | 13 | 2016 | 0 | 0 | - |
| *Gunnera manicata* | Brazilian giant-rhubarb | - | 0 | - | - | 3 | 103 |
| *Heracleum mantegazzianum* | Giant hogweed | Schedule 9 | 3 | 2015 | 33 | 3 | 334 |
| *Hyacinthoides hispanica* | Spanish bluebell | - | 8 | 2017 | 733 | 0 | - |
| *Hydrocotyle ranunculoides* | Floating pennywort | Schedule 9 | 6 | 2018 | 833 | 4 | 90 |
| *Impatiens glandulifera* | Himalyan balsam | Schedule 9 | 30 | 2018 | 0 | 21 | 0 |
| *Lagarosiphon major* | Curly waterweed | Schedule 9 | 1 | 2017 | 683 | 0 | - |
| *Lamiastrum galeobdolon* subsp. *argentatum* | Variegated yellow archangel | Schedule 9 | 0 | - | - | 4 | 76 |
| *Lemna minuta* | Least duckweed | - | 8 | 2016 | 639 | 1 | 0 |

| | | | Desk study | | | Field survey | |
|---|---|---|---|---|---|---|---|
| **Scientific name** | **Common name** | **Legal status** | **Number of locations** | **Latest year** | **Nearest distance (m)** | **Number of locations** | **Nearest distance (m)** |
| *Lysichiton americanus* | American skunk-cabbage | Schedule 9 | 1 | 2013 | - | 0 | - |
| *Myriophyllum aquaticum* | Parrot's-feather | Schedule 9 | 3 | 1995 | - | 0 | - |
| *Parthenocissus quinquefolia* | Virginia-creeper | Schedule 9 | 0 | - | - | 3 | 169 |
| *Petasites fragrans* | Winter heliotrope | - | 8 | 2018 | - | 0 | - |
| *Quercus cerris* | Turkey oak | - | 7 | 2015 | - | 0 | - |
| *Quercus ilex* | Evergreen oak | - | 14 | 2018 | - | 0 | - |
| *Rhododendron ponticum* | Rhododendron | Schedule 9 | 0 | - | - | 1 | 168 |
| *Robinia pseudoacacia* | False-acacia | - | 7 | 2013 | - | 0 | - |
| *Rosa rugosa* | Japanese rose | Schedule 9 | 1 | 2013 | - | 3 | 407 |
| *Smyrnium olusatrum* | Alexanders | - | 7 | 2018 | 0 | 0 | - |
| *Solidago canadensis* | Canadian goldenrod | - | 3 | 1988 | - | 0 | - |
| *Symphoricarpos albus* | Snowberry | - | 0 | - | - | 4 | 34 |

# 6 Evaluation

## 6.1 Habitats

6.1.1 Most of the study area was found to be dominated by intensively cultivated agricultural land. Extensive areas of semi-natural habitats were rare, largely restricted to areas along rivers, including at Whetmead LNR by the River Blackwater, and in areas with greater woodland cover such as around Hatfield Peverel and Boreham. Grassland habitats tended to be species-poor, either due to intensive management or neglect. The importance for biodiversity of the habitats recorded by the survey is discussed below.

### Ancient woodland

6.1.2 No site in the Ancient Woodland Inventory or potential ancient woodland is within the Scheme boundary. Parts of two potential ancient woodland sites are within 200m of the Scheme: Porter's Grove and The Grove (figure A.3, target notes 78 and 79, respectively). The part of The Grove within this distance is the area most likely to be ancient woodland, rather the part of this site of potentially more recent origin to the north (target note 81).

6.1.3 Based on the field evidence gathered, the sites identified as potential ancient woodland are likely to be ancient woodland. These sites and sites in the Inventory are of National Importance for biodiversity and are irreplaceable habitat.

### Priority habitats

6.1.4 Seven priority habitats were recorded during the survey. The two priority habitats Coastal and Floodplain Grazing Marsh identified by the desk study were not recorded within the study area.

6.1.5 Most larger stands of Lowland Mixed Deciduous Woodland priority habitat and several of Wet Woodland were also sites in the Ancient Woodland Inventory or identified as potential ancient woodland sites, which are not within the Scheme area. Other larger stands of these priority habitats are also not within the Scheme area. The stands within the Scheme boundary are small and include less diverse examples of these habitats, such as around the margins of arable fields or narrow zones around standing waterbodies, and are of Local Importance.

6.1.6 There are no areas of Wood-Pasture and Parkland priority habitat within the Scheme boundary.

6.1.7 As artificial habitats, areas of Arable Field Margins and Eutrophic Standing Waters are valued as of Local Importance for biodiversity.

6.1.8 Hedgerows priority habitat is discussed in Appendix 9.7 of the ES [TR010060/APP/6.3].

### Groundwater dependent terrestrial ecosystems

6.1.9 The potential groundwater dependence of the wetland habitats identified during the survey is assessed in Chapter 14 of the ES [TR010060/APP/6.1].

## 6.2 Notable plants

6.2.1 A diversity of notable plants was identified from the desk study and field survey. Many of the species identified from desk study records were localised only to 1km or 10km square; for some a locality name was given in the records and except for a record of dwarf spurge (*Euphorbia exigua*) from Latneys near Witham, all were unlocalised or appeared to be distant from the Scheme.

6.2.2 Many of the species that were identified from desk study records and not recorded during the field survey were species of broadleaved woodland, meadows, marshes and other wetlands, and acid grassland and heathland. These include species such as sneezewort (*Achillea ptarmica*), heath dog-violet (*Viola canina*), pepper saxifrage (*Silaum silaus*) and sulphur clover (*Trifolium ochroleucon*), which would be very unlikely to occur in the types of habitats recorded within the Scheme. There were records of several aquatic species, including pondweeds (*Potamogeton* spp.) and water-crowfoots (*Ranunculus* spp.), but most of these are distant from the Scheme and / or are old records and would be unlikely to be present within the Scheme, e.g. long-stalked pondweed (*P. praelongus*) was recorded from the River Blackwater at Kelvedon during the nineteenth century. Further information on macrophytes within the scheme can be found in Appendix 9.1 (Aquatic Ecology Survey Report) of the ES [TR010060/APP/6.3].

6.2.3 The desk study records also included a diversity of species of arable and other disturbed habitats, some of which were recorded during the survey. However, many of these are likely to be very localised in the area around the Scheme, such as corn chamomile (*Anthemis arvensis*), corn marigold (*Glebionis segetum*) and field gromwell (*Lithospermum arvense*). There are no records of these species near the Scheme and they would be difficult to detect through survey due to intensive arable cultivation, but it is impossible to rule out their persistence in local seed banks.

6.2.4 The 18 notable plant species with desk study or field survey records within 50m of the Scheme are listed in Table 11. This list excludes bluebell as this species is only protected from commercial exploitation under the Wildlife and Countryside Act 1981 (as amended) and is a widespread species of no local or national conservation concern. The importance for biodiversity of the listed species is given based on their conservation statuses and, where known, the sizes of the populations recorded. Some widespread generalist species identified by the desk study such as hoary plantain and wild strawberry (*Fragaria vesca*) could occur within the Scheme area but are not included.

6.2.5 Two notable plants recorded are of National importance for biodiversity: lesser calamint and wall bedstraw. The Nationally Scarce lesser calamint has its national distribution concentrated within the area of Essex from Chelmsford north-east to the Suffolk border (Botanical Society of Britain and Ireland, 2021), and there are several large populations of this species within the Scheme, such around junction 23 of the A12 in Kelvedon.

6.2.6 The population of the Nationally Scarce wall bedstraw recorded to the north-east of Witham is a new site, and there was only one previously known extant site in Essex.

6.2.7 The importance of the Essex Scarce pyramidal orchid is considered to be Local as there are many recent records of this species from Essex (BSBI, 2021), suggesting it is extending its range across the county and is no longer scarce.

6.2.8 Despite its nationally scarce status, rye brome is not considered of national importance in this instance. The species is not considered a conservation priority due to it being classified as a colonist archaeophyte, a non-native species that has long been established in Britain (pre-1500 AD) and often turns up on disturbed land. It has been noted that the overall population has been recently increasing as grass-seed contamination (Stace, 2019), which may imply an alternative origin for the single plant found during field surveys. Furthermore, a single plant would not be considered to qualify as a population of national significance.

**Table 11 Summary of notable plants recorded from desk study and field survey within 50m of the Scheme**

| Scientific name | Common name | Legal / conservation status | Record source(s) | Nearest distance (m) | Importance for biodiversity |
|---|---|---|---|---|---|
| *Anacamptis pyramidalis* | Pyramidal orchid | Essex Scarce, Essex Red List - Rare | Desk study | 0 | Local |
| *Berula erecta* | Lesser water-parsnip | Essex Scarce, Essex Red List - Rare | Field survey | 4 | County |
| *Bromus secalinus* | Rye brome | Nationally Scarce, Great Britain Vulnerable, England Near Threatened, Essex Scarce, Essex Red List - Rare | Field survey | 2 | County |
| *Campanula rotundifolia* | Harebell | England Near Threatened, Essex Scarce, Essex Red List - Rare | Field survey | 20 | County |
| *Clinopodium calamintha* | Lesser calamint | Nationally Scarce, Great Britain Vulnerable, Essex Red List | Field survey | 0 | County |
| *Dipsacus pilosus* | Small teasel | Essex Scarce, Essex Red List - Rare | Field survey / desk study | 0 | County |
| *Euphorbia exigua* | Dwarf spurge | Great Britain Near Threatened, England Vulnerable | Desk study | 0 | Local |
| *Filago vulgaris* | Common cudweed | Great Britain Near Threatened, England Near Threatened | Field survey / desk study | 0 | Local |

| Scientific name | Common name | Legal / conservation status | Record source(s) | Nearest distance (m) | Importance for biodiversity |
|---|---|---|---|---|---|
| *Galium parisiense* | Wall bedstraw | Nationally Scarce, Great Britain Vulnerable, England Vulnerable, Essex Red List | Field survey | 0 | County |
| *Hyoscyamus niger* | Henbane | Great Britain Vulnerable, England Vulnerable, Essex Scarce, Essex Red List | Field survey / desk study | 0 | County |
| *Knautia arvensis* | Field scabious | England Near Threatened | Field survey / desk study | 0 | Local |
| *Mentha arvensis* | Corn mint | England Near Threatened | Field survey / desk study | 0 | Local |
| *Oenanthe fluviatilis* | River water-dropwort | Essex Scarce, Essex Red List | Field survey / desk study | 0 | County |
| *Polygonum rurivagum* | Cornfield knotgrass | Essex Red List | Field survey | 29 | County |
| *Populus nigra* subsp. *betulifolia* | Black-poplar | Essex Scarce, Essex Red List - Rare | Field survey / desk study | 0 | County |
| *Rosa obtusifolia x tomentosa* | - | Essex notable other | Field survey | 8 | County |
| *Spergula arvensis* | Corn spurrey | Great Britain Vulnerable, England Vulnerable | Field survey | 0 | Local |
| *Veronica officinalis* | Heath speedwell | England Near Threatened | Field survey | 0 | Local |

## 6.3 Invasive non-native plants

6.3.1 Thirty-eight invasive non-native plant species were identified from the desk study and field survey. Of these, there were records of ten species within 50m of the Scheme boundary.

6.3.2 Invasive non-native plants have no intrinsic importance for biodiversity. During the construction stage of the Scheme, an Invasive Species Management Plan will be prepared by the lead contractor, which will take account of the information relating to invasive non-native plans provided in this report.

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# Annex A Figures

Figure A.1: Scheme layout and habitat survey study area

Figure A.2: Field survey – habitat survey by year and month

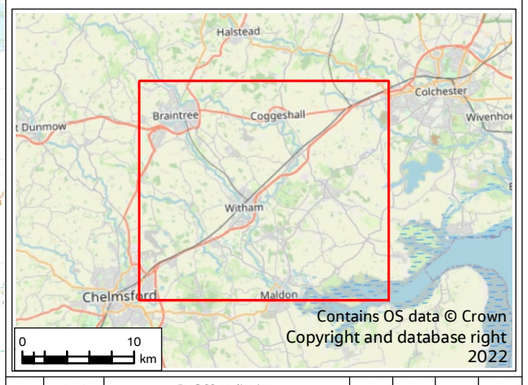
Figure A.3: Field survey – Phase 1 habitats

Figure A.4: Field survey – priority habitats

# FIGURE A.1

Legend

- Phase 1 Habitat Survey Area
- Potential Borrow Pits
- Option 1 Junctions
- Option 1 Mainline
- Option 2 Junctions
- Option 2 Mainline
- Option 2+ Hybrid
- Option A
- Option B
- Option C
- Option D






| Rev. | Rev. Date | Purpose of revision | Drawn | Check'd | Rev'd | Appr'd |
|---|---|---|---|---|---|---|
| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.1 SCHEME OPTIONS
AND PHASE 1 HABITAT SURVEY AREA

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

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| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0004







0 2500 m

# FIGURE A.2

Legend

Phase 1 habitat survey area

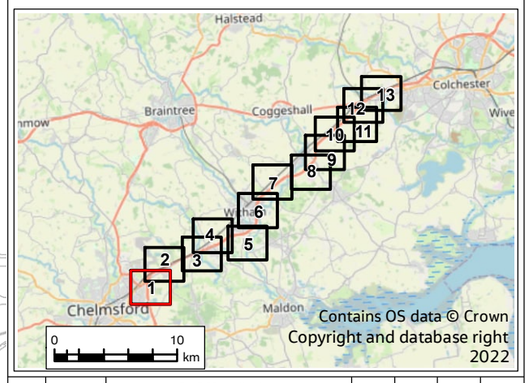
Mapped from desk

**Month of survey**

| | |
|---|---|
| 2 | February |
| 5 | May |
| 7 | July |
| 8 | August |
| 9 | September |
| 10 | October |
| 11 | November |
| 12 | December |

**Year of survey**

- Not surveyed (no access / built-up area)
- 2016
- 2017
- 2018
- 2019
- 2020




| Rev. | Rev. Date | Purpose of revision | Drawn | Check'd | Rev'd | Appr'd |
|---|---|---|---|---|---|---|
| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.2 PHASE 1 HABITAT SURVEY BY YEAR
SHEET 1 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

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| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0005







0 500 m

# FIGURE A.2

Legend

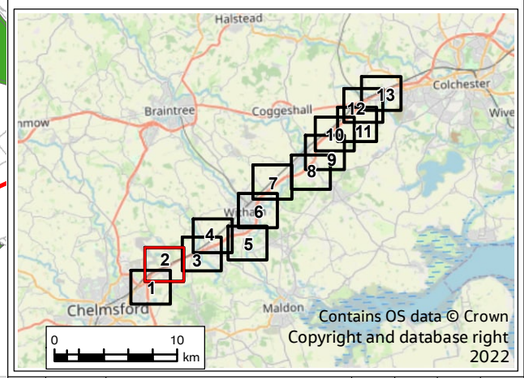
- Phase 1 habitat survey area
- Mapped from desk

**Month of survey**

| | |
|---|---|
| 2 | February |
| 5 | May |
| 7 | July |
| 8 | August |
| 9 | September |
| 10 | October |
| 11 | November |
| 12 | December |

**Year of survey**

- Not surveyed (no access / built-up area)
- 2016
- 2017
- 2018
- 2019
- 2020

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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |
| Rev. | Rev. Date | Purpose of revision | Drawn | Check'd | Rev'd | Appr'd |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.2 PHASE 1 HABITAT SURVEY BY YEAR
SHEET 2 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

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| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0006







0 500 m

# FIGURE A.2

Legend

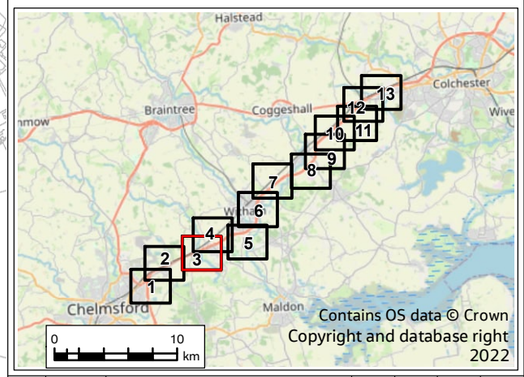
- Phase 1 habitat survey area
- Mapped from desk

**Month of survey**

| | |
|---|---|
| 2 | February |
| 5 | May |
| 7 | July |
| 8 | August |
| 9 | September |
| 10 | October |
| 11 | November |
| 12 | December |

**Year of survey**

- Not surveyed (no access / built-up area)
- 2016
- 2017
- 2018
- 2019
- 2020

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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.2 PHASE 1 HABITAT SURVEY BY YEAR
SHEET 3 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

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| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0007







0 500 m

# FIGURE A.2

Legend

Phase 1 habitat survey area

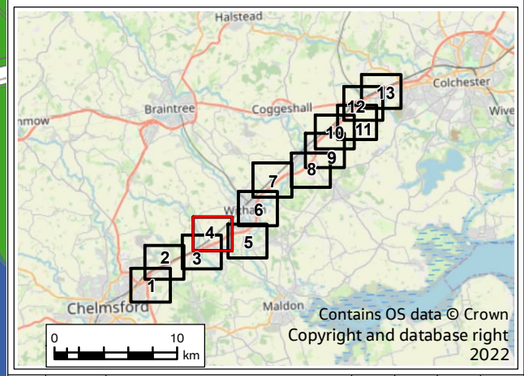
Mapped from desk

**Month of survey**

| | |
|---|---|
| 2 | February |
| 5 | May |
| 7 | July |
| 8 | August |
| 9 | September |
| 10 | October |
| 11 | November |
| 12 | December |

**Year of survey**

- Not surveyed (no access / built-up area)
- 2016
- 2017
- 2018
- 2019
- 2020




| Rev. | Rev. Date | Purpose of revision | Drawn | Check'd | Rev'd | Appr'd |
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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.2 PHASE 1 HABITAT SURVEY BY YEAR
SHEET 4 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | | |
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| Scale @ A3 | 1:10000 | DO NOT SCALE | |
| Jacobs No. | B36601D1 | Rev | P01 |
| Client No. | HE551497 | | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0008







0 500 m

# FIGURE A.2

Legend

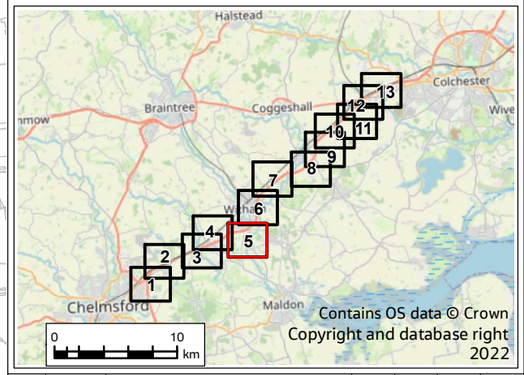
- Phase 1 habitat survey area
- Mapped from desk

**Month of survey**

| | |
|---|---|
| 2 | February |
| 5 | May |
| 7 | July |
| 8 | August |
| 9 | September |
| 10 | October |
| 11 | November |
| 12 | December |

**Year of survey**

- Not surveyed (no access / built-up area)
- 2016
- 2017
- 2018
- 2019
- 2020

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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.2 PHASE 1 HABITAT SURVEY BY YEAR
SHEET 5 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:10000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0009







0 500 m

# FIGURE A.2

Legend

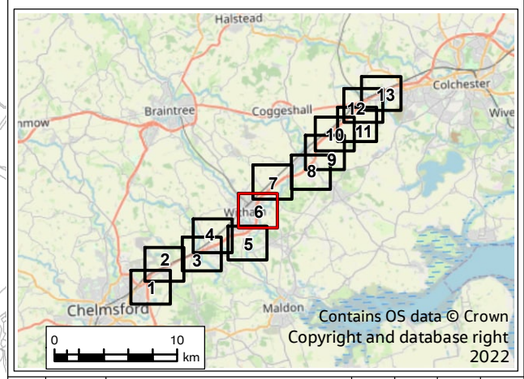
- Phase 1 habitat survey area
- Mapped from desk

**Month of survey**

- 2 February
- 5 May
- 7 July
- 8 August
- 9 September
- 10 October
- 11 November
- 12 December

**Year of survey**

- Not surveyed (no access / built-up area)
- 2016
- 2017
- 2018
- 2019
- 2020

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| Rev. | Rev. Date | Purpose of revision | Drawn | Check'd | Rev'd | Appr'd |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project

REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title

FIGURE A.2 PHASE 1 HABITAT SURVEY BY YEAR
SHEET 6 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | | |
|---|---|---|---|
| Scale @ A3 | 1:10000 | | DO NOT SCALE |
| Jacobs No. | B36601D1 | Rev | P01 |
| Client No. | HE551497 | | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0010







0 500 m

# FIGURE A.2

Legend

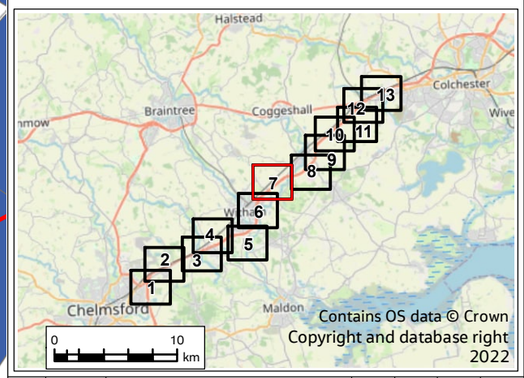
- Phase 1 habitat survey area
- Mapped from desk

**Month of survey**

- 2 February
- 5 May
- 7 July
- 8 August
- 9 September
- 10 October
- 11 November
- 12 December

**Year of survey**

- Not surveyed (no access / built-up area)
- 2016
- 2017
- 2018
- 2019
- 2020




| Rev. | Rev. Date | Purpose of revision | Drawn | Check'd | Rev'd | Appr'd |
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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.2 PHASE 1 HABITAT SURVEY BY YEAR
SHEET 7 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:10000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0011







0 500 m

# FIGURE A.2

Legend

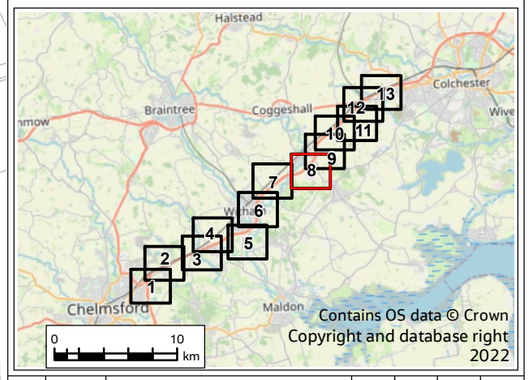
- Phase 1 habitat survey area
- Mapped from desk

**Month of survey**

- 2 February
- 5 May
- 7 July
- 8 August
- 9 September
- 10 October
- 11 November
- 12 December

**Year of survey**

- Not surveyed (no access / built-up area)
- 2016
- 2017
- 2018
- 2019
- 2020




| Rev. | Rev. Date | Purpose of revision | Drawn | Check'd | Rev'd | Appr'd |
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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.2 PHASE 1 HABITAT SURVEY BY YEAR
SHEET 8 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:10000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0012







0 500 m

# FIGURE A.2

Legend

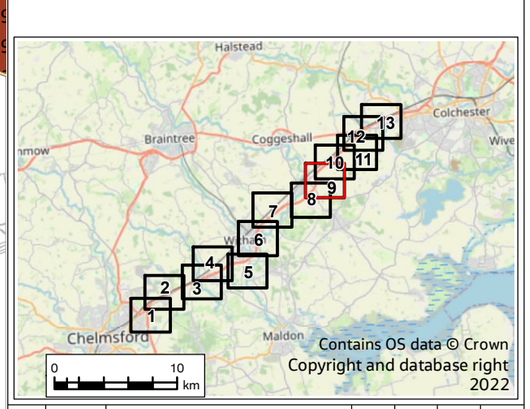
- Phase 1 habitat survey area
- Mapped from desk

**Month of survey**

- 2 February
- 5 May
- 7 July
- 8 August
- 9 September
- 10 October
- 11 November
- 12 December

**Year of survey**

- Not surveyed (no access / built-up area)
- 2016
- 2017
- 2018
- 2019
- 2020




| Rev. | Rev. Date | Purpose of revision | Drawn | Check'd | Rev'd | Appr'd |
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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.2 PHASE 1 HABITAT SURVEY BY YEAR
SHEET 9 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:10000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0013







0 500 m

# FIGURE A.2

Legend

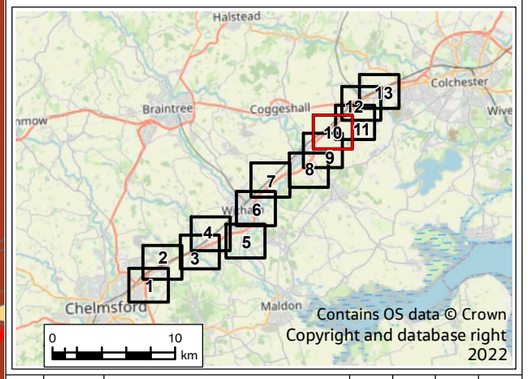
- Phase 1 habitat survey area
- Mapped from desk

**Month of survey**

- 2 February
- 5 May
- 7 July
- 8 August
- 9 September
- 10 October
- 11 November
- 12 December

**Year of survey**

- Not surveyed (no access / built-up area)
- 2016
- 2017
- 2018
- 2019
- 2020

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| Rev. | Rev. Date | Purpose of revision | Drawn | Check'd | Rev'd | Appr'd |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.2 PHASE 1 HABITAT SURVEY BY YEAR
SHEET 10 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

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|---|---|---|
| Scale @ A3 | 1:10000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0014



0 500 m

# FIGURE A.2

Legend

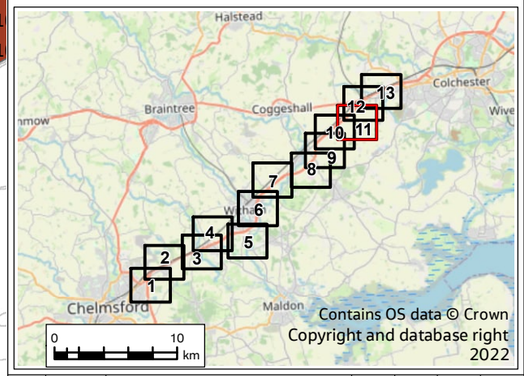
- Phase 1 habitat survey area
- Mapped from desk

**Month of survey**

| | |
|---|---|
| 2 | February |
| 5 | May |
| 7 | July |
| 8 | August |
| 9 | September |
| 10 | October |
| 11 | November |
| 12 | December |

**Year of survey**

- Not surveyed (no access / built-up area)
- 2016
- 2017
- 2018
- 2019
- 2020

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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.2 PHASE 1 HABITAT SURVEY BY YEAR
SHEET 11 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:10000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0015







0 500 m

# FIGURE A.2

Legend

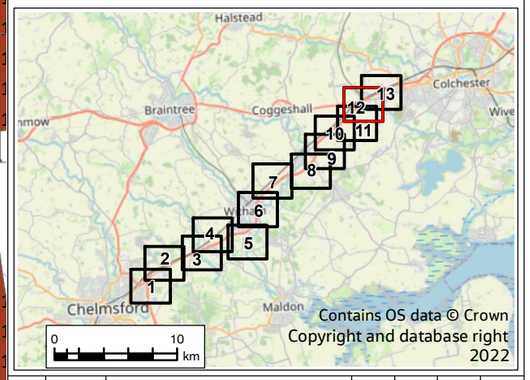
- Phase 1 habitat survey area
- Mapped from desk

**Month of survey**

- 2 February
- 5 May
- 7 July
- 8 August
- 9 September
- 10 October
- 11 November
- 12 December

**Year of survey**

- Not surveyed (no access / built-up area)
- 2016
- 2017
- 2018
- 2019
- 2020

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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.2 PHASE 1 HABITAT SURVEY BY YEAR
SHEET 12 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

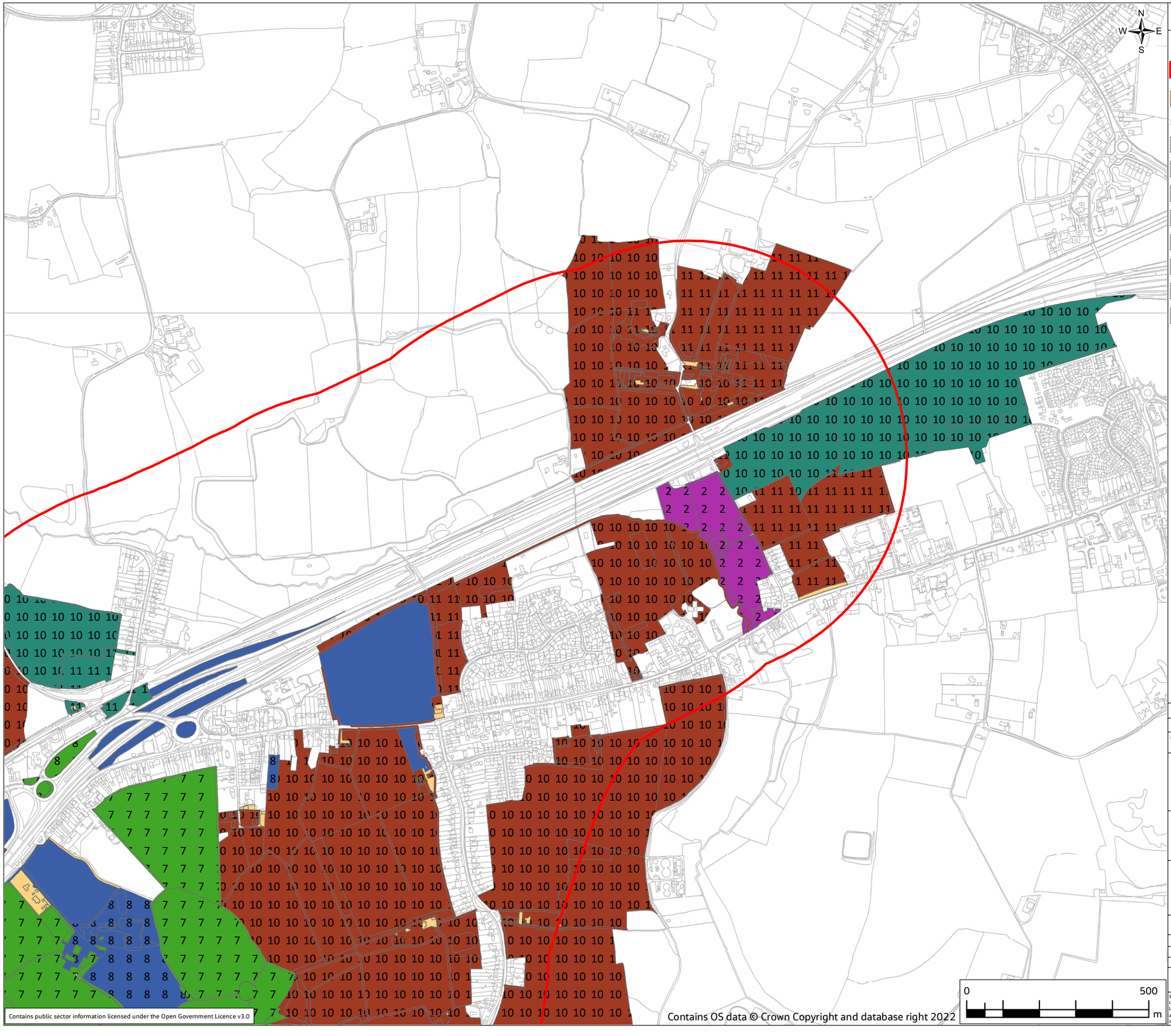
| | | |
|---|---|---|
| Scale @ A3 | 1:10000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0016



0 500 m

# FIGURE A.2




Legend

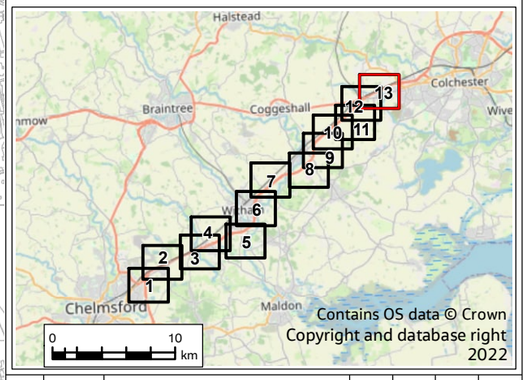
- Phase 1 habitat survey area
- Mapped from desk

**Month of survey**

- 2 February
- 5 May
- 7 July
- 8 August
- 9 September
- 10 October
- 11 November
- 12 December

**Year of survey**

- Not surveyed (no access / built-up area)
- 2016
- 2017
- 2018
- 2019
- 2020

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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.2 PHASE 1 HABITAT SURVEY BY YEAR
SHEET 13 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

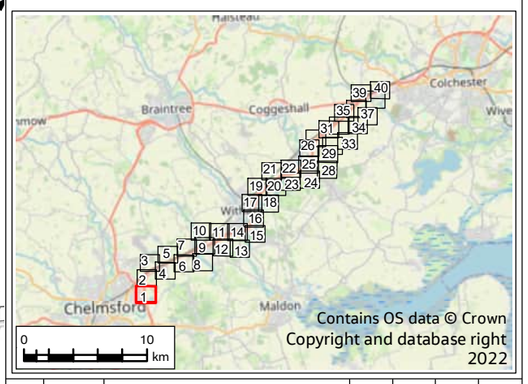
| | | |
|---|---|---|
| Scale @ A3 | 1:10000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0017

# FIGURE A.3

Legend

- Phase 1 survey area
- G1 Standing water
- G2 Running water
- G2.1 Running water - eutrophic
- J2.1.1 Intact hedge - native species-rich
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.5 Wall
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A2.1 Scrub - dense/continuous
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- G2.1 Running water - eutrophic
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J3.6 Buildings

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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 1 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | | |
|---|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE | |
| Jacobs No. | B36601D1 | Rev | P01 |
| Client No. | HE551497 | | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0018





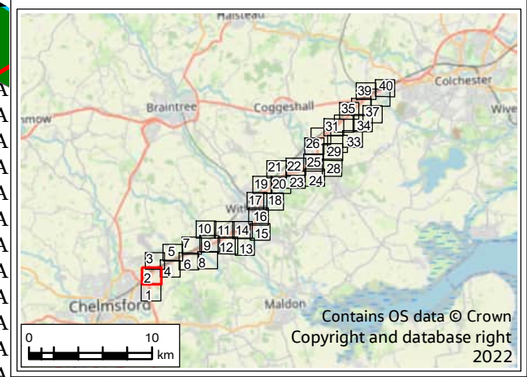


0 500 m

# FIGURE A.3

Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- G1 Standing water
- G2 Running water
- J2.2.1 Defunct hedge - native species-rich
- J2.2.2 Defunct hedge - species-poor
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.5 Wall
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.3.2 Mixed woodland - plantation
- A2.1 Scrub - dense/continuous
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.3 Cultivated/disturbed land - ephemeral/short perennial
- J3.6 Buildings
- J4 Bare ground

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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 2 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

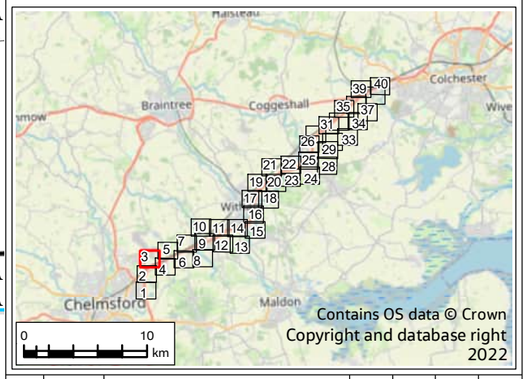
| | | | |
|---|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE | |
| Jacobs No. | B36601D1 | Rev | P01 |
| Client No. | HE551497 | | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0019

# FIGURE A.3


Legend

- Phase 1 survey area
- G1 Standing water
- G2 Running water
- J2.1.2 Intact hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A2.1 Scrub - dense/continuous
- B6 Poor semi-improved grassland
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J3.6 Buildings
- J4 Bare ground
- J5 Other habitat

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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 3 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0020

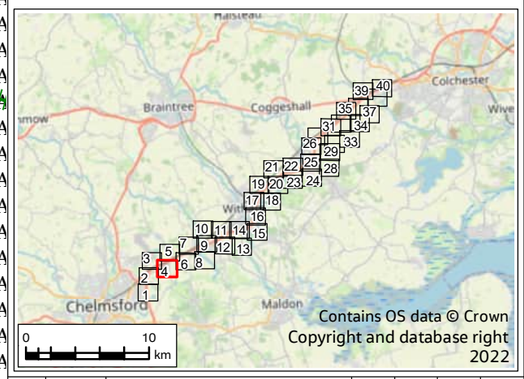
# FIGURE A.3

The Grove

N
W
E

Legend

- Phase 1 survey area
- G1 Standing water
- G2 Running water
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A2.1 Scrub - dense/continuous
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J3.6 Buildings
- J4 Bare ground

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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 4 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0021





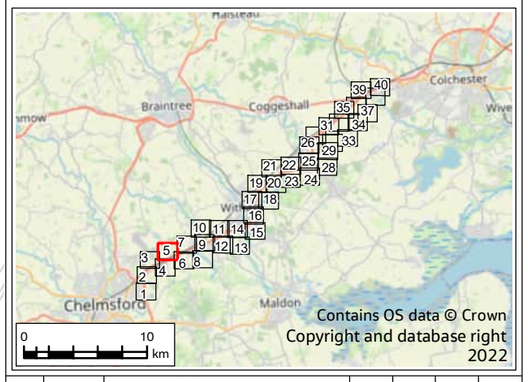


0 500 m

# FIGURE A.3

Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- G2 Running water
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A2.1 Scrub - dense/continuous
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C1.1 Bracken - continuous
- C3.1 Other tall herb and fern - ruderal
- F1 Swamp
- G1 Standing water
- G1.1 Standing water - eutrophic
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J3.6 Buildings
- J4 Bare ground






| Rev. | Rev. Date | Purpose of revision | Drawn | Check'd | Rev'd | Appr'd |
|---|---|---|---|---|---|---|
| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 5 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | Rev P01 |
| Client No. | HE551497 | |

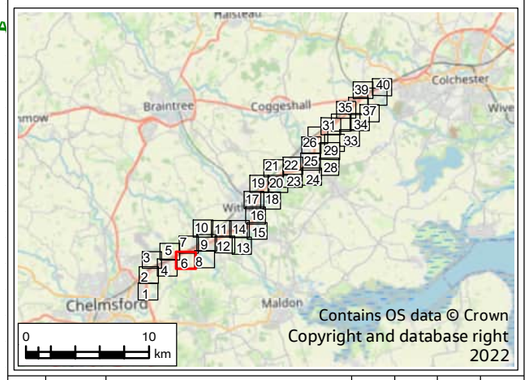
Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0022

# FIGURE A.3

Spitman's Gardens

Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.3.1 Mixed woodland - semi-natural
- A2.1 Scrub - dense/continuous
- B2.2 Neutral grassland - semi-improved
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- F1 Swamp
- G1 Standing water
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J3.6 Buildings
- J4 Bare ground






| Rev. | Rev. Date | Purpose of revision | Drawn | Check'd | Rev'd | Appr'd |
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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 6 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | Rev P01 |
| Client No. | HE551497 | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0023

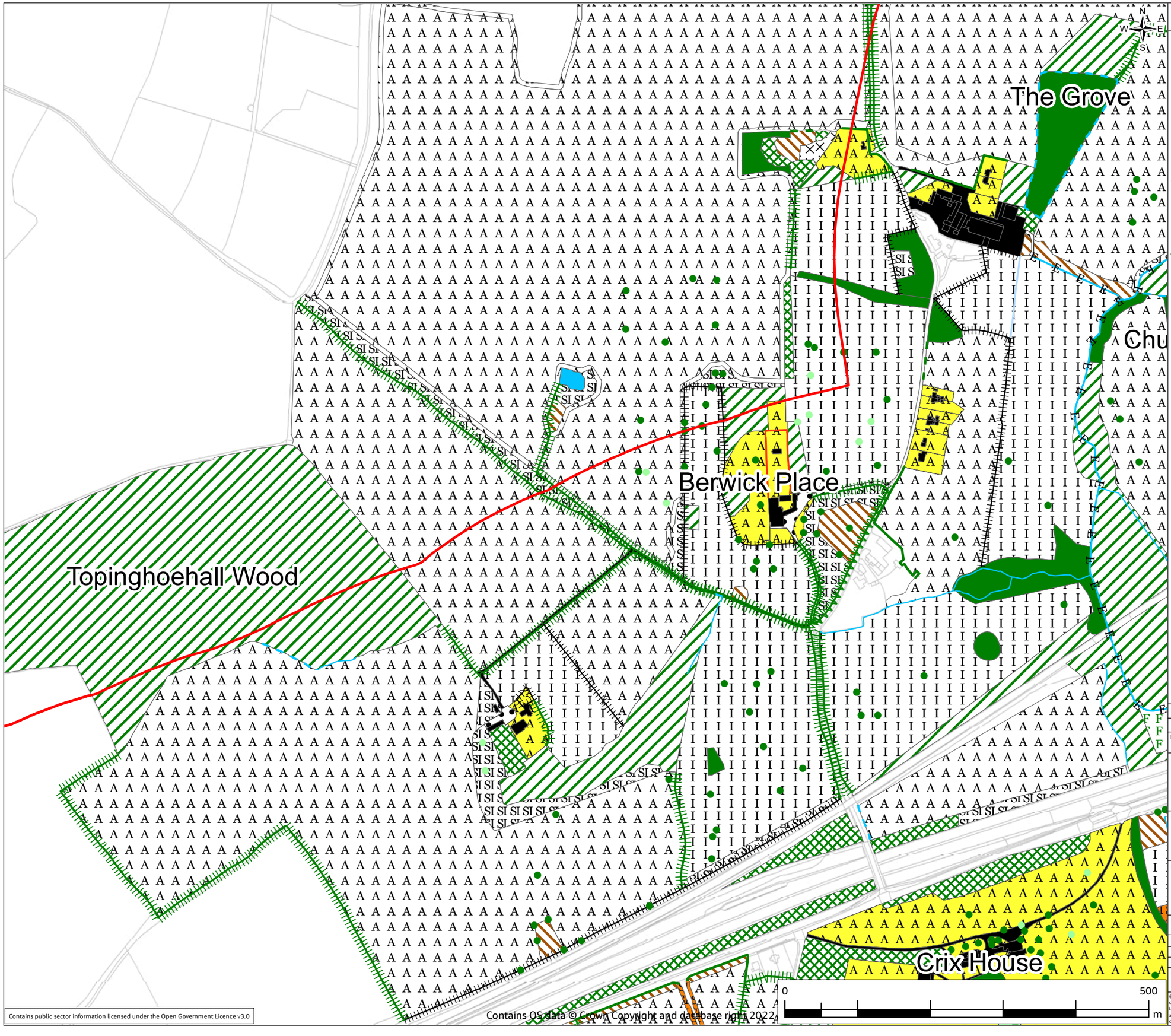






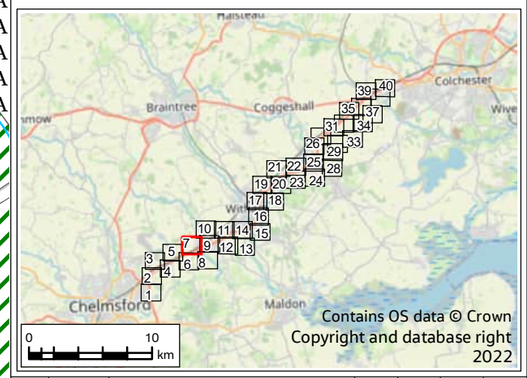
0 500 m

# FIGURE A.3




Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- A3.2 Coniferous Parkland/scattered trees
- F2.1 Marginal/inundation - marginal
- G1 Standing water
- G2.1 Running water - eutrophic
- J2.1.2 Intact hedge - species-poor
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.5 Wall
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.3.1 Mixed woodland - semi-natural
- A2.1 Scrub - dense/continuous
- A4.1 Broadleaved woodland - recently felled
- B2.2 Neutral grassland - semi-improved
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.3 Cultivated/disturbed land - ephemeral/short perennial
- J3.6 Buildings
- J4 Bare ground




| Rev. | Rev. Date | Purpose of revision | Drawn | Check'd | Rev'd | Appr'd |
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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 7 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

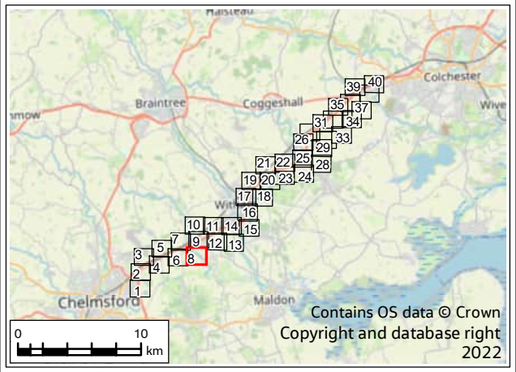
| | | |
|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0024

# FIGURE A.3

Legend

- Phase 1 survey area
- A2.2 Scrub - scattered
- A3.1 Broadleaved Parkland/scattered trees
- A3.2 Coniferous Parkland/scattered trees
- F2.1 Marginal/inundation - marginal
- G1 Standing water
- G2.1 Running water - eutrophic
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.3.1 Mixed woodland - semi-natural
- A2.1 Scrub - dense/continuous
- B2.2 Neutral grassland - semi-improved
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- F1 Swamp
- G1.1 Standing water - eutrophic
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J3.6 Buildings
- J4 Bare ground




| Rev. | Rev. Date | Purpose of revision | Drawn | Check'd | Rev'd | Appr'd |
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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

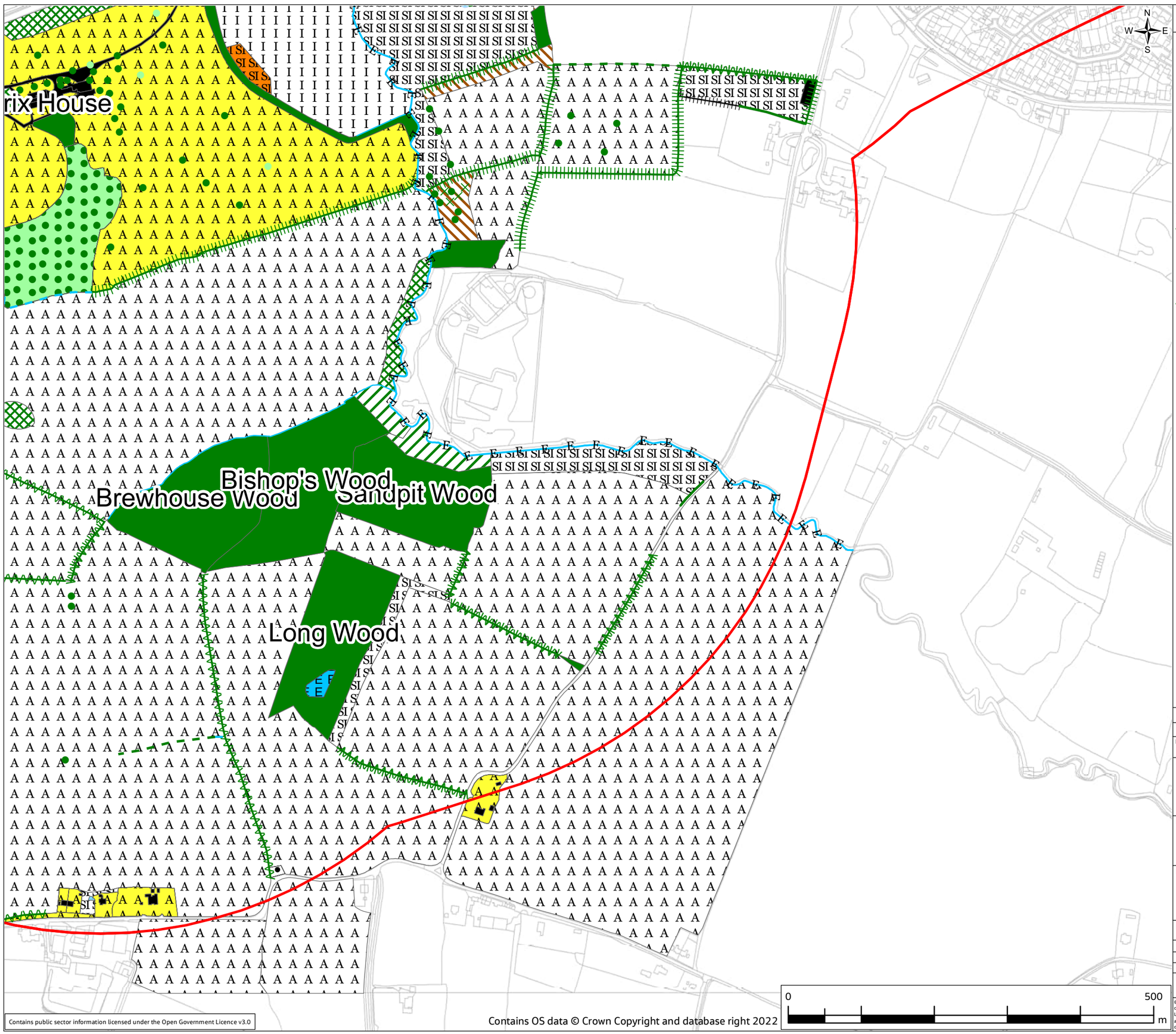
Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 8 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | | |
|---|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE | |
| Jacobs No. | B36601D1 | | |
| Client No. | HE551497 | Rev | P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0025





# FIGURE A.3

Titbeech Wood

Grove

Church Hills

N

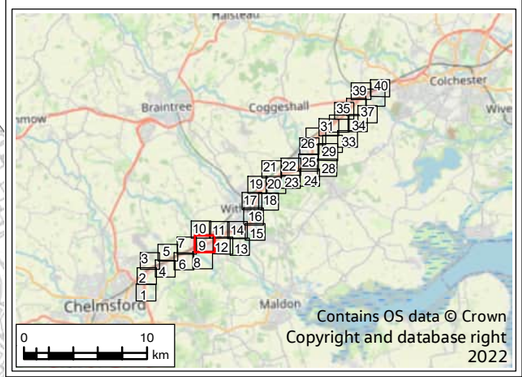
W

E

S

Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- A3.2 Coniferous Parkland/scattered trees
- F2.1 Marginal/inundation - marginal
- G1 Standing water
- G2 Running water
- G2.1 Running water - eutrophic
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.1 Defunct hedge - native species-rich
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.3.1 Mixed woodland - semi-natural
- A1.3.2 Mixed woodland - plantation
- A2.1 Scrub - dense/continuous
- A4.1 Broadleaved woodland - recently felled
- B1.2 Acid grassland - semi-improved
- B2.2 Neutral grassland - semi-improved
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- G1.1 Standing water - eutrophic
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.3 Cultivated/disturbed land - ephemeral/short perennial
- J1.4 Introduced shrub
- J3.6 Buildings
- J4 Bare ground

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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 9 OF 40

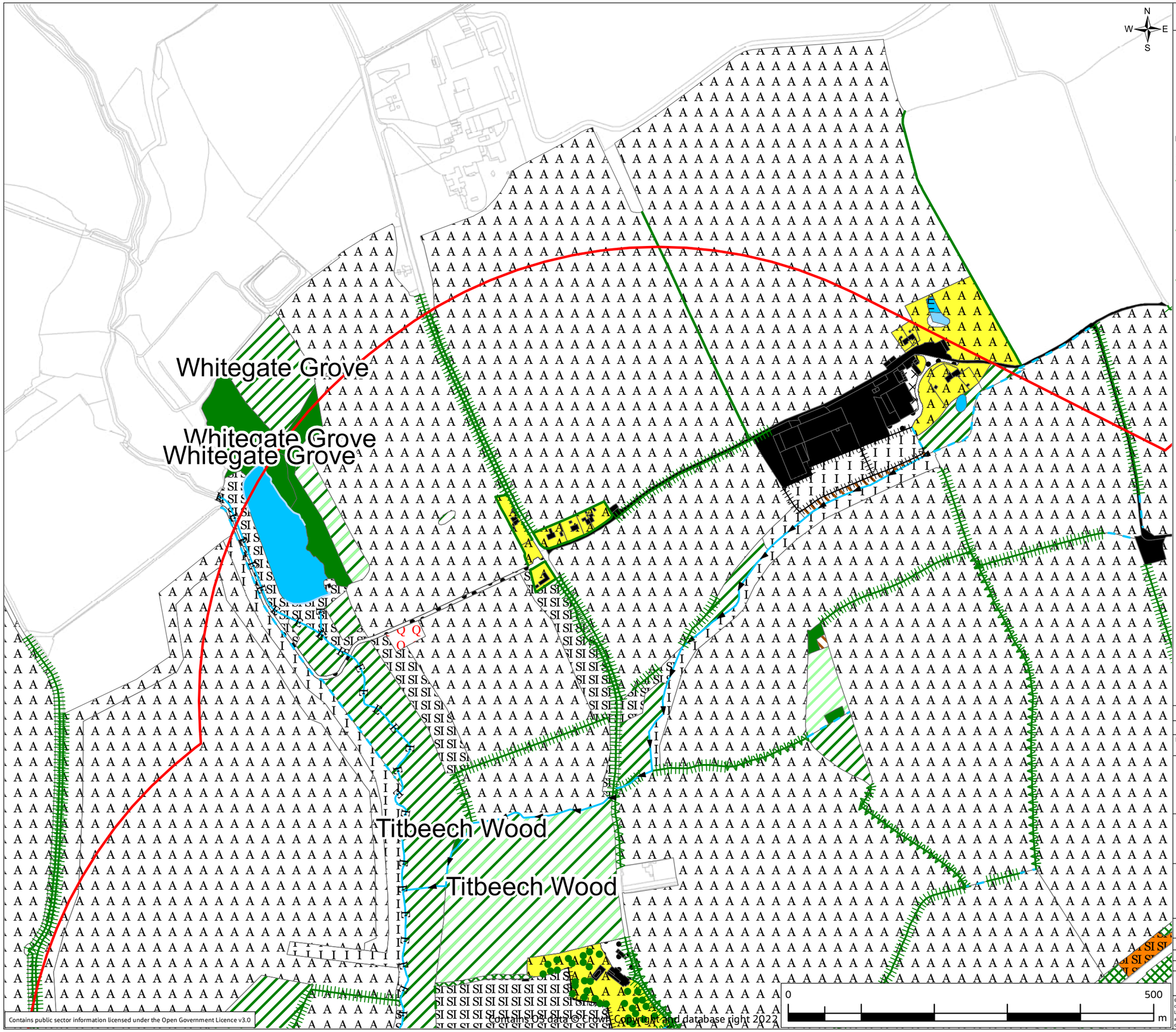
Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | Rev P01 |
| Client No. | HE551497 | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0026

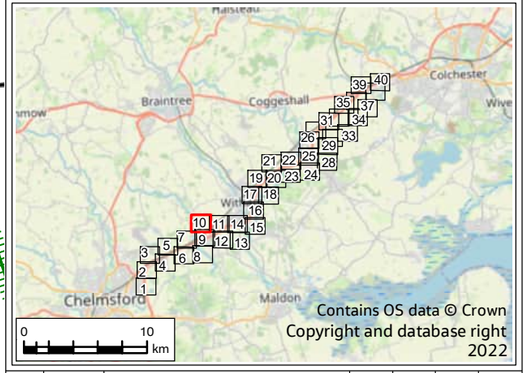
0 500 m

# FIGURE A.3




Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- F2.1 Marginal/inundation - marginal
- G2 Running water
- G2.1 Running water - eutrophic
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.1 Defunct hedge - native species-rich
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.2.2 Coniferous woodland - plantation
- A1.3.2 Mixed woodland - plantation
- A2.1 Scrub - dense/continuous
- B2.2 Neutral grassland - semi-improved
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- F1 Swamp
- F2.2 Marginal and inundation - inundation vegetation
- G1 Standing water
- G1.1 Standing water - eutrophic
- I2.1 Quarry
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.3 Cultivated/disturbed land - ephemeral/short perennial
- J3.6 Buildings
- J4 Bare ground




| Rev. | Rev. Date | Purpose of revision | Drawn | Check'd | Rev'd | Appr'd |
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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

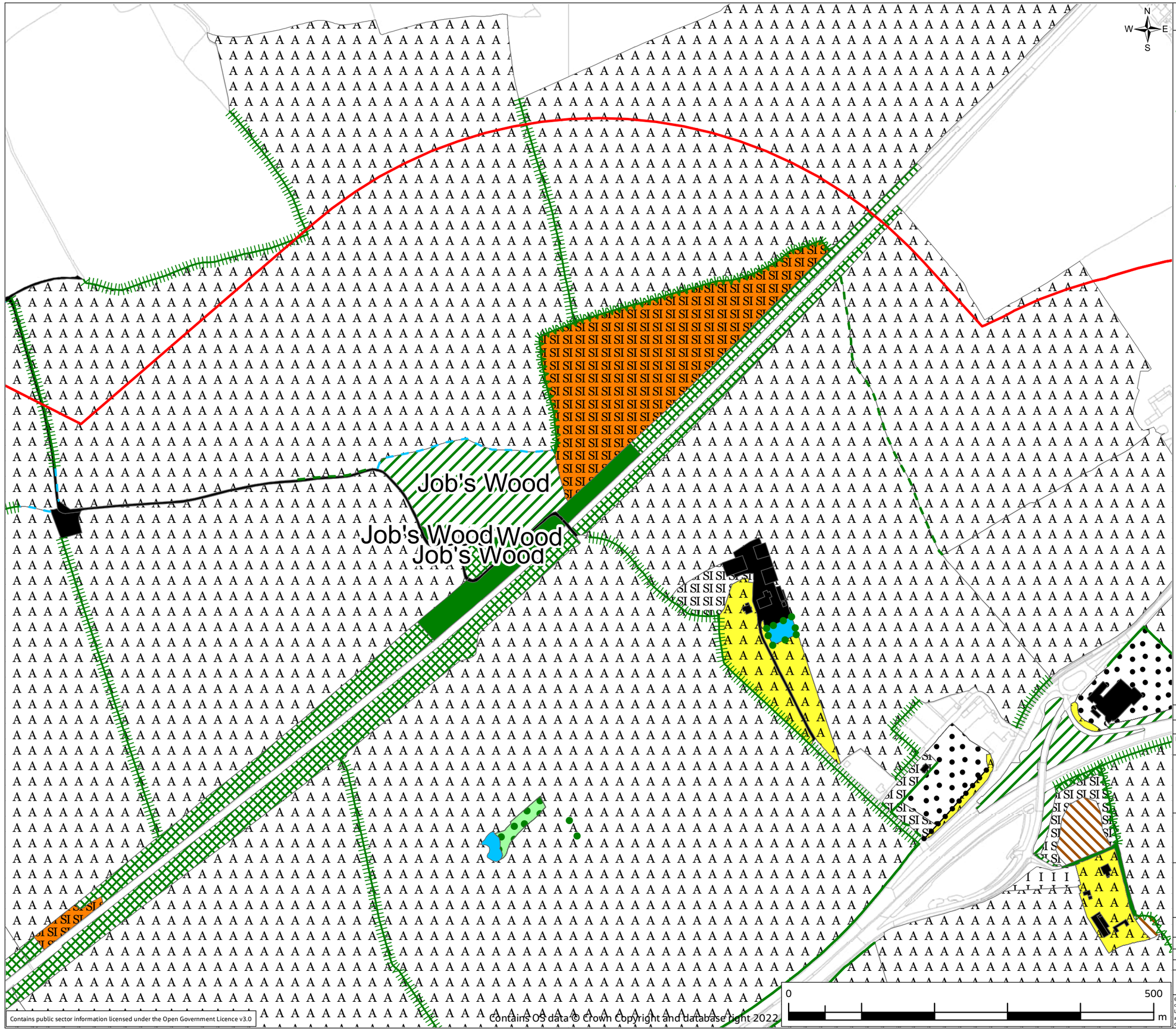
Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 10 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | | |
|---|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE | |
| Jacobs No. | B36601D1 | Rev | P01 |
| Client No. | HE551497 | | |

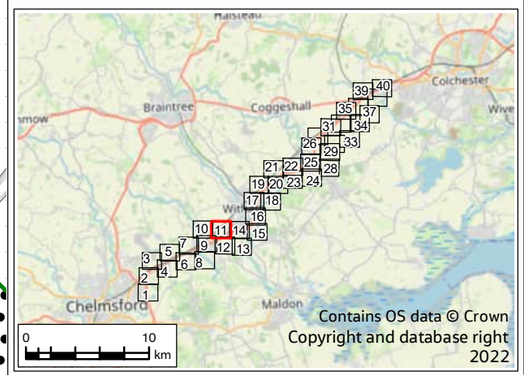
Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0027

# FIGURE A.3




Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.6 Dry ditch
- J2.8 Earth bank
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.3.1 Mixed woodland - semi-natural
- A2.1 Scrub - dense/continuous
- B2.2 Neutral grassland - semi-improved
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J3.6 Buildings
- J4 Bare ground

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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 11 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

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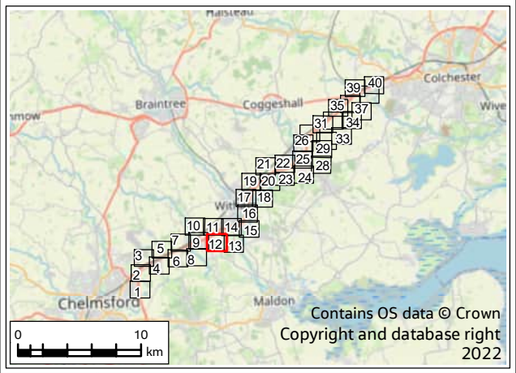
|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0028

# FIGURE A.3

Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- F2.1 Marginal/inundation - marginal
- G2.1 Running water - eutrophic
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.2.2 Coniferous woodland - plantation
- A2.1 Scrub - dense/continuous
- B2.2 Neutral grassland - semi-improved
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1.1 Standing water - eutrophic
- G1.2 Standing water - mesotrophic
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.3 Cultivated/disturbed land - ephemeral/short perennial
- J3.6 Buildings
- J4 Bare ground






| Rev. | Rev. Date | Purpose of revision | Drawn | Check'd | Rev'd | Appr'd |
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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 12 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | Rev P01 |
| Client No. | HE551497 | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0029







0 500 m

# FIGURE A.3

James Cooke Wood

N
W
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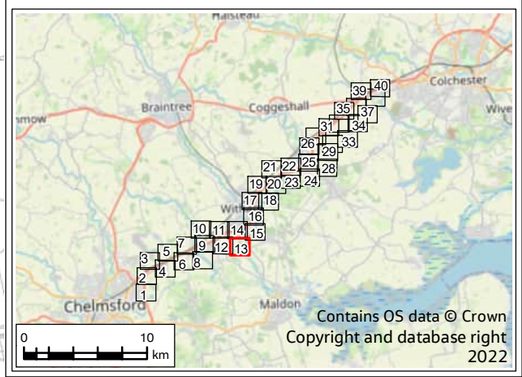
S

Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- F2.1 Marginal/inundation - marginal
- G2 Running water
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- J2.8 Earth bank
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.3.2 Mixed woodland - plantation
- A2.1 Scrub - dense/continuous
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- G1.1 Standing water - eutrophic
- G1.2 Standing water - mesotrophic
- G2.1 Running water - eutrophic
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.3 Cultivated/disturbed land - ephemeral/short perennial
- J3.6 Buildings
- J4 Bare ground






| Rev. | Rev. Date | Purpose of revision | Drawn | Check'd | Rev'd | Appr'd |
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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 13 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | Rev P01 |
| Client No. | HE551497 | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0030





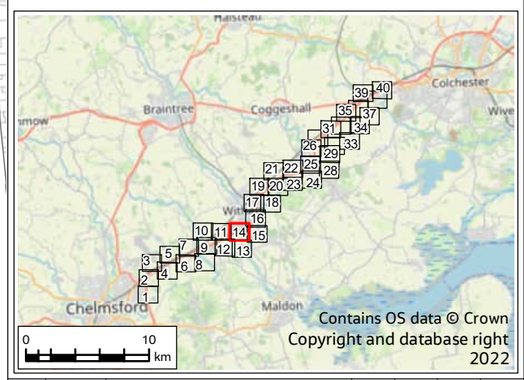


0 500 m

# FIGURE A.3

Legend

- Phase 1 survey area
- A2.2 Scrub - scattered
- A3.1 Broadleaved Parkland/scattered trees
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.1 Defunct hedge - native species-rich
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.8 Earth bank
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A2.1 Scrub - dense/continuous
- B2.1 Neutral grassland - unimproved
- B2.2 Neutral grassland - semi-improved
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.3 Cultivated/disturbed land - ephemeral/short perennial
- J1.4 Introduced shrub
- J3.6 Buildings
- J4 Bare ground




| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |
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| Rev. | Rev. Date | Purpose of revision | Drawn | Check'd | Rev'd | Appr'd |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 14 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | | |
|---|---|---|---|
| Scale @ A3 | 1:5000 | | DO NOT SCALE |
| Jacobs No. | B36601D1 | Rev | P01 |
| Client No. | HE551497 | | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0031



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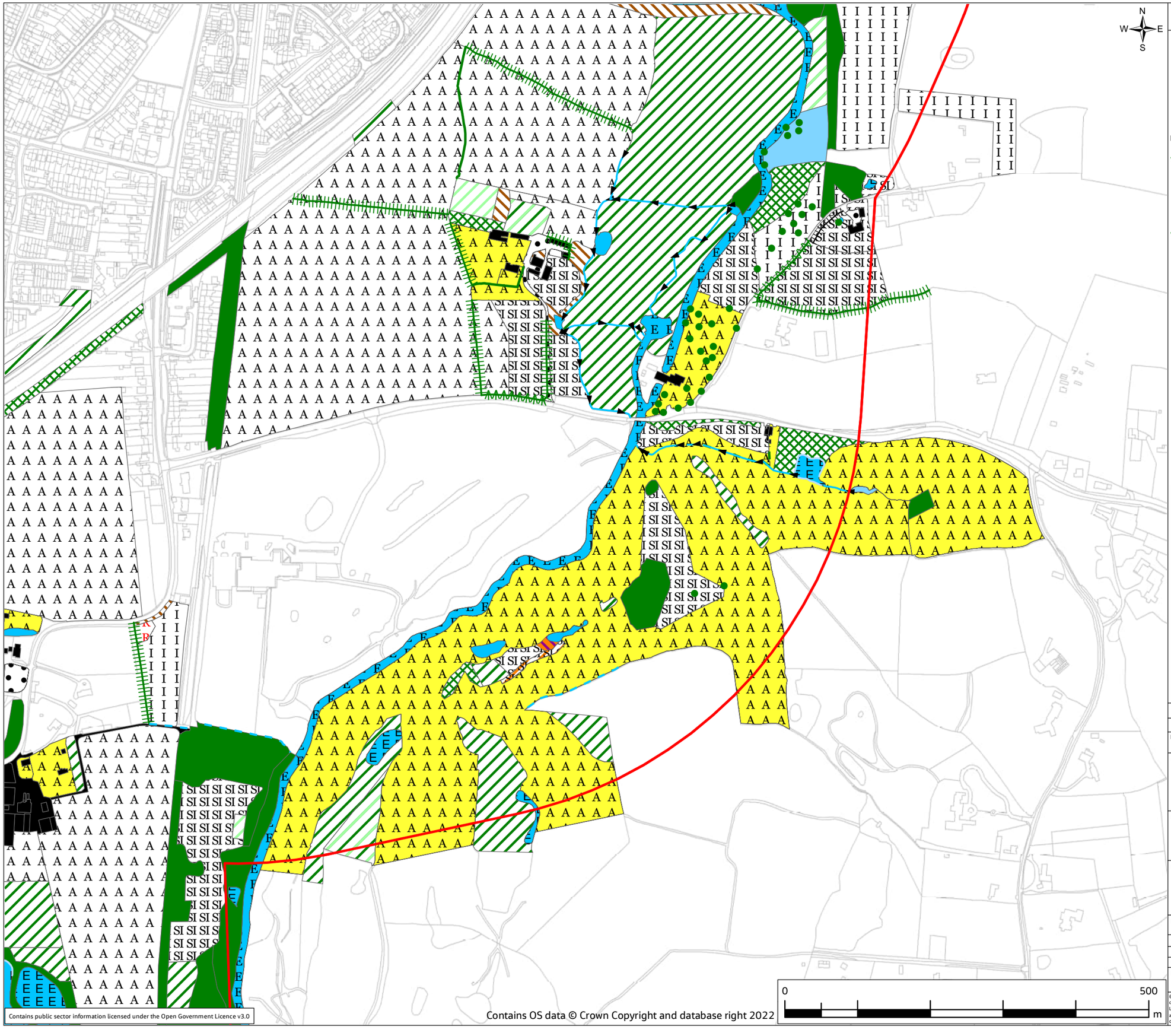
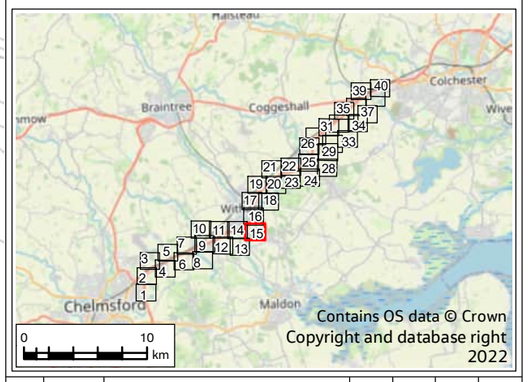
# FIGURE A.3




Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- F2.1 Marginal/inundation - marginal
- G2 Running water
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.2.2 Coniferous woodland - plantation
- A1.3.2 Mixed woodland - plantation
- A2.1 Scrub - dense/continuous
- B1.2 Acid grassland - semi-improved
- B4 Improved grassland
- B5 Marsh/marshy grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- F1 Swamp
- G1 Standing water
- G1.1 Standing water - eutrophic
- G2 Running water
- G2.1 Running water - eutrophic
- I2.4 Refuse-tip
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J3.6 Buildings
- J4 Bare ground

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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 15 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

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| Scale @ A3 | 1:5000 | | DO NOT SCALE |
| Jacobs No. | B36601D1 | Rev | P01 |
| Client No. | HE551497 | | |

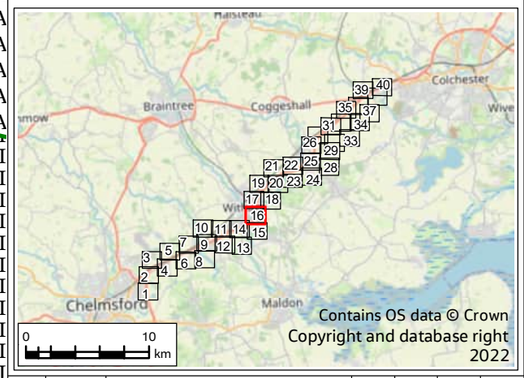
Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0032

# FIGURE A.3

Legend

- Phase 1 survey area
- A2.2 Scrub - scattered
- A3.1 Broadleaved Parkland/scattered trees
- G2.1 Running water - eutrophic
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.3.2 Mixed woodland - plantation
- A2.1 Scrub - dense/continuous
- B2.2 Neutral grassland - semi-improved
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- F1 Swamp
- G1 Standing water
- G1.1 Standing water - eutrophic
- G2.1 Running water - eutrophic
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.3 Cultivated/disturbed land - ephemeral/short perennial
- J4 Bare ground

Whet Mead LNR

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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 16 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

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| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | Rev P01 |
| Client No. | HE551497 | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0033







0 500 m

# FIGURE A.3

Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- G2.1 Running water - eutrophic
- J2.1.2 Intact hedge - species-poor
- J2.2.1 Defunct hedge - native species-rich
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A2.1 Scrub - dense/continuous
- B2.2 Neutral grassland - semi-improved
- B6 Poor semi-improved grassland
- G1 Standing water
- G1.1 Standing water - eutrophic
- G2.1 Running water - eutrophic
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.3 Cultivated/disturbed land - ephemeral/short perennial
- J3.6 Buildings
- J4 Bare ground




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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 17 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

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| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0034

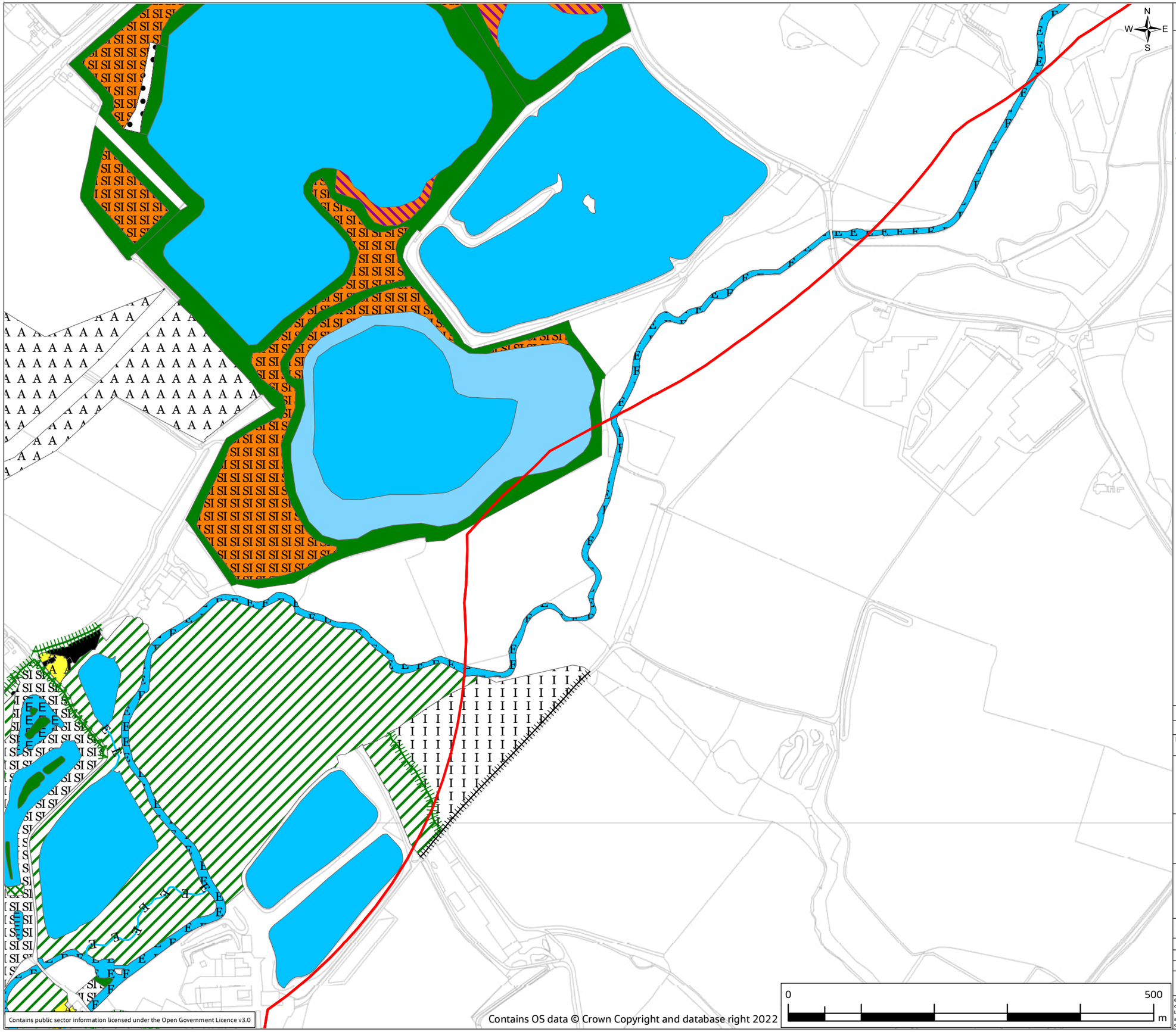






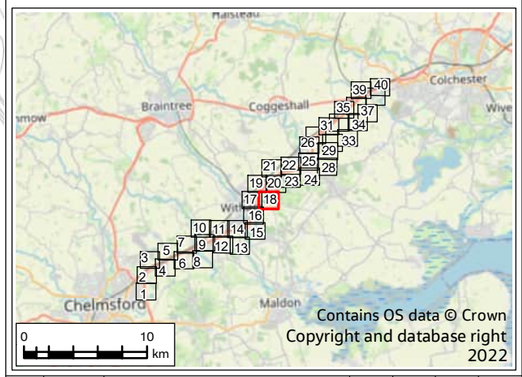
0 500 m

# FIGURE A.3




Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- G2.1 Running water - eutrophic
- J2.1.1 Intact hedge - native species-rich
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A2.1 Scrub - dense/continuous
- B2.2 Neutral grassland - semi-improved
- B4 Improved grassland
- B5 Marsh/marshy grassland
- B6 Poor semi-improved grassland
- F1 Swamp
- G1 Standing water
- G1.1 Standing water - eutrophic
- G2.1 Running water - eutrophic
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.3 Cultivated/disturbed land - ephemeral/short perennial
- J3.6 Buildings
- J4 Bare ground

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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 18 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

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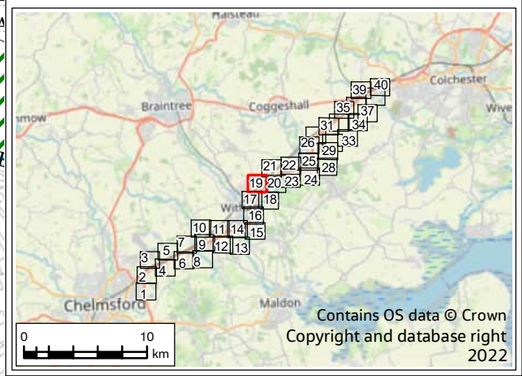
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0035

# FIGURE A.3

Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- A3.2 Coniferous Parkland/scattered trees
- G2.1 Running water - eutrophic
- J2.1.2 Intact hedge - species-poor
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.3.2 Mixed woodland - plantation
- A2.1 Scrub - dense/continuous
- B2.2 Neutral grassland - semi-improved
- B4 Improved grassland
- B5 Marsh/marshy grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.3 Cultivated/disturbed land - ephemeral/short perennial
- J3.6 Buildings
- J4 Bare ground

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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 19 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

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| Client No. | HE551497 | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0036





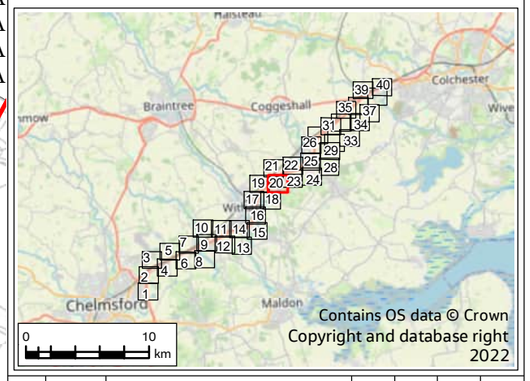


0 500 m

# FIGURE A.3

Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- A3.2 Coniferous Parkland/scattered trees
- G1 Standing water
- G2.1 Running water - eutrophic
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.1 Defunct hedge - native species-rich
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.2.2 Coniferous woodland - plantation
- A1.3.2 Mixed woodland - plantation
- A2.1 Scrub - dense/continuous
- B2.2 Neutral grassland - semi-improved
- B4 Improved grassland
- B5 Marsh/marshy grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- G1.1 Standing water - eutrophic
- G2.1 Running water - eutrophic
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.3 Cultivated/disturbed land - ephemeral/short perennial
- J3.6 Buildings
- J4 Bare ground



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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 20 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

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| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0037





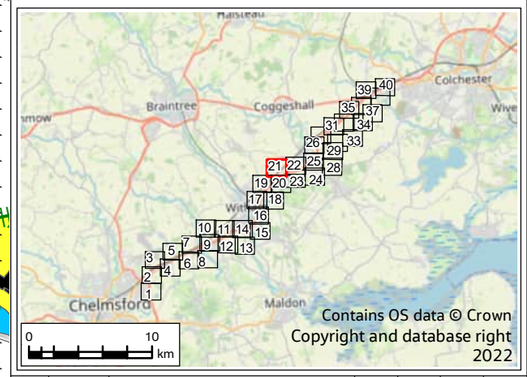


0 500 m

# FIGURE A.3


Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A2.1 Scrub - dense/continuous
- B4 Improved grassland
- B6 Poor semi-improved grassland
- G1 Standing water
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J3.6 Buildings
- J4 Bare ground

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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 21 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

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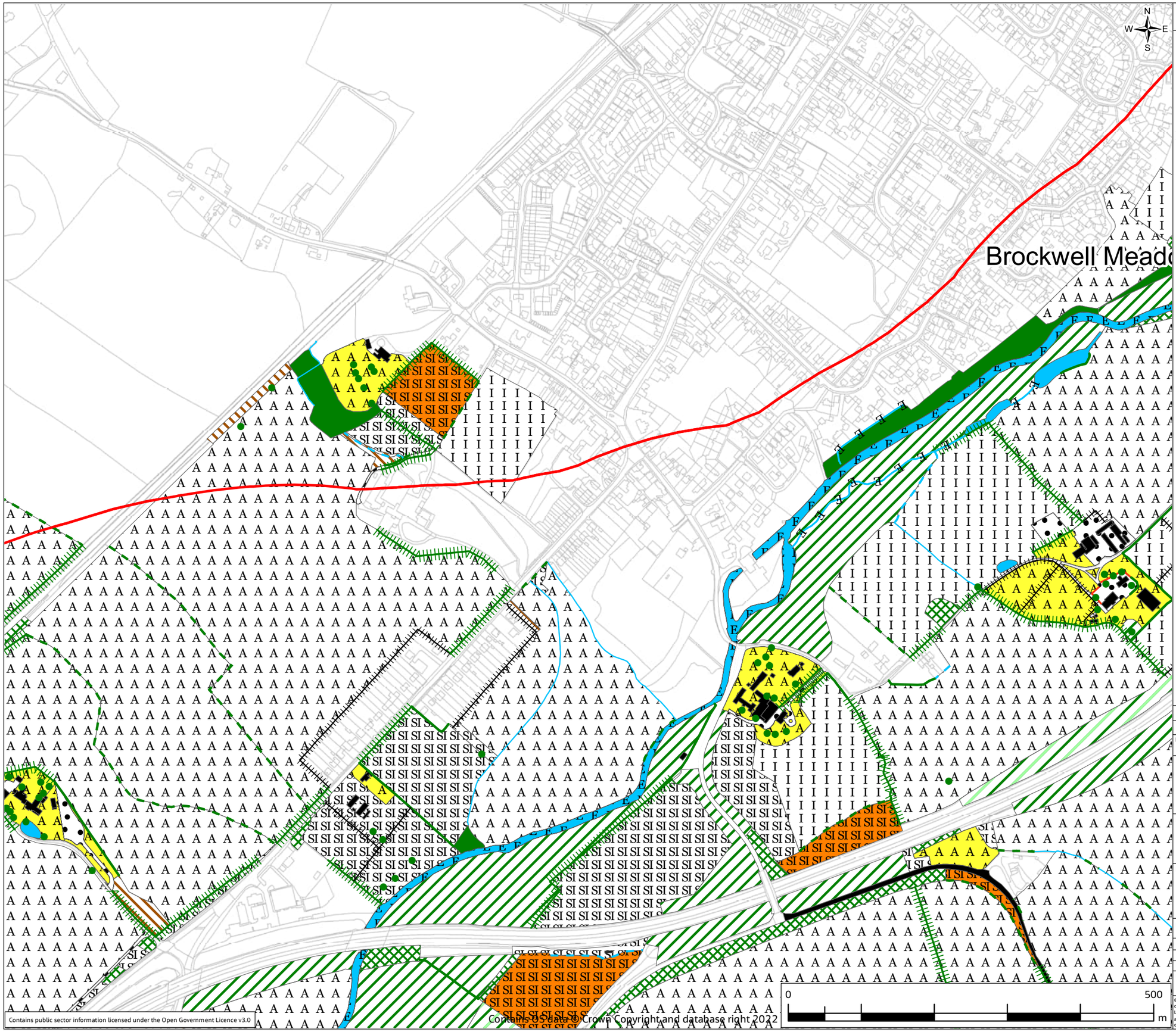
| Scale @ A3 | 1:5000 | DO NOT SCALE | |
| Jacobs No. | B36601D1 | Rev | P01 |
| Client No. | HE551497 | | |

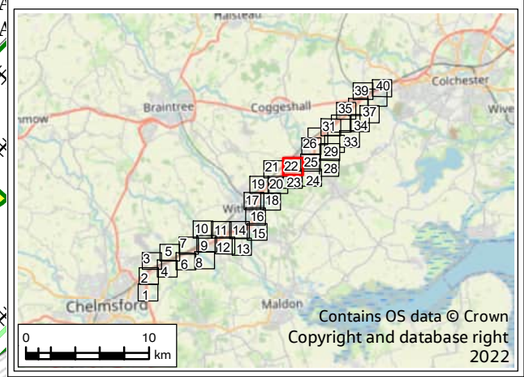
Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0038

# FIGURE A.3




Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- G1 Standing water
- G2.1 Running water - eutrophic
- J2.1.2 Intact hedge - species-poor
- J2.2.2 Defunct hedge - species-poor
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.5 Wall
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.3.2 Mixed woodland - plantation
- A2.1 Scrub - dense/continuous
- B2.2 Neutral grassland - semi-improved
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- G2.1 Running water - eutrophic
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J3.6 Buildings
- J4 Bare ground

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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 22 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
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| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

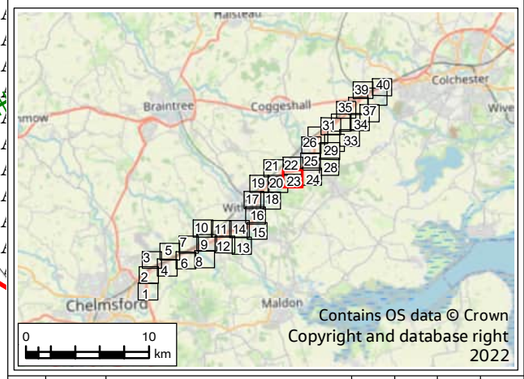
Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0039

# FIGURE A.3

Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- G1 Standing water
- G2.1 Running water - eutrophic
- J2.1.2 Intact hedge - species-poor
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.3.2 Mixed woodland - plantation
- A2.1 Scrub - dense/continuous
- B2.2 Neutral grassland - semi-improved
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- G2.1 Running water - eutrophic
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J3.6 Buildings
- J4 Bare ground

Kelvedon Hall Wood

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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 23 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

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| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0040

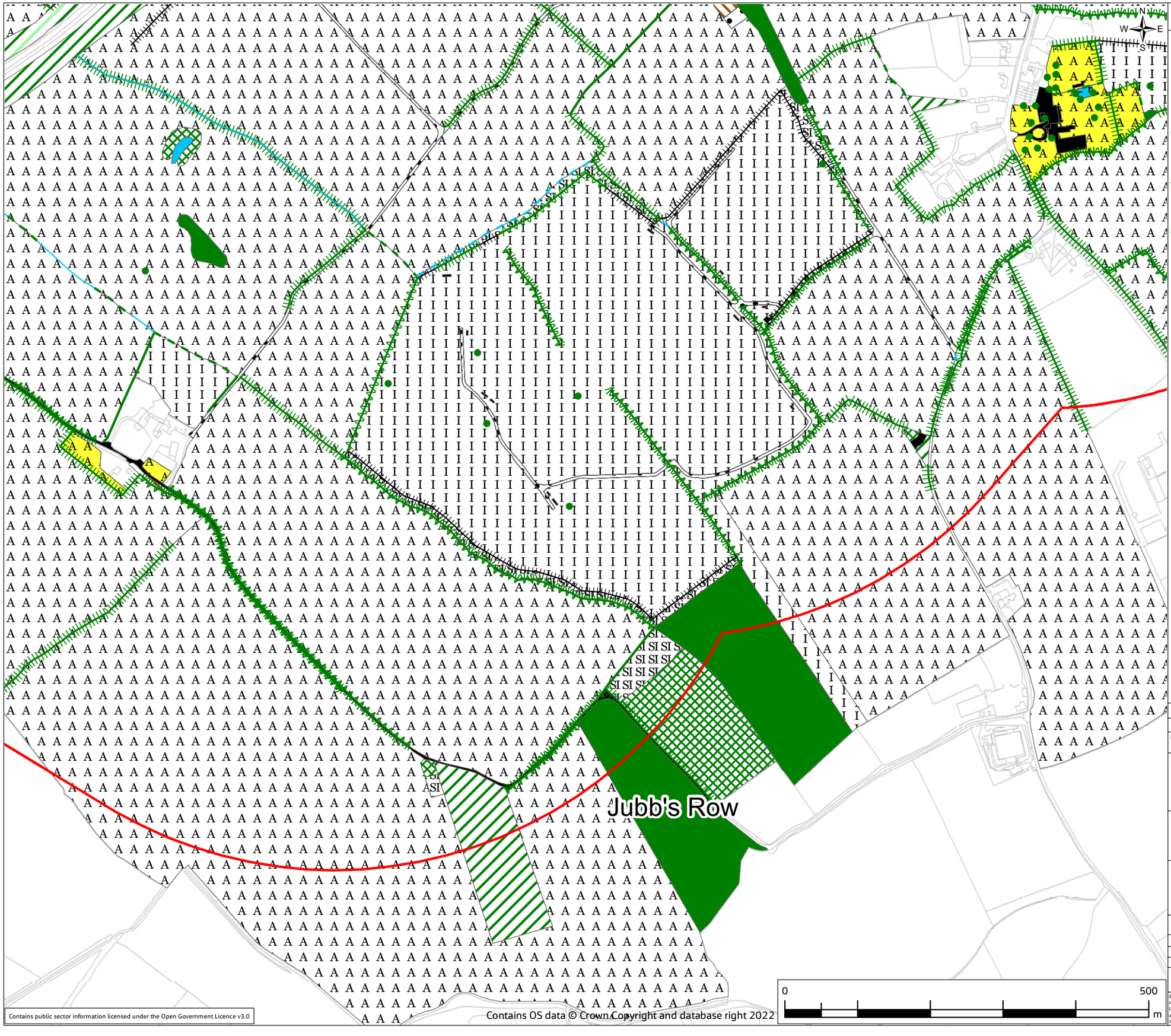






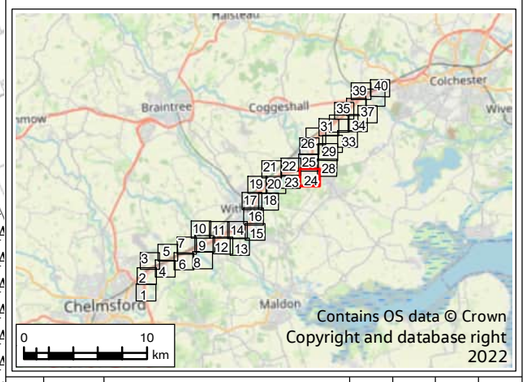
0 500 m

# FIGURE A.3




Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- G1 Standing water
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.1 Defunct hedge - native species-rich
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.3.2 Mixed woodland - plantation
- A2.1 Scrub - dense/continuous
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- G1.1 Standing water - eutrophic
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J3.6 Buildings
- J4 Bare ground







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APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 24 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

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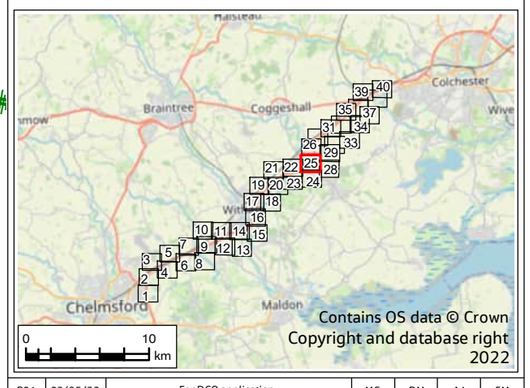
|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | Rev P01 |
| Client No. | HE551497 | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0041

# FIGURE A.3

Legend

- Phase 1 survey area
- A2.2 Scrub - scattered
- A3.1 Broadleaved Parkland/scattered trees
- G1 Standing water
- G2.1 Running water - eutrophic
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.1 Defunct hedge - native species-rich
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.5 Wall
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.3.2 Mixed woodland - plantation
- A2.1 Scrub - dense/continuous
- B2.2 Neutral grassland - semi-improved
- B4 Improved grassland
- B5 Marsh/marshy grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- G1.1 Standing water - eutrophic
- G2.1 Running water - eutrophic
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J3.6 Buildings
- J4 Bare ground

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APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 25 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

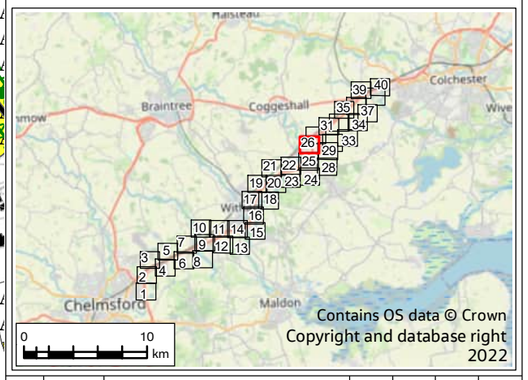
| | | |
|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0042

# FIGURE A.3

Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- A3.2 Coniferous Parkland/scattered trees
- G2.1 Running water - eutrophic
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.5 Wall
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.2.2 Coniferous woodland - plantation
- A1.3.1 Mixed woodland - semi-natural
- A1.3.2 Mixed woodland - plantation
- A2.1 Scrub - dense/continuous
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.3 Cultivated/disturbed land - ephemeral/short perennial
- J3.6 Buildings
- J4 Bare ground



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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 26 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0043





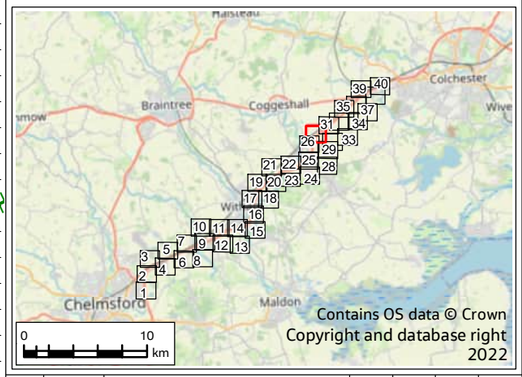


0 500 m

# FIGURE A.3

Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- A3.2 Coniferous Parkland/scattered trees
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.1 Defunct hedge - native species-rich
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.5 Wall
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.3.2 Mixed woodland - plantation
- A2.1 Scrub - dense/continuous
- B2.2 Neutral grassland - semi-improved
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.3 Cultivated/disturbed land - ephemeral/short perennial
- J3.6 Buildings
- J4 Bare ground



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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 27 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
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| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | Rev P01 |
| Client No. | HE551497 | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0044







0 500 m

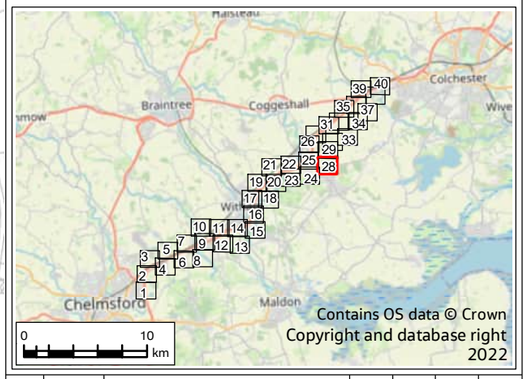
# FIGURE A.3

Inworth Wood

N
W E
S

Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- F2.1 Marginal/inundation - marginal
- G1 Standing water
- G2 Running water
- G2.1 Running water - eutrophic
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.1 Defunct hedge - native species-rich
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.2.2 Coniferous woodland - plantation
- A1.3.2 Mixed woodland - plantation
- A2.1 Scrub - dense/continuous
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- F1 Swamp
- G1 Standing water
- G1.1 Standing water - eutrophic
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J3.6 Buildings
- J4 Bare ground
- J5 Other habitat



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APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 28 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE |
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| Client No. | HE551497 | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0045





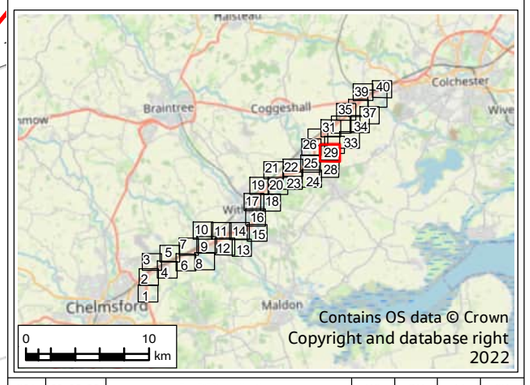


0 500 m

# FIGURE A.3

Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- A3.2 Coniferous Parkland/scattered trees
- G2 Running water
- G2.1 Running water - eutrophic
- J2.1.1 Intact hedge - native species-rich
- J2.2.1 Defunct hedge - native species-rich
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.2.2 Coniferous woodland - plantation
- A1.3.1 Mixed woodland - semi-natural
- A1.3.2 Mixed woodland - plantation
- A2.1 Scrub - dense/continuous
- B2.2 Neutral grassland - semi-improved
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- G1.1 Standing water - eutrophic
- G2 Running water
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.3 Cultivated/disturbed land - ephemeral/short perennial
- J3.6 Buildings
- J4 Bare ground

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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 29 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE |
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| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0046







0 500 m

# FIGURE A.3

Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- G2 Running water
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.1 Defunct hedge - native species-rich
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A2.1 Scrub - dense/continuous
- B2.2 Neutral grassland - semi-improved
- B4 Improved grassland
- B5 Marsh/marshy grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J3.6 Buildings
- J4 Bare ground




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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 30 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

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| Scale @ A3 | 1:5000 | DO NOT SCALE |
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| Client No. | HE551497 | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0048





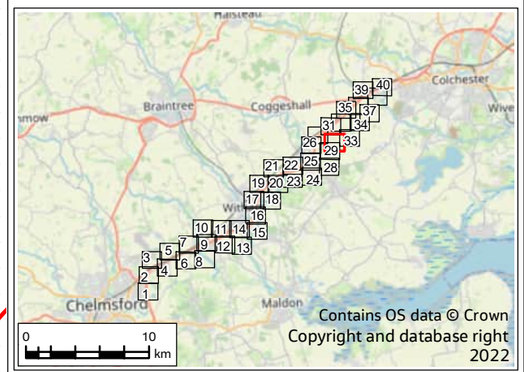


0 500 m

# FIGURE A.3

Legend

- Phase 1 survey area
- G2 Running water
- G2.1 Running water - eutrophic
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.1 Defunct hedge - native species-rich
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.3.1 Mixed woodland - semi-natural
- A1.3.2 Mixed woodland - plantation
- A2.1 Scrub - dense/continuous
- B2.2 Neutral grassland - semi-improved
- B4 Improved grassland
- C3.1 Other tall herb and fern - ruderal
- F1 Swamp
- G1.1 Standing water - eutrophic
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J3.6 Buildings
- J4 Bare ground

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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 31 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

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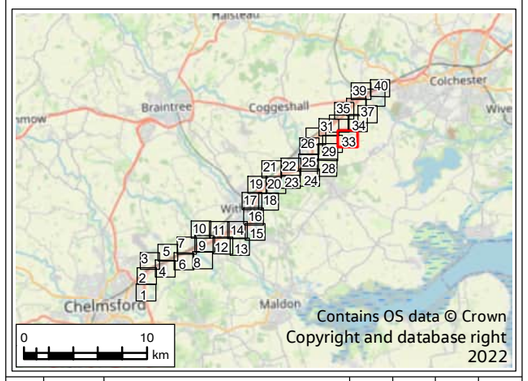
|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0047

# FIGURE A.3

Legend

- Phase 1 survey area
- G2 Running water
- G2.1 Running water - eutrophic
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.3.2 Mixed woodland - plantation
- B4 Improved grassland
- B6 Poor semi-improved grassland
- F1 Swamp
- G1 Standing water
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J3.6 Buildings
- J4 Bare ground

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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 32 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

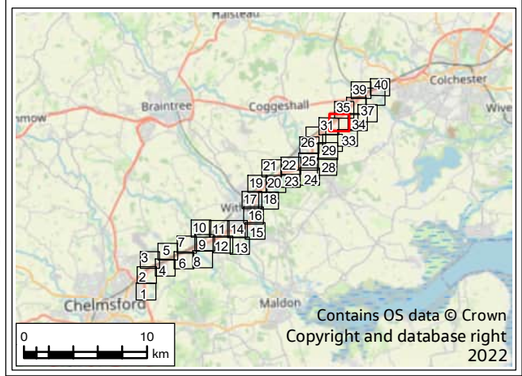
| | | |
|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0050

# FIGURE A.3

Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- G2 Running water
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.1 Defunct hedge - native species-rich
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.3.2 Mixed woodland - plantation
- A2.1 Scrub - dense/continuous
- B4 Improved grassland
- B5 Marsh/marshy grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- F1 Swamp
- G1 Standing water
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J3.6 Buildings
- J4 Bare ground



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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 33 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | | |
|---|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE | |
| Jacobs No. | B36601D1 | Rev | P01 |
| Client No. | HE551497 | | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0049





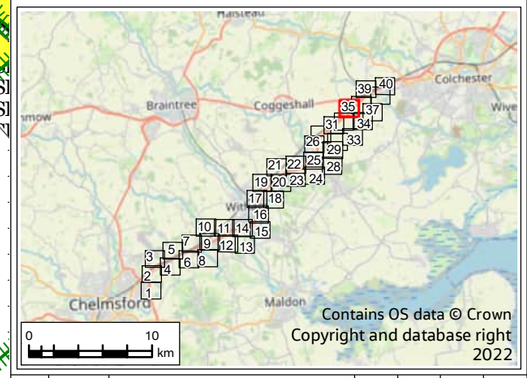


0 500 m

# FIGURE A.3

Legend

- Phase 1 survey area
- A2.2 Scrub - scattered
- A3.1 Broadleaved Parkland/scattered trees
- G1 Standing water
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.1 Defunct hedge - native species-rich
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.3.2 Mixed woodland - plantation
- A2.1 Scrub - dense/continuous
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.3 Cultivated/disturbed land - ephemeral/short perennial
- J3.6 Buildings
- J4 Bare ground



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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 34 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | Rev P01 |
| Client No. | HE551497 | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0052





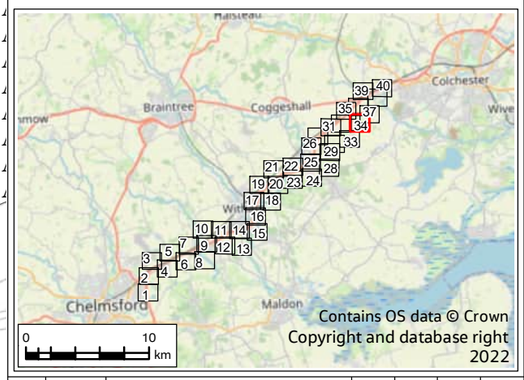


0 500 m

# FIGURE A.3

Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- F2.1 Marginal/inundation - marginal
- G2 Running water
- G2.1 Running water - eutrophic
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.1 Defunct hedge - native species-rich
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.2.2 Coniferous woodland - plantation
- A1.3.2 Mixed woodland - plantation
- A2.1 Scrub - dense/continuous
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- F1 Swamp
- G1 Standing water
- G1.1 Standing water - eutrophic
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.4 Introduced shrub
- J3.6 Buildings
- J4 Bare ground

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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 35 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | | |
|---|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE | |
| Jacobs No. | B36601D1 | Rev | P01 |
| Client No. | HE551497 | | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0051





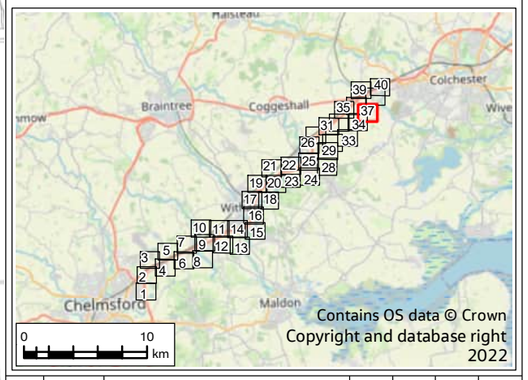


0 500 m

# FIGURE A.3

Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- G1 Standing water
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.1 Defunct hedge - native species-rich
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A2.1 Scrub - dense/continuous
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.3 Cultivated/disturbed land - ephemeral/short perennial
- J3.6 Buildings
- J4 Bare ground



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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 36 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0054





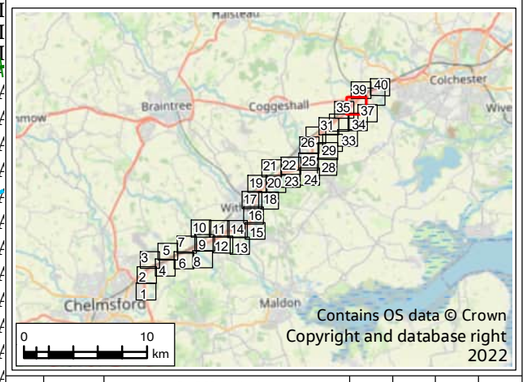


0 500 m

# FIGURE A.3

Legend

- Phase 1 survey area
- A2.2 Scrub - scattered
- A3.1 Broadleaved Parkland/scattered trees
- G1 Standing water
- G2 Running water
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.2.2 Coniferous woodland - plantation
- A1.3.2 Mixed woodland - plantation
- A2.1 Scrub - dense/continuous
- B2.2 Neutral grassland - semi-improved
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.3 Cultivated/disturbed land - ephemeral/short perennial
- J3.6 Buildings
- J4 Bare ground



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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 37 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | Rev P01 |
| Client No. | HE551497 | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0053





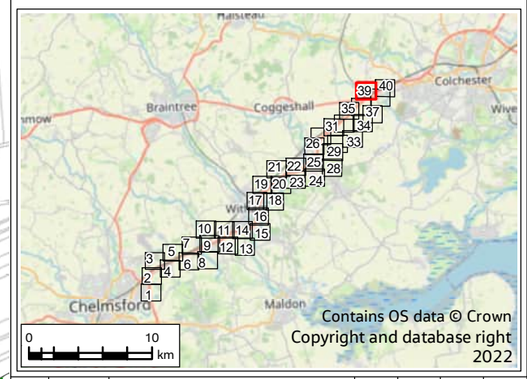


0 500 m

# FIGURE A.3

Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- G2 Running water
- J2.1.2 Intact hedge - species-poor
- J2.2.1 Defunct hedge - native species-rich
- J2.2.2 Defunct hedge - species-poor
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A2.1 Scrub - dense/continuous
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.3 Cultivated/disturbed land - ephemeral/short perennial
- J3.6 Buildings
- J4 Bare ground

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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |
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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 38 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0056





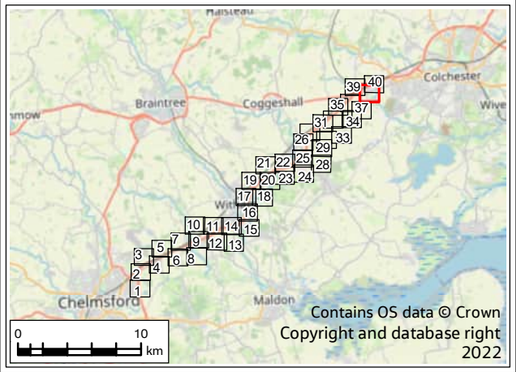


0 500 m

# FIGURE A.3

Legend

- Phase 1 survey area
- A3.1 Broadleaved Parkland/scattered trees
- G1 Standing water
- G2 Running water
- J2.1.2 Intact hedge - species-poor
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.2.2 Coniferous woodland - plantation
- A1.3.2 Mixed woodland - plantation
- A2.1 Scrub - dense/continuous
- B2.2 Neutral grassland - semi-improved
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J3.6 Buildings
- J4 Bare ground

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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 39 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | | |
|---|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE | |
| Jacobs No. | B36601D1 | Rev | P01 |
| Client No. | HE551497 | | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0055





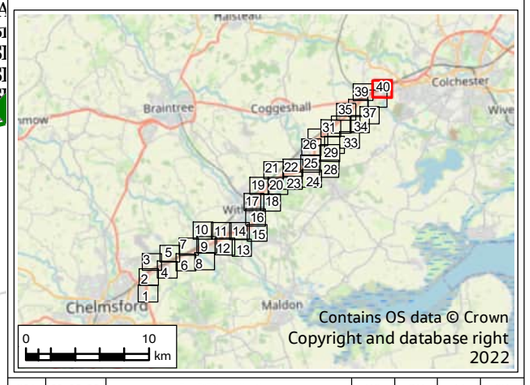


0 500 m

# FIGURE A.3

Legend

- Phase 1 survey area
- G1 Standing water
- G2 Running water
- J2.1.1 Intact hedge - native species-rich
- J2.1.2 Intact hedge - species-poor
- J2.2.2 Defunct hedge - species-poor
- J2.3.1 Hedge with trees - native species-rich
- J2.3.2 Hedge with trees - species-poor
- J2.4 Fence
- J2.6 Dry ditch
- A1.1.1 Broadleaved woodland - semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A1.2.2 Coniferous woodland - plantation
- A1.3.1 Mixed woodland - semi-natural
- A2.1 Scrub - dense/continuous
- B4 Improved grassland
- B6 Poor semi-improved grassland
- C3.1 Other tall herb and fern - ruderal
- G1 Standing water
- J1.1 Cultivated/disturbed land - arable
- J1.2 Cultivated/disturbed land - amenity grassland
- J1.3 Cultivated/disturbed land - ephemeral/short perennial
- J3.6 Buildings
- J4 Bare ground

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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.3 PHASE 1 HABITAT PLAN
SHEET 40 OF 40

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:5000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0057

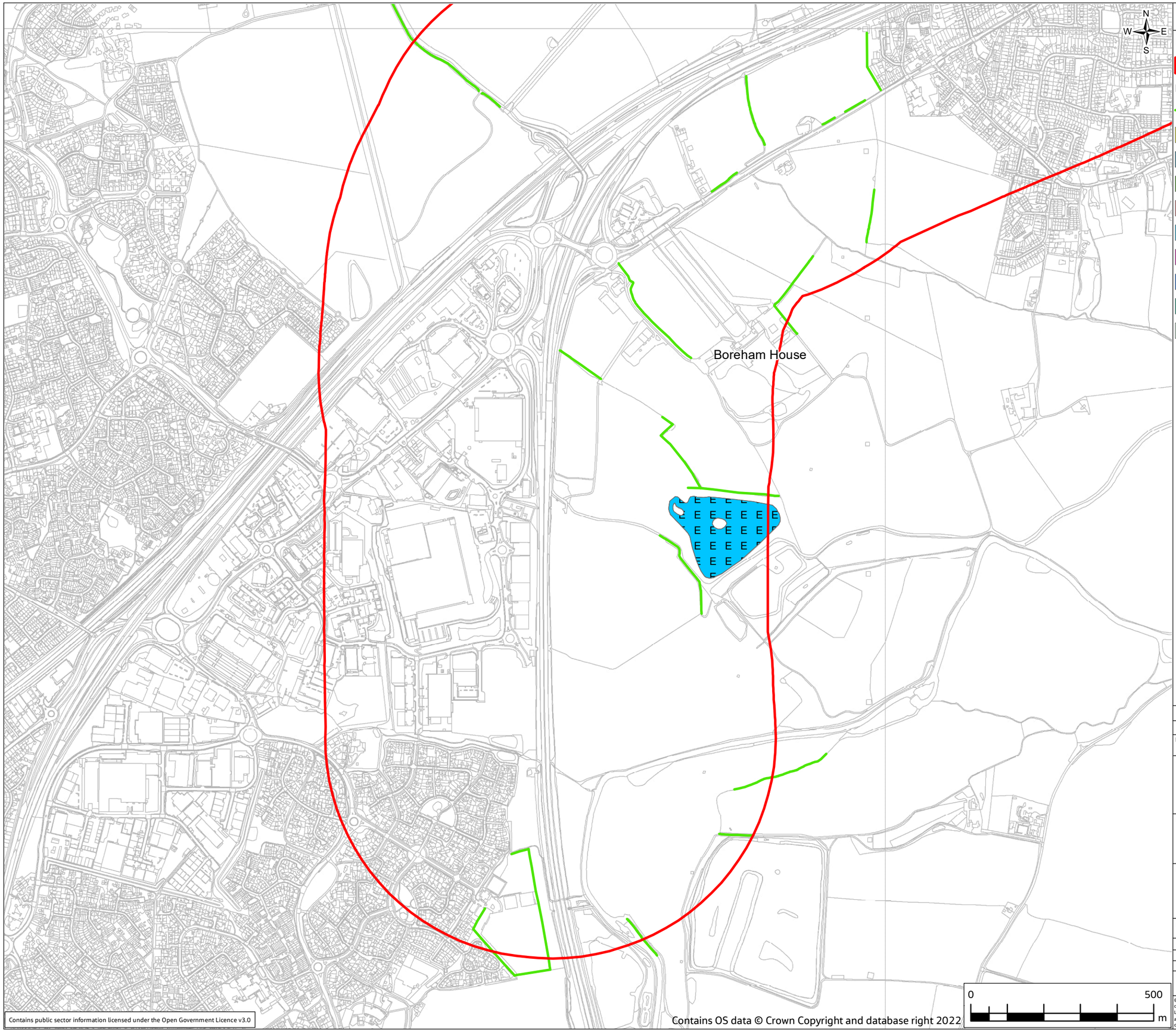






0 500 m

# FIGURE A.4

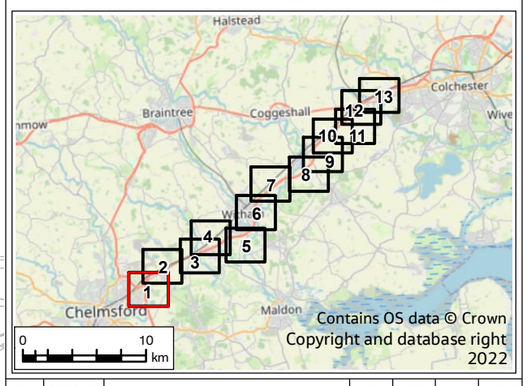



Legend

- Phase 1 survey area

**Priority habitat**

- Hedgerows
- Arable Field Margins
- Eutrophic Standing Waters
- Lowland Mixed Deciduous Woodland
- Open Mosaic Habitats on Previously Developed Land
- Ponds
- Reedbeds
- Rivers
- Wet Woodland
- Wood-Pasture and Parkland



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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.4 PRIORITY HABITAT PLAN
SHEET 1 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:10000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | Rev P01 |
| Client No. | HE551497 | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0058

# FIGURE A.4

Topinghoehall

Porter's Grove

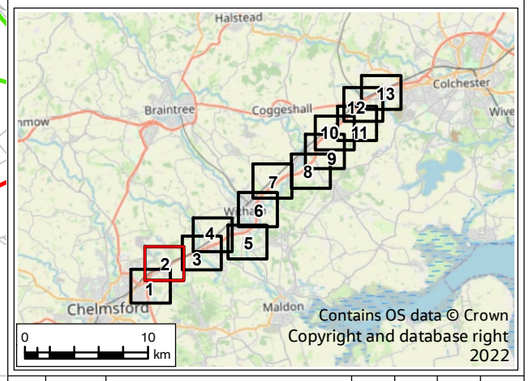
The Grove

Legend

Phase 1 survey area

**Priority habitat**

- Hedgerows
- Arable Field Margins
- Eutrophic Standing Waters
- Lowland Mixed Deciduous Woodland
- Open Mosaic Habitats on Previously Developed Land
- Ponds
- Reedbeds
- Rivers
- Wet Woodland
- Wood-Pasture and Parkland

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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.4 PRIORITY HABITAT PLAN
SHEET 2 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:10000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0059







0 500 m

# FIGURE A.4

Titbeech Wood
Titbeech Wood
The Grove
Church Hills
Berwick Place
ghoehall Wood
Crix House
Spitman's Gardens
Brewhouse Wood
Bishop's Wood
Sandpit Wood
Long Wood

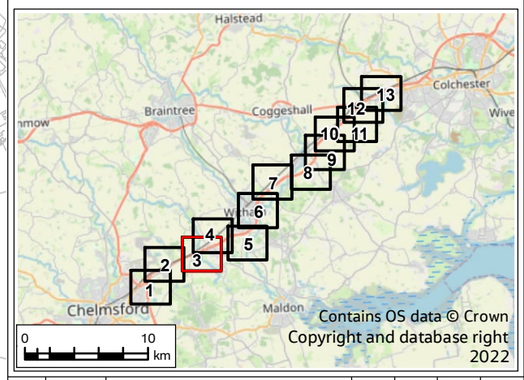
N
W E
S

Legend

- Phase 1 survey area

**Priority habitat**

- Hedgerows
- Arable Field Margins
- Eutrophic Standing Waters
- Lowland Mixed Deciduous Woodland
- Open Mosaic Habitats on Previously Developed Land
- Ponds
- Reedbeds
- Rivers
- Wet Woodland
- Wood-Pasture and Parkland

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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.4 PRIORITY HABITAT PLAN
SHEET 3 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:10000 | DO NOT SCALE |
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| Client No. | HE551497 | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0060



0 500 m

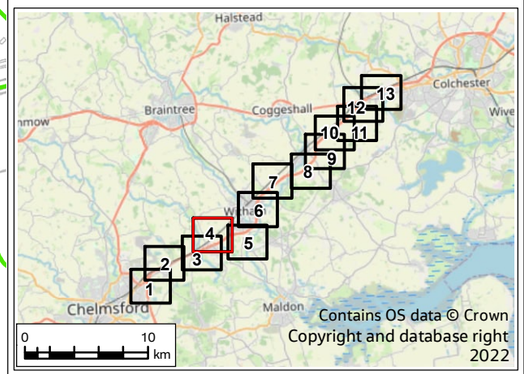
# FIGURE A.4

Legend

- Phase 1 survey area

**Priority habitat**

- Hedgerows
- Arable Field Margins
- Eutrophic Standing Waters
- Lowland Mixed Deciduous Woodland
- Open Mosaic Habitats on Previously Developed Land
- Ponds
- Reedbeds
- Rivers
- Wet Woodland
- Wood-Pasture and Parkland

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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.4 PRIORITY HABITAT PLAN
SHEET 4 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | | |
|---|---|---|---|
| Scale @ A3 | 1:10000 | DO NOT SCALE | |
| Jacobs No. | B36601D1 | Rev | P01 |
| Client No. | HE551497 | | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0061

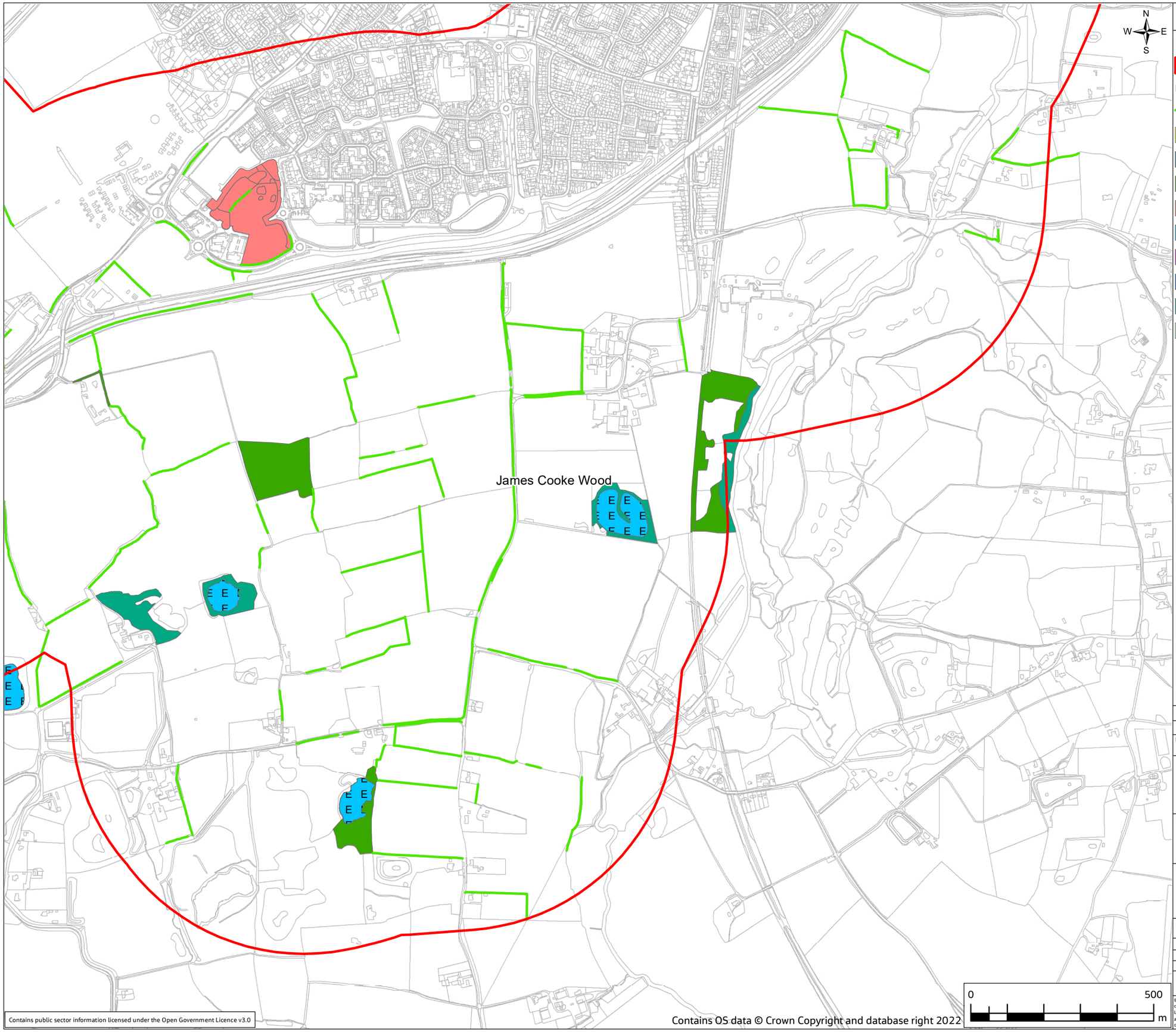


N
W
E
S

Whitegate Grove
Whitegate Grove
Whitegate Grove
Titbeech Wood
Titbeech Wood
The Grove
Church Hills
Job's Wood
Job's Wood Wood
Job's Wood
k Place

0
500
m

# FIGURE A.4

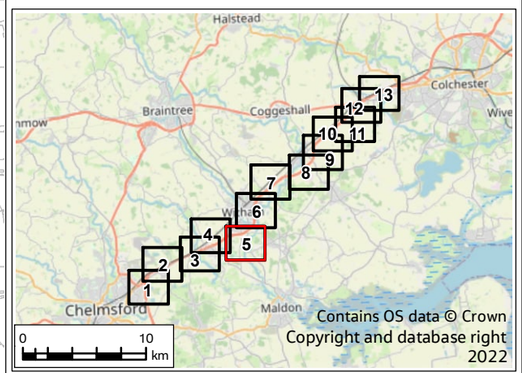



Legend

- Phase 1 survey area

**Priority habitat**

- Hedgerows
- Arable Field Margins
- Eutrophic Standing Waters
- Lowland Mixed Deciduous Woodland
- Open Mosaic Habitats on Previously Developed Land
- Ponds
- Reedbeds
- Rivers
- Wet Woodland
- Wood-Pasture and Parkland

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| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.4 PRIORITY HABITAT PLAN
SHEET 5 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:10000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | Rev P01 |
| Client No. | HE551497 | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0062

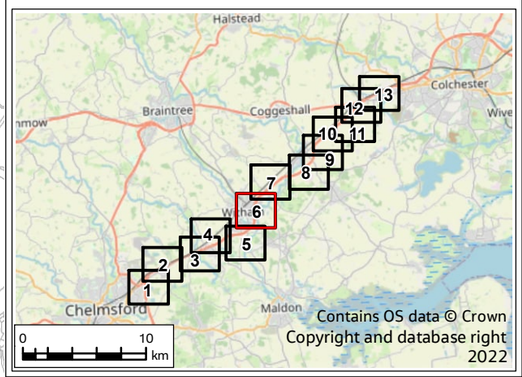
# FIGURE A.4

Legend

- Phase 1 survey area

**Priority habitat**

- Hedgerows
- Arable Field Margins
- Eutrophic Standing Waters
- Lowland Mixed Deciduous Woodland
- Open Mosaic Habitats on Previously Developed Land
- Ponds
- Reedbeds
- Rivers
- Wet Woodland
- Wood-Pasture and Parkland

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Whet Mead LNR

0 500 m

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APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.4 PRIORITY HABITAT PLAN
SHEET 6 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | | |
|---|---|---|---|
| Scale @ A3 | 1:10000 | | DO NOT SCALE |
| Jacobs No. | B36601D1 | Rev | P01 |
| Client No. | HE551497 | | |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0063

# FIGURE A.4

Legend

- Phase 1 survey area

**Priority habitat**

- Hedgerows
- Arable Field Margins
- Eutrophic Standing Waters
- Lowland Mixed Deciduous Woodland
- Open Mosaic Habitats on Previously Developed Land
- Ponds
- Reedbeds
- Rivers
- Wet Woodland
- Wood-Pasture and Parkland






| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |
|---|---|---|---|---|---|---|
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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.4 PRIORITY HABITAT PLAN
SHEET 7 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:10000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0064







0 500 m

# FIGURE A.4

Brockwell Meadows LNR

Inworth Wood

Kelvedon Hall Wood

Jubb's Row

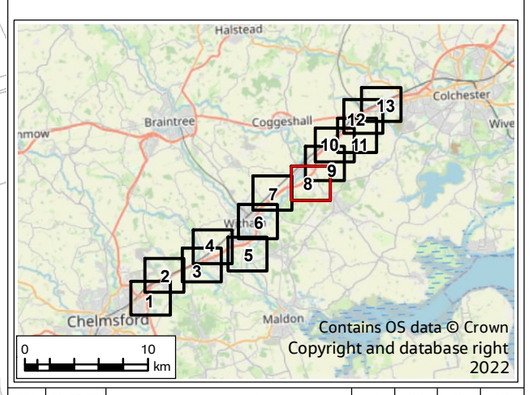
N
W E
S

Legend

- Phase 1 survey area

**Priority habitat**

- Hedgerows
- Arable Field Margins
- Eutrophic Standing Waters
- Lowland Mixed Deciduous Woodland
- Open Mosaic Habitats on Previously Developed Land
- Ponds
- Reedbeds
- Rivers
- Wet Woodland
- Wood-Pasture and Parkland

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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.4 PRIORITY HABITAT PLAN
SHEET 8 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:10000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0065







0 500 m

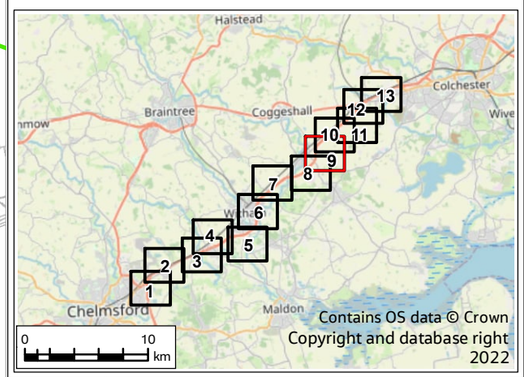
# FIGURE A.4

Legend

- Phase 1 survey area

**Priority habitat**

- Hedgerows
- Arable Field Margins
- Eutrophic Standing Waters
- Lowland Mixed Deciduous Woodland
- Open Mosaic Habitats on Previously Developed Land
- Ponds
- Reedbeds
- Rivers
- Wet Woodland
- Wood-Pasture and Parkland



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Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.4 PRIORITY HABITAT PLAN
SHEET 9 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:10000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0066







0 500 m

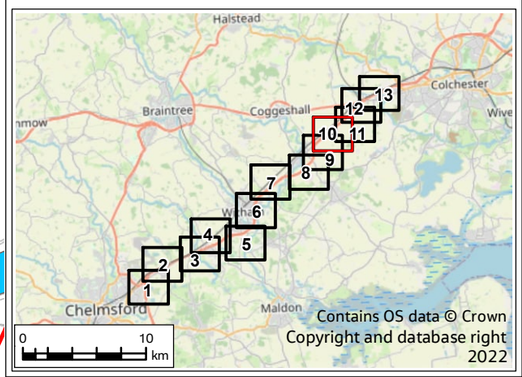
# FIGURE A.4

Legend

- Phase 1 survey area

**Priority habitat**

- Hedgerows
- Arable Field Margins
- Eutrophic Standing Waters
- Lowland Mixed Deciduous Woodland
- Open Mosaic Habitats on Previously Developed Land
- Ponds
- Reedbeds
- Rivers
- Wet Woodland
- Wood-Pasture and Parkland






| Rev. | Rev. Date | Purpose of revision | Drawn | Check'd | Rev'd | Appr'd |
|---|---|---|---|---|---|---|
| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.4 PRIORITY HABITAT PLAN
SHEET 10 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | | |
|---|---|---|---|
| Scale @ A3 | 1:10000 | | DO NOT SCALE |
| Jacobs No. | B36601D1 | | |
| Client No. | HE551497 | Rev | P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0067







0 500 m

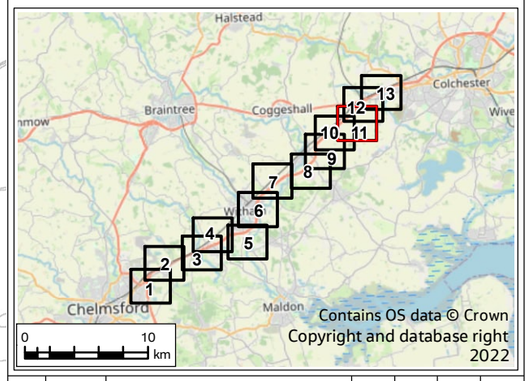
# FIGURE A.4

Legend

Phase 1 survey area

**Priority habitat**

- Hedgerows
- Arable Field Margins
- Eutrophic Standing Waters
- Lowland Mixed Deciduous Woodland
- Open Mosaic Habitats on Previously Developed Land
- Ponds
- Reedbeds
- Rivers
- Wet Woodland
- Wood-Pasture and Parkland






| Rev. | Rev. Date | Purpose of revision | Drawn | Check'd | Rev'd | Appr'd |
|---|---|---|---|---|---|---|
| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.4 PRIORITY HABITAT PLAN
SHEET 11 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:10000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0068







0 500 m

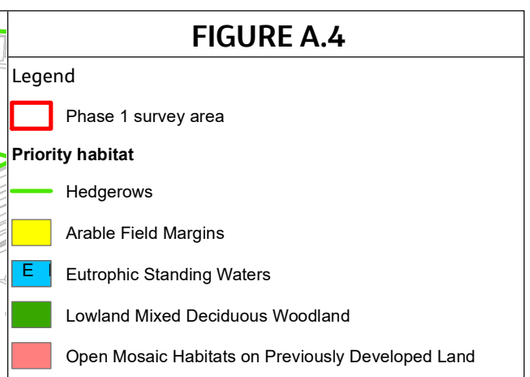
# FIGURE A.4

Legend

- Phase 1 survey area

**Priority habitat**

- Hedgerows
- Arable Field Margins
- Eutrophic Standing Waters
- Lowland Mixed Deciduous Woodland
- Open Mosaic Habitats on Previously Developed Land
- Ponds
- Reedbeds
- Rivers
- Wet Woodland
- Wood-Pasture and Parkland






| | | | | | | |
|---|---|---|---|---|---|---|
| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |
| Rev. | Rev. Date | Purpose of revision | Drawn | Check'd | Rev'd | Appr'd |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.4 PRIORITY HABITAT PLAN
SHEET 12 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:10000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0069







0 500 m

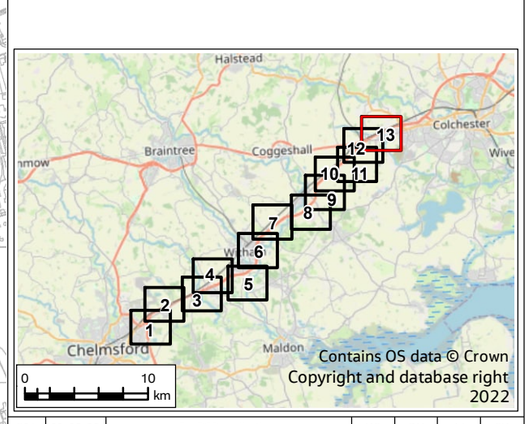
# FIGURE A.4

Legend

- Phase 1 survey area

**Priority habitat**

- Hedgerows
- Arable Field Margins
- Eutrophic Standing Waters
- Lowland Mixed Deciduous Woodland
- Open Mosaic Habitats on Previously Developed Land
- Ponds
- Reedbeds
- Rivers
- Wet Woodland
- Wood-Pasture and Parkland




| Rev. | Rev. Date | Purpose of revision | Drawn | Check'd | Rev'd | Appr'd |
|---|---|---|---|---|---|---|
| P01 | 03/05/22 | For DCO application | MC | DM | AJ | SM |

Development Consent Drawing Number: TR010060/APP/6.3

APFP Regulation: Regulation 5(2)(l)

Client: national highways

Project: REGIONAL DELIVERY PARTNERSHIP
A12 CHELMSFORD TO A120 WIDENING SCHEME

Drawing Title: FIGURE A.4 PRIORITY HABITAT PLAN
SHEET 13 OF 13

Drawing Status: S4 - SUITABLE FOR STAGE APPROVAL

| | | |
|---|---|---|
| Scale @ A3 | 1:10000 | DO NOT SCALE |
| Jacobs No. | B36601D1 | |
| Client No. | HE551497 | Rev P01 |

Drawing Number: HE551497-JAC-EBD-SCHW-SK-GI-0070







0 500 m

# Annex B Spatial data scheme

| Priority habitat | Feature classes | | | | |
|---|---|---|---|---|---|
| | Point | Line | Polygon | | |
| GlobalID | ✓ | ✓ | ✓ | GlobalID | Unique geodatabase identifier of digitized feature |
| P1H | ✓ | ✓ | ✓ | Text | Phase 1 habitat types for point, line and polygon features |
| P1H_CONF | ✓ | ✓ | ✓ | Number | Decimal values ranging from 0 to 1, estimating the confidence in the phase 1 habitat type attribute ('P1H'):<br>• For features identified from survey, a value of 1 was applied<br>• For features identified from desk sources, an estimate of the confidence was made |
| PriHab | - | ✓ | ✓ | Text | • For features identified as priority habitat, the priority habitat type recorded<br>• <Null> for non-priority habitat features |
| AnnexI | - | - | ✓ | Text | • For features identified as Annex I habitat, the habitat type recorded<br>• <Null> for non-Annex I habitat features |
| Source | ✓ | ✓ | ✓ | Text | Source of information for digitized feature:<br>• Desk – digitized from desk sources<br>• Phase 1 – digitized from survey results |
| Survey_date | ✓ | ✓ | ✓ | Date | • If digitized from survey information, date and time the feature was surveyed<br>• <Null> for features digitized from desk sources |

| Priority habitat | Feature classes | | | | |
|---|---|---|---|---|---|
| | Point | Line | Polygon | | |
| Surveyors | ✓ | ✓ | ✓ | Text | • If digitized from survey information, initials of the surveyors<br>• <Null> for features digitized from desk sources |
| Note | ✓ | ✓ | ✓ | Text | Notes on vegetation structure, condition and management |
| Creator | ✓ | ✓ | ✓ | Text | Identifier of creator of digitized feature in ArcMap |
| Date_created | ✓ | ✓ | ✓ | Date | Date-time when feature was digitized in ArcMap |
| Editor | ✓ | ✓ | ✓ | Text | Identifier of most recent editor of digitized feature |
| Date_edited | ✓ | ✓ | ✓ | Date | Date-time when digitized feature was most recently edited in ArcMap |

# Annex C Target notes

## Target notes recorded, shown in Figure A.3

| | | | | | | | | Vegetation layer / species recorded | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Target note ID** | **Phase 1 habitat** | **Priority habitat** | **Ancient Woodland / potential ancient woodland** | **Potential GWDTE** | **Site name** | **Date surveyed** | **Habitat description** | **Canopy** | **Shrub** | **Ground** | **Bryophyte** |
| 1 | A1.1.1 Broadleaved woodland - semi-natural | Wet Woodland | - | Potential GWDTE | - | 14/02/2020 | Alder woodland along Roman River, with wild garlic on banks. | Alder (*Alnus glutinosa*) D, Sycamore (*Acer pseudoplatanus*) F | - | Common Nettle (*Urtica dioica*) D, Dog's Mercury (*Mercurialis perennis*) A, Ramsons (*Allium ursinum*) A | - |
| 2 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 14/02/2020 | Stand of secondary ash woodland, with large hazel coppice stools along river. Not accessed directly, viewed from field to east. | - | - | - | - |
| 3 | A1.1.1 Broadleaved woodland - semi-natural | Wet Woodland | - | Potential GWDTE | - | 15/07/2020 | Stand of mature and early mature alder trees along Roman River. Understorey species-poor, banks of river sparsely vegetated. Wild garlic on bank toward east | - | - | - | - |
| 4 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 15/07/2020 | Stand of mature and semi-mature pedunculate oak trees between river and lake | - | - | - | - |
| 5 | A1.1.1 Broadleaved woodland - semi-natural | Wet Woodland | - | Potential GWDTE | - | 15/07/2020 | Stand of crack willow dominated woodland at end of basin in which pond sits. Abundant fallen dead wood, field layer dominated by wetland tall herbs | - | - | - | - |
| 6 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | Potential ancient woodland | - | Unnamed 1 | 02/10/2018 | Stand of mature elm trees with ground flora with abundant bluebell. | - | - | - | - |
| 7 | B2.1 Neutral grassland - unimproved | - | - | - | - | 13/07/2020 | Grass verge between hedgerow and cycle path. Dominated by false oat-grass, with several lengths with abundant common knapweed and some with abundant agrimony and oxeye daisy. Scrub encroaching in many areas and some areas damaged by excessive-mowing and vehicles. Vegetation referrable to MG1e. | - | - | - | - |
| 8 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 08/10/2019 | Linear wood along sunken track between fields, with ash, field maple and pedunculate oak trees on banks arching over to form canopy. Muddy seasonal pond in depression in small area of woodland extending out into arable field. | - | - | - | - |
| 9 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 15/07/2020 | Small stand of broadleaved woodland at junction of old hedgerows. Very dense understorey of grey willow and blackthorn and not accessed. Canopy of mature pedunculate oak, with old field maple trees. | - | - | - | - |

| | | | | | | | | Vegetation layer / species recorded | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Target note ID** | **Phase 1 habitat** | **Priority habitat** | **Ancient Woodland / potential ancient woodland** | **Potential GWDTE** | **Site name** | **Date surveyed** | **Habitat description** | **Canopy** | **Shrub** | **Ground** | **Bryophyte** |
| 10 | B5 Marsh/marshy grassland | - | - | Potential GWDTE | - | 13/07/2020 | Abandoned area by Domsey Brook, with abundant hard rush and wetland tall herbs and scattered scrub of dewberry, dogwood and grey willow | - | - | - | - |
| 11 | B2.2 Neutral grassland - semi-improved | - | - | - | - | 15/07/2020 | Young white willow plantation with uncut grassland field layer. Field layer in eastern half marshy grassland with abundant false oat-grass, meadowsweet, great willowherb, greater pond sedge hogweed and tufted vetch. Most of rest grassland drier, dominated by false oat-grass, with less abundant but constant meadowsweet, occasional knapweed and agrimony, abundant upright hedge parsley. Vegetation a combination of MG1a, MG1d and MG1e. | - | - | - | - |
| 12 | B2.1 Neutral grassland - semi-improved | - | - | - | - | 15/07/2020 | Grassland with abundant agrimony and hairy violet, and frequent common knapweed and field scabious. Difficult to assess as has been mown very recently. | - | - | - | - |
| 13 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 02/10/2019 | Woodland with path up the middle, wet ditch on east side with flow toward south. Large field maple trees and quite large elms. | - | - | - | - |
| 14 | A1.1.1 Broadleaved woodland - semi-natural | Wet Woodland | - | Potential GWDTE | - | 14/07/2020 | Woodland along the Domsey Brook. Dominated by white willow, with shrub layer dominated by large grey willows, frequent large hazel coppice stools and old field maples. Some stands of dog's mercury but otherwise field layer dominated by common nettle or densely shaded | - | - | - | - |
| 15 | B2.1 Neutral grassland - unimproved | - | - | - | - | 14/07/2020 | Grassland on embankment of A12 with abundant forbs and open sward structure due to rabbit grazing. Vegetation referrable to MG1e. | - | - | - | - |
| 16 | A1.1.1 Broadleaved woodland - semi-natural | Wet Woodland | - | Potential GWDTE | - | 14/07/2020 | Woodland around eastern end of pond basin, dominated by grey willow and white willow. Partly cleared along bank, with abundant regrowth of trees and tall herb fen of meadowsweet and purple loosestrife | - | - | - | - |
| 17 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 11/02/2020 | Small stand of woodland at end of hedgerow, over depression with standing water overhung with trees. | Aspen (*Populus tremula*) D, Grey Willow (*Salix cinerea*) D, Pedunculate Oak (*Quercus robur*) D | - | - | - |

| | | | | | | | | Vegetation layer / species recorded | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Target note ID** | **Phase 1 habitat** | **Priority habitat** | **Ancient Woodland / potential ancient woodland** | **Potential GWDTE** | **Site name** | **Date surveyed** | **Habitat description** | **Canopy** | **Shrub** | **Ground** | **Bryophyte** |
| 18 | A1.1.1 Broadleaved woodland - semi-natural | Wet Woodland | - | Potential GWDTE | - | 14/07/2020 | Wet woodland along Domsey Brook. Canopy of large white willow trees with frequent mature alder trees along brook and abundant semi-mature secondary growth in adjacent floodplain. Field layer dominated by common nettle. | Alder (*Alnus glutinosa*) D, Ash (*Fraxinus excelsior*) R, Pedunculate Oak (*Quercus robur*) R, White Willow (*Salix alba*) A | Alder (*Alnus glutinosa*) A, Blackthorn (*Prunus spinosa*) LA, Elder (*Sambucus nigra*) F, Grey Willow (*Salix cinerea*) R, Hawthorn (*Crataegus monogyna*) F, Rosa canina agg. O, Traveller's-joy (*Clematis vitalba*) R, Ulmus minor R | - | - |
| 19 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | Ancient Woodland Inventory site | - | Inworth Wood | 11/02/2020 | Mixed broadleaved woodland divided into management units by internal banks and ditch/bank around perimeter, with compartments of younger maiden trees, coppice-with standards, and hornbeam coppice. A stream rises within wood. | Ash (*Fraxinus excelsior*) D, Aspen (*Populus tremula*) R, Hornbeam (*Carpinus betulus*) F, Pedunculate Oak (*Quercus robur*) D, Wild Cherry (*Prunus avium*) R | Ash (*Fraxinus excelsior*) O, Birches (*Betula*) R, Elder (*Sambucus nigra*) F, Field Maple (*Acer campestre*) F, Grey Willow (*Salix cinerea*) R, Hazel (*Corylus avellana*) R, Holly (*Ilex aquifolium*) R, Honeysuckle (*Lonicera periclymenum*) R, Hornbeam (*Carpinus betulus*) A, Pedunculate Oak (*Quercus robur*) O, Rubus vestitus A, Ulmus R | Bluebell (*Hyacinthoides non-scripta*) A, Cleavers (*Galium aparine*) F, Common Nettle (*Urtica dioica*) O, Dog's Mercury (*Mercurialis perennis*) O, Germander Speedwell (*Veronica chamaedrys*) R, Greater Stitchwort (*Stellaria holostea*) R, Ground-ivy (*Glechoma hederacea*) O, Lesser Celandine (*Ficaria verna*) F, Lords-and-Ladies (*Arum maculatum*) F, Moschatel (*Adoxa moschatellina*) R, Primrose (*Primula vulgaris*) F, Red Campion (*Silene dioica*) O, Rough Meadow-grass (*Poa trivialis*) F, Three-nerved Sandwort (*Moehringia trinervia*) R, Violet (*Viola*) R, Wood Avens (*Geum urbanum*) R, Wood Speedwell (*Veronica montana*) R | Atrichum undulatum R, Brachythecium rutabulum A, Kindbergia praelonga A, Mnium hornum F |
| 20 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 08/11/2019 | Stand of trees at widest part of former hedge | - | - | - | - |

| | | | | | | | | Vegetation layer / species recorded | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Target note ID** | **Phase 1 habitat** | **Priority habitat** | **Ancient Woodland / potential ancient woodland** | **Potential GWDTE** | **Site name** | **Date surveyed** | **Habitat description** | **Canopy** | **Shrub** | **Ground** | **Bryophyte** |
| 21 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 17/10/2019 | Strips of mature pedunculate oak trees forming canopy over farm access track | - | - | - | - |
| 22 | B5 Marsh/marshy grassland | - | - | Potential GWDTE | Brockwell Meadows LNR | 28/09/2016 | - | - | - | - | - |
| 23 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 10/02/2020 | Stand of mature pedunculate oak woodland. Whole stand not accessed but the area within the survey area was clearly broadleaved. Oaks even-aged and could have been planted but shrub and ground layers are semi-natural. | Pedunculate Oak (*Quercus robur*) D | Rubus vestitus A | False Brome (*Brachypodium sylvaticum*) A, Red Campion (*Silene dioica*) A | - |
| 24 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | Potential ancient woodland | - | Jubb's Row | 10/02/2020 | Woodland not accessed, viewed from the road. Canopy of mature pedunculate oak with ancient woodland indicators along road. The eastern half of the site is shown on the first edition of the OS map, referred to as "Jubb's Row". | Pedunculate Oak (*Quercus robur*) | - | - | - |
| 25 | B2.1 Neutral grassland - unimproved | - | - | - | - | 14/07/2020 | Grassland on A12 embankment, heavily rabbit-grazed with abundant forbs and ant hills. Extensive stands of common cudweed and large stand of lesser calamint in short open sward in south-western half, more closed meadow-like vegetation in north-eastern. The latter part referable to MG1e | - | - | - | - |
| 26 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | Ancient Woodland Inventory site | - | Kelvedon Hall Wood | 11/02/2020 | Stand of ancient semi-natural woodland, with hornbeam coppice and pedunculate oak standards. North east corner recently coppiced, with ash regeneration and dense stands of bramble. External ditch and bank. | Ash (*Fraxinus excelsior*) R, Douglas Fir (*Pseudotsuga menziesii*) O, Downy Birch (*Betula pubescens*) R, Hornbeam (*Carpinus betulus*) D, Hybrid Larch (*Larix decidua x kaempferi = L. x marschlinsii*) O, Pedunculate Oak (*Quercus robur*) D, Western Red-cedar (*Thuja plicata*) O | Field Maple (*Acer campestre*) O, Hazel (*Corylus avellana*) R, Holly (*Ilex aquifolium*) R, Honeysuckle (*Lonicera periclymenum*) O, Rosa canina agg. R, Rubus ulmifolius R, Rubus vestitus D | Bluebell (*Hyacinthoides non-scripta*) A, Cleavers (*Galium aparine*) O, Cow Parsley (*Anthriscus sylvestris*) R, False Brome (*Brachypodium sylvaticum*) R, Hairy St John's-wort (*Hypericum hirsutum*) R, Lords-and-Ladies (*Arum maculatum*) F, Nipplewort (*Lapsana communis*) R, Wood Avens (*Geum urbanum*) R, Wood Sage (*Teucrium scorodonia*) R, Wood Small-reed (*Calamagrostis epigejos*) R, Wood Speedwell (*Veronica montana*) R, Wood Spurge (*Euphorbia amygdaloides*) R | - |
| 27 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 01/10/2019 | Small wood in depression in middle of arable field, dominated by grey willow and oak. Some old rabbit holes. Location unlikely to be used by badger. | - | - | - | - |

| | | | | | | | | Vegetation layer / species recorded | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Target note ID** | **Phase 1 habitat** | **Priority habitat** | **Ancient Woodland / potential ancient woodland** | **Potential GWDTE** | **Site name** | **Date surveyed** | **Habitat description** | **Canopy** | **Shrub** | **Ground** | **Bryophyte** |
| 28 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 07/10/2019 | Old hedge along boundary of plantation widens into oak-elm wood around small depression in ground. | - | - | - | - |
| 29 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 07/10/2019 | Small wood around depression in ground at end of hedgerow, dominated by mature pedunculate oak trees. Frequent spurge-laurel around edge. | - | - | - | - |
| 30 | A1.1.2 Broadleaved woodland - plantation | Wet Woodland | - | Potential GWDTE | - | 14/07/2020 | Plantation of white willow with open canopy of mature to semi-mature trees. Understorey very overgrown and difficult to access. Field layer dominated by wetland and ruderal tall herb vegetation, with abundant creeping thistle and great willowherb, hedge bindweed, false oat-grass, cleavers and hemlock, and bramble forming low tangle and scattered large dense stands. Large open areas with abundant tall herb fen of common reed, hemp agrimony and common valerian. | - | - | - | - |
| 31 | A1.1.1 Broadleaved woodland - semi-natural | Wet Woodland | - | Potential GWDTE | - | 14/07/2020 | Mature woodland of crack and white willow with fenny field layer with abundant hemp agrimony. Not accessed due to deep stream but ground layer clearly visible from north bank. | - | - | - | - |
| 32 | A1.1.1 Broadleaved woodland - semi-natural | Wet Woodland | - | Potential GWDTE | - | 07/10/2019 | Willow-dominated wet woodland along stream, with field layer dominated by common nettle and with abundant hemp agrimony. | - | - | - | - |
| 33 | B2.2 Neutral grassland - semi-improved | - | - | - | - | 30/07/2020 | Unmanaged grassland with a diverse structure. Most of the field has a very open vegetation structure with patches of bare sandy ground, with sward becoming taller and coarser toward the south. Species include abundant creeping bent and Yorkshire fog, frequent cock's-foot and occasional red fescue, and frequent blue fleabane, bristly oxtongue, common centaury, creeping cinquefoil and yellow-wort, and rare corn mint. Wall bedstraw is frequent in sandy open areas. | - | - | - | - |

| | | | | | | | | Vegetation layer / species recorded | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Target note ID** | **Phase 1 habitat** | **Priority habitat** | **Ancient Woodland / potential ancient woodland** | **Potential GWDTE** | **Site name** | **Date surveyed** | **Habitat description** | **Canopy** | **Shrub** | **Ground** | **Bryophyte** |
| 34 | J1.3 Cultivated/disturbed land - ephemeral/short perennial | Open Mosaic Habitats on Previously Developed Land | - | - | - | 30/07/2020 | Brownfield area, largely comprised of open ground with ephemeral vegetation. Some smaller patches of bare ground, and with taller grassland, tall ruderal vegetation and low scrub to the west, with transitions to planted trees and scrub. The area west of the planted line of trees and scrub lies on higher ground with a steep banker to the larger flatter area to west. The western area is patchily rabbit-grazed. | - | - | - | - |
| 35 | B2.2 Neutral grassland - semi-improved | - | - | - | Whet Mead LNR | 30/07/2020 | Mosaic of short rabbit-grazed and trampled grassland, tall rank grassland and tall ruderal vegetation, with scattered hawthorn and rose scrub. Some areas with more diverse grassland, with drought tolerant species such as lady's-bedstraw and perforate St John's-wort, but grassland is species-poor, mostly dominated by false oat-grass. The non-native hoary cress is abundant across the whole area. | - | - | Amphibious Bistort (*Persicaria amphibia*) R, Bearded Iris (*Iris germanica*) R, Blackthorn (*Prunus spinosa*) R, Bramble (*Rubus fruticosus agg.*) F, Carrot (*Daucus carota*) R, Cock's-foot (*Dactylis glomerata*) F, Common Bird's-foot-trefoil (*Lotus corniculatus*) R, Common Centaury (*Centaurium erythraea*) R, Common Mallow (*Malva sylvestris*) O, Common Nettle (*Urtica dioica*) A, Common Ragwort (*Senecio jacobaea*) F, Creeping Bent (*Agrostis stolonifera*) A, Creeping Buttercup (*Ranunculus repens*) O, Creeping Cinquefoil (*Potentilla reptans*) A, Creeping Thistle (*Cirsium arvense*) O, Curled Dock (*Rumex crispus*) R, Dewberry (*Rubus caesius*) LA, Dogwood (*Cornus sanguinea*) R, Elder (*Sambucus nigra*) F, False Oat-grass (*Arrhenatherum elatius*) A, Field Maple (*Acer campestre*) R, Galium album LA, Great Lettuce (*Lactuca virosa*) R, Great Willowherb (*Epilobium hirsutum*) LD, Ground-ivy (*Glechoma hederacea*) LA, Hard Rush (*Juncus inflexus*) R, Hawthorn (*Crataegus monogyna*) F, Hemlock (*Conium maculatum*) F, Hoary Cress (*Lepidium draba*) A, Horse-radish (*Armoracia rusticana*) R, Lady's Bedstraw (*Galium verum*) A, Large Bindweed (*Calystegia silvatica*) LA, Lesser Burdock (*Arctium minus*) R, Mugwort (*Artemisia vulgaris*) R, Musk-mallow (*Malva moschata*) R, Perennial Sow-thistle (*Sonchus* | - |

| | | | | | | | | Vegetation layer / species recorded | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Target note ID** | **Phase 1 habitat** | **Priority habitat** | **Ancient Woodland / potential ancient woodland** | **Potential GWDTE** | **Site name** | **Date surveyed** | **Habitat description** | **Canopy** | **Shrub** | **Ground** | **Bryophyte** |
| | | | | | | | | | | *arvensis*) R, Perforate St John's-wort (*Hypericum perforatum*) F, Red Bartsia (*Odontites vernus*) R, Red Campion (*Silene dioica*) R, Red Fescue (*Festuca rubra*) A, Ribwort Plantain (*Plantago lanceolata*) R, Rosa caesia subsp. vosagiaca x canina (*f x m*) F, Rosa obtusifolia x canina = R. x dumetorum (*f x m*) R, Rosebay Willowherb (*Chamerion angustifolium*) LA, Sagina apetala R, Selfheal (*Prunella vulgaris*) O, Smooth Hawk's-beard (*Crepis capillaris*) O, Spear Thistle (*Cirsium vulgare*) O, Spiked Sedge (*Carex spicata*) R, Sweet-briar (*Rosa rubiginosa*) O, Upright Hedge-parsley (*Torilis japonica*) R, Weld (*Reseda luteola*) O, Welted Thistle (*Carduus crispus*) R, White Stonecrop (*Sedum album*) O, Wild Basil (*Clinopodium vulgare*) R, Wild Plum (*Prunus domestica*) R, Wild Teasel (*Dipsacus fullonum*) A, Yorkshire-fog (*Holcus lanatus*) A | |
| 36 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 14/02/2020 | Stand of mature pedunculate oak trees, but of recent origin. Open shrub layer and species-poor ground flora, with abundant non-native daffodils. | Pedunculate Oak (*Quercus robur*) D | - | - | - |
| 37 | A1.1.1 Broadleaved woodland - semi-natural | Wet Woodland | - | Potential GWDTE | - | 14/02/2020 | Alder woodland along River Blackwater, on ground below low terrace to west of river. Dominated by large alder trees with eutrophic ground vegetation. Referrable to NVC community W6d. | Alder (*Alnus glutinosa*) D, Pedunculate Oak (*Quercus robur*) O | Bramble (*Rubus fruticosus agg.*) F, Elder (*Sambucus nigra*) F, Holly (*Ilex aquifolium*) R, Wilson's Honeysuckle (*Lonicera nitida*) R | Cleavers (*Galium aparine*) A, Common Ivy (*Hedera helix*) A, Common Nettle (*Urtica dioica*) D, Dog's Mercury (*Mercurialis perennis*) F, Garlic Mustard (*Alliaria petiolata*) F, Lesser Celandine (*Ficaria verna*) A, Lords-and-Ladies (*Arum maculatum*) F, Purple-loosestrife (*Lythrum salicaria*) R, Red Campion (*Silene dioica*) F, Rough Meadow-grass (*Poa trivialis*) R, Three-nerved Sandwort (*Moehringia trinervia*) R, Wild Angelica (*Angelica sylvestris*) R | Kindbergia praelonga A |
| 38 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 14/02/2020 | Secondary pedunculate oak woodland on former railway cutting | Pedunculate Oak (*Quercus robur*) D | - | - | - |

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| **Target note ID** | **Phase 1 habitat** | **Priority habitat** | **Ancient Woodland / potential ancient woodland** | **Potential GWDTE** | **Site name** | **Date surveyed** | **Habitat description** | **Canopy** | **Shrub** | **Ground** | **Bryophyte** |
| 39 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 14/02/2020 | Secondary woodland dominated by large mature pedunculate oak trees, with open shrub layer. Field layer with abundant non-native daffodils. | Pedunculate Oak (*Quercus robur*) D | - | Daffodil (*Narcissus pseudonarcissus*) A | - |
| 40 | A1.1.1 Broadleaved woodland - semi-natural | Wet Woodland | - | Potential GWDTE | - | 14/02/2020 | Alder and willow dominated woodland around fishing lake | Alder (*Alnus glutinosa*) D, Pedunculate Oak (*Quercus robur*) F, Salix D | Dewberry (*Rubus caesius*) O, Grey Willow (*Salix cinerea*) O, Rosa canina agg. O, Rosa canina x stylosa = R. x andegavensis R | Pendulous Sedge (*Carex pendula*) O | - |
| 41 | C3.1 Other tall herb and fern - ruderal | Open Mosaic Habitats on Previously Developed Land | - | - | - | 14/02/2020 | Site cleared for development. Mosaic of open ground with ephemeral vegetation and bryophytes, tall rank grassland, trampled ground with abundant bare ground, ruts and small temporary pools of standing water, and bramble and other scrub. | - | - | - | - |
| 42 | B2.1 Neutral grassland - unimproved | - | - | - | - | 14/02/2020 | Sown grassland, likely created as part of housing development. Well established with diversity of forb species. | - | - | Broad-leaved Dock (*Rumex obtusifolius*) R, Carrot (*Daucus carota*) A, Cat's-tails (*Phleum*) F, Common Bent (*Agrostis capillaris*) A, Common Bird's-foot-trefoil (*Lotus corniculatus*) F, Common Knapweed (*Centaurea nigra s.s.*) A, Cowslip (*Primula veris*) R, Creeping Thistle (*Cirsium arvense*) R, Crested Dog's-tail (*Cynosurus cristatus*) F, Dark Mullein (*Verbascum nigrum*) R, Great Mullein (*Verbascum thapsus*) O, Helminthotheca echioides F, Hoary Plantain (*Plantago media*) R, Meadow Buttercup (*Ranunculus acris*) R, Oxeye Daisy (*Leucanthemum vulgare*) A, Red Clover (*Trifolium pratense*) O, Red Fescue (*Festuca rubra*) A, Ribwort Plantain (*Plantago lanceolata*) A, Viper's-bugloss (*Echium vulgare*) F, Weld (*Reseda luteola*) R, Yarrow (*Achillea millefolium*) F, Yorkshire-fog (*Holcus lanatus*) F | - |

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| **Target note ID** | **Phase 1 habitat** | **Priority habitat** | **Ancient Woodland / potential ancient woodland** | **Potential GWDTE** | **Site name** | **Date surveyed** | **Habitat description** | **Canopy** | **Shrub** | **Ground** | **Bryophyte** |
| 43 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 29/07/2020 | Broadleaved semi-natural woodland with narrow ditch around boundary but no bank. Canopy of even-aged mature pedunculate oak trees, with stands of elm trees. Western half feels older with large ash trees, several old field maple trees and two large hornbeam maiden trees. The ground flora is largely dominated by ivy and nettle, though there is false brome and hairy brome in the south-west corner. Not shown on first edition of OS map and considered to be not ancient woodland. | Ash (*Fraxinus excelsior*) F, Field Maple (*Acer campestre*) R, Hornbeam (*Carpinus betulus*) R, Pedunculate Oak (*Quercus robur*) D, Sycamore (*Acer pseudoplatanus*) R, Ulmus minor LF | Bramble (*Rubus fruticosus agg.*) O, Cherry Plum (*Prunus cerasifera*) R, Dog-rose (*Rosa canina s.s.*) R, Elder (*Sambucus nigra*) O, Field Maple (*Acer campestre*) F, Hawthorn (*Crataegus monogyna*) O, Hazel (*Corylus avellana*) R, Spindle (*Euonymus europaeus*) R, Ulmus minor F | Ash (*Fraxinus excelsior*) R, Cleavers (*Galium aparine*) R, Common Dog-violet (*Viola riviniana*) R, Common Ivy (*Hedera helix*) D, Common Nettle (*Urtica dioica*) D, Creeping Thistle (*Cirsium arvense*) R, Enchanter's-nightshade (*Circaea lutetiana*) R, False Brome (*Brachypodium sylvaticum*) LF, Garlic Mustard (*Alliaria petiolata*) LA, Greater Burdock (*Arctium lappa*) R, Ground-ivy (*Glechoma hederacea*) F, Hairy-brome (*Bromopsis ramosa*) R, Herb-Robert (*Geranium robertianum*) F, Lords-and-Ladies (*Arum maculatum*) R, Pendulous Sedge (*Carex pendula*) R, Red Campion (*Silene dioica*) O, Sweet Violet (*Viola odorata*) O, Thamnobryum alopecurum R, Wood Avens (*Geum urbanum*) R, Wood Dock (*Rumex sanguineus*) O | - |
| 44 | B2.2 Neutral grassland - semi-improved | - | - | - | - | 11/02/2020 | Fallow field reverted to grassland with abundant low-growing scrub and mosses. Western end dominated by wood false-brome, becoming poorer and ranker to east. | - | Blackthorn (*Prunus spinosa*) A, Hawthorn (*Crataegus monogyna*) A, Rosa canina agg. A | Agrimony (*Agrimonia eupatoria*) R, Cock's-foot (*Dactylis glomerata*) A, Common Bent (*Agrostis capillaris*) A, Common Knapweed (*Centaurea nigra s.s.*) R, Creeping Buttercup (*Ranunculus repens*) F, False Brome (*Brachypodium sylvaticum*) A, False Oat-grass (*Arrhenatherum elatius*) A, Hairy St John's-wort (*Hypericum hirsutum*) O, Wild Basil (*Clinopodium vulgare*) O, Wood-sedge (*Carex sylvatica*) R | - |
| 45 | A1.1.1 Broadleaved woodland - semi-natural | Wet Woodland | - | Potential GWDTE | - | 14/02/2020 | Alder and willow dominated woodland fringing lake. Ground vegetation where present dominated by common nettle. | Alder (*Alnus glutinosa*) F, Goat Willow (*Salix caprea*) R, Hybrid Black-poplar (*Populus deltoides x nigra = P. x canadensis*) R, Salix D | - | Common Nettle (*Urtica dioica*) D | - |
| 46 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 11/02/2020 | Secondary woodland on railway embankment, dominated by pedunculate oak. Area below Job's Wood colonised with woodland plants, including bluebell and primrose. | - | - | - | - |

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| **Target note ID** | **Phase 1 habitat** | **Priority habitat** | **Ancient Woodland / potential ancient woodland** | **Potential GWDTE** | **Site name** | **Date surveyed** | **Habitat description** | **Canopy** | **Shrub** | **Ground** | **Bryophyte** |
| 47 | A1.1.2 Broadleaved woodland - plantation | Lowland Mixed Deciduous Woodland | Potential ancient woodland | - | Job's Wood | 11/02/2020 | Likely ancient woodland, replanted with native broadleaved trees. Ground vegetation intact, with abundant ancient woodland indicator species. Boundary of wood with bank and ditch, and large old coppice stools. | Ash (*Fraxinus excelsior*) F, Hornbeam (*Carpinus betulus*) R, Pedunculate Oak (*Quercus robur*) F, White Willow (*Salix alba*) R, Wild Cherry (*Prunus avium*) F | Elder (*Sambucus nigra*) F, Field-rose (*Rosa arvensis*) R, Grey Willow (*Salix cinerea*) R, Hawthorn (*Crataegus monogyna*) F, Hazel (*Corylus avellana*) R, Rubus vestitus A | Barren Strawberry (*Potentilla sterilis*) R, Bluebell (*Hyacinthoides non-scripta*) A, Cleavers (*Galium aparine*) A, Common Nettle (*Urtica dioica*) A, Dog's Mercury (*Mercurialis perennis*) F, False Brome (*Brachypodium sylvaticum*) F, Garlic Mustard (*Alliaria petiolata*) R, Germander Speedwell (*Veronica chamaedrys*) R, Lesser Celandine (*Ficaria verna*) O, Lords-and-Ladies (*Arum maculatum*) F, Pignut (*Conopodium majus*) R, Primrose (*Primula vulgaris*) F, Rough Meadow-grass (*Poa trivialis*) F, Wood Avens (*Geum urbanum*) R, Wood Dock (*Rumex sanguineus*) F, Wood-sedge (*Carex sylvatica*) F | - |
| 48 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 13/02/2020 | Woodland garden, with stand of mature pedunculate oak trees, and willow and grey poplar trees by lake. Ground layer open and species-poor. | Hybrid Black-poplar (*Populus deltoides x nigra = P. x canadensis*), Pedunculate Oak (*Quercus robur*), Salix | - | - | - |
| 49 | A1.1.1 Broadleaved woodland - semi-natural | Wet Woodland | - | Potential GWDTE | - | 18/10/2019 | Broadleaved woodland dominated by white willow over former aggregate quarry. Trees naturalised but mostly quite young. Field layer dominated by common nettle. Most of woodland not accessed as landowner reported unsafe unstable ground. | - | - | - | - |
| 50 | B2.1 Neutral grassland - unimproved | - | - | - | - | 29/07/2020 | Small stand of more diverse rabbit-grazed grassland, with abundant agrimony, common knapweed, lesser stitchwort and meadow vetchling, and rare field scabious and wild basil. Sward dominated by red fescue and common bent, with frequent false oat-grass. Vegetation referrable to MG1e. | - | - | - | - |

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| **Target note ID** | **Phase 1 habitat** | **Priority habitat** | **Ancient Woodland / potential ancient woodland** | **Potential GWDTE** | **Site name** | **Date surveyed** | **Habitat description** | **Canopy** | **Shrub** | **Ground** | **Bryophyte** |
| 51 | A1.1.1 Broadleaved woodland - semi-natural | Wet Woodland | - | Potential GWDTE | - | 14/02/2020 | Narrow fringe of woodland around fishing lake, with alder and willow dominating around lake edge and pedunculate oak higher up banks. A strip of species-poor grassland forms a buffer between the woodland and surrounding arable land. | Alder (*Alnus glutinosa*) D, Ash (*Fraxinus excelsior*) R, Pedunculate Oak (*Quercus robur*) F, Salix D | Cherry Plum (*Prunus cerasifera*) R, Dewberry (*Rubus caesius*) R, Hawthorn (*Crataegus monogyna*) F, Rosa canina agg. F, Rubus ulmifolius O, Wild Privet (*Ligustrum vulgare*) R | Pendulous Sedge (*Carex pendula*) R, Wood Avens (*Geum urbanum*) R | - |
| 52 | A1.1.2 Broadleaved woodland - plantation | Lowland Mixed Deciduous Woodland | Potential ancient woodland | - | Whitegate Grove | 11/02/2020 | Woodland replanted with broadleaved trees. Ground flora with abundant bluebells. Not accessed for survey as outside study area, viewed from track. | - | - | - | - |
| 53 | A1.1.1 Broadleaved woodland - semi-natural | Wet Woodland | Potential ancient woodland | Potential GWDTE | Whitegate Grove | 12/02/2020 | Wet woodland below terrace toward bottom of slope. Mixed canopy with open canopy of willows by reservoir, and stand of large old alder trees to north. Around reservoir, ground layer dominated by tall-herb fen, referrable to NVC community W2. Drier area toward north, with visible discrete springs. | Alder (*Alnus glutinosa*) F, Ash (*Fraxinus excelsior*) O, White Willow (*Salix alba*) F | Grey Willow (*Salix cinerea*) R | Common Nettle (*Urtica dioica*) A, Common Reed (*Phragmites australis*) A, Greater Pond-sedge (*Carex riparia*) A, Hemp-agrimony (*Eupatorium cannabinum*) F, Wild Angelica (*Angelica sylvestris*) R, Yellow Iris (*Iris pseudacorus*) R | - |
| 54 | A1.3.2 Mixed woodland - plantation | Lowland Mixed Deciduous Woodland | Ancient Woodland Inventory site | - | Titbeech Wood | 12/02/2020 | Replanted ancient woodland with largely intact ground flora. Whole wood not surveyed due to time constraints, only area along the stream along the northern boundary walked. | Beech (*Fagus sylvatica*) R, Larches (*Larix*) O, Norway Spruce (*Picea abies*) F, Pedunculate Oak (*Quercus robur*) F, Scots Pine (*Pinus sylvestris*) F, Wild Cherry (*Prunus avium*) R | Black Currant (*Ribes nigrum*) R, Field-rose (*Rosa arvensis*) R, Goat Willow (*Salix caprea*) R, Hazel (*Corylus avellana*) O, Rubus vestitus A, Wilson's Honeysuckle (*Lonicera nitida*) R | Bluebell (*Hyacinthoides non-scripta*) A, Broad Buckler-fern (*Dryopteris dilatata*) R, Cleavers (*Galium aparine*) A, Common Nettle (*Urtica dioica*) D, Dog's Mercury (*Mercurialis perennis*) F, Ground-ivy (*Glechoma hederacea*) F, Hairy St John's-wort (*Hypericum hirsutum*) R, Hedge Woundwort (*Stachys sylvatica*) R, Lesser Celandine (*Ficaria verna*) O, Lords-and-Ladies (*Arum maculatum*) F, Pendulous Sedge (*Carex pendula*) F, Primrose (*Primula vulgaris*) O, Red Campion (*Silene dioica*) F, Tufted Hair-grass (*Deschampsia cespitosa*) O, Wood-sedge (*Carex sylvatica*) R | - |
| 55 | J1.1 Cultivated/disturbed land - arable | Arable Field Margins | - | - | - | 12/02/2020 | Cultivated strip approximately 5m in width around main arable crop, presumed sown for nature conservation, with abundant corn cockle and Anthemis sp. | - | - | - | - |

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| **Target note ID** | **Phase 1 habitat** | **Priority habitat** | **Ancient Woodland / potential ancient woodland** | **Potential GWDTE** | **Site name** | **Date surveyed** | **Habitat description** | **Canopy** | **Shrub** | **Ground** | **Bryophyte** |
| 56 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | Potential ancient woodland | - | The Grove (*2*) | 12/02/2020 | Mixed broadleaved woodland, comprised of hornbeam and ash coppice with pedunculate oak standards. External ditch and low bank around boundary, with plantations to north and south-west. Large small-leaved lime tree on northern bank. | Ash (*Fraxinus excelsior*) O, Field Maple (*Acer campestre*) R, Hornbeam (*Carpinus betulus*) F, Pedunculate Oak (*Quercus robur*) D, Small-leaved Lime (*Tilia cordata*) R | Elder (*Sambucus nigra*) R, Hawthorn (*Crataegus monogyna*) F, Hazel (*Corylus avellana*) R, Holly (*Ilex aquifolium*) R, Honeysuckle (*Lonicera periclymenum*) O, Hornbeam (*Carpinus betulus*) F, Midland Hawthorn (*Crataegus laevigata*) F, Rubus vestitus O, Spurge-laurel (*Daphne laureola*) R, Wild Privet (*Ligustrum vulgare*) R | Bluebell (*Hyacinthoides non-scripta*) D, Cleavers (*Galium aparine*) A, Common Ivy (*Hedera helix*) O, Common Nettle (*Urtica dioica*) O, Daffodils (*Narcissus*) R, Dog's Mercury (*Mercurialis perennis*) O, Ground-ivy (*Glechoma hederacea*) F, Lords-and-Ladies (*Arum maculatum*) F, Red Campion (*Silene dioica*) R, Rough Meadow-grass (*Poa trivialis*) F, Snowdrop (*Galanthus nivalis*) R, Three-nerved Sandwort (*Moehringia trinervia*) R, Wood Dock (*Rumex sanguineus*) O | Kindbergia praelonga A, Mnium hornum F |
| 57 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | Potential ancient woodland | - | Church Hills | 12/02/2020 | Mixed oak woodland, with oak standards and hazel and ash coppice. | Ash (*Fraxinus excelsior*) F, Pedunculate Oak (*Quercus robur*) D | Ash (*Fraxinus excelsior*) F, Field Maple (*Acer campestre*) F, Hazel (*Corylus avellana*) F, Midland Hawthorn (*Crataegus laevigata*) R | Bluebell (*Hyacinthoides non-scripta*) A, Cleavers (*Galium aparine*) F, Common Nettle (*Urtica dioica*) F, Garlic Mustard (*Alliaria petiolata*) O, Greater Stitchwort (*Stellaria holostea*) R, Ground-ivy (*Glechoma hederacea*) F, Lesser Celandine (*Ficaria verna*) F, Lords-and-Ladies (*Arum maculatum*) F, Red Campion (*Silene dioica*) F, Rough Meadow-grass (*Poa trivialis*) O, Wood Dock (*Rumex sanguineus*) F, Yorkshire-fog (*Holcus lanatus*) O | - |

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| 58 | B1.2 Acid grassland - semi-improved | - | - | - | - | 09/10/2019 | Lawn with very short patchy sward with numerous large and small open areas with bare ground and abundant bryophytes and calcifuges. Likely rabbit-grazed as well as mown. Sward dominated by common bent with abundant field woodrush, and frequent common sorrel, mouse-ear hawkeed and yarrow, and occasional common bird's-foot-trefoil. Sheep's-fescue and sheep's sorrel in open areas. Small population of hybrid cinquefoil toward house. Not priority habitat. | - | - | - | - |
| 59 | A1.1.1 Broadleaved woodland - semi-natural | Wet Woodland | - | Potential GWDTE | - | 29/07/2020 | Small stand of secondary woodland along River Ter, with canopy of alder, ash and grey willow, and mature white willow extending up watercourse to north | - | - | - | - |
| 60 | - | Wood-Pasture and Parkland | - | - | Boreham Place | 09/10/2019 | Borehanm Place. Mosaic of grassland types with scattered trees. | - | - | - | - |
| 61 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 12/02/2020 | Small stand of woodland in field corner, dominated by semi-mature ash trees. Abundant dog's-mercury in ground vegetation. Appears to be of relatively recent origin, perhaps grown out of former hedgerow. | Ash (*Fraxinus excelsior*) D | - | Common Ivy (*Hedera helix*) D, Dog's Mercury (*Mercurialis perennis*) D, Ground-ivy (*Glechoma hederacea*) F, Lesser Celandine (*Ficaria verna*) F | - |
| 62 | B5 Marsh/marshy grassland | - | - | Potential GWDTE | - | 29/07/2020 | Marshy grassland in low-lying area next to recently clear-felled area, dominated by rushes with abundant wetland tall-herbs. | - | - | Cleavers (*Galium aparine*) F, Common Comfrey (*Symphytum officinale*) A, Common Nettle (*Urtica dioica*) O, Common Ragwort (*Senecio jacobaea*) A, Creeping Buttercup (*Ranunculus repens*) A, Creeping Thistle (*Cirsium arvense*) A, False Fox-sedge (*Carex otrubae*) A, Giant Fescue (*Schedonorus giganteus*) R, Great Willowherb (*Epilobium hirsutum*) F, Greater Pond-sedge (*Carex riparia*) F, Ground-ivy (*Glechoma hederacea*) R, Gypsywort (*Lycopus europaeus*) R, Hairy Sedge (*Carex hirta*) F, Hairy Tare (*Vicia hirsuta*) A, Hard Rush (*Juncus inflexus*) F, Hedge Bindweed (*Calystegia sepium*) R, Helminthotheca echioides F, Jointed Rush (*Juncus articulatus*) R, Pendulous Sedge (*Carex pendula*) R, Red Campion (*Silene dioica*) O, Rough Meadow- | - |

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| | | | | | | | | | | grass (*Poa trivialis*) A, Selfheal (*Prunella vulgaris*) O, Soft-rush (*Juncus effusus*) A, Square-stalked St John's-wort (*Hypericum tetrapterum*) A, Water Figwort (*Scrophularia auriculata*) O, Water Mint (*Mentha aquatica*) A, Wood Dock (*Rumex sanguineus*) A, Yorkshire-fog (*Holcus lanatus*) A | |
| 63 | - | Wood-Pasture and Parkland | - | - | Berwick Place | 15/10/2019 | Improved pasture with scattered trees, some dead, mostly broadleaved with one cedar of Lebanon and a pine. Stand of mature well-browsed hawthorn along western edge. | - | - | - | - |
| 64 | B1.2 Acid grassland - semi-improved | - | - | - | - | 29/07/2020 | Small stand of rank grassland, with harebell, hybrid cinquefoil, lesser stitchwort, germander speedwell, spike sedge, dominated by common bent, creeping soft grass and lesser timothy | - | - | - | - |
| 65 | J1.1 Cultivated/disturbed land - arable | Arable Field Margins | - | - | - | 12/02/2020 | Cultivated strip approximately 5m in width around main arable crop, presumed sown for nature conservation, with abundant corn cockle and Anthemis sp. | - | - | Corncockle (*Agrostemma githago*) A, Cow Parsley (*Anthriscus sylvestris*) A | - |
| 66 | J1.2 Cultivated/disturbed land - amenity grassland | Wood-Pasture and Parkland | - | - | Crix House | 00/01/1900 | Improved grassland with scattered veteran pedunculate oak trees | - | - | - | - |
| 67 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | Potential ancient woodland | - | Sandpit Wood | 09/10/2019 | Mixed ash woodland. Not accessed due to gamebirds and presence of keeper, but appeared similar in structure and presence of ancient woodland indicators to woodland to west. | - | - | - | - |

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| **Target note ID** | **Phase 1 habitat** | **Priority habitat** | **Ancient Woodland / potential ancient woodland** | **Potential GWDTE** | **Site name** | **Date surveyed** | **Habitat description** | **Canopy** | **Shrub** | **Ground** | **Bryophyte** |
| 68 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | Potential ancient woodland | - | Bishop's Wood | 28/07/2020 | Broadleaved semi-natural woodland with boundary bank on all sides, including along track separating woodland from Brewhouse Wood to the west. Mixed canopy of ash, hornbeam and pedunculate oak, with many large old hornbeam maiden trees and coppice stools. | Ash (*Fraxinus excelsior*) A, Hornbeam (*Carpinus betulus*) A, Lawson's Cypress (*Chamaecyparis lawsoniana*) R, Pedunculate Oak (*Quercus robur*) F, Salix fragilis s.l. R, Sweet Chestnut (*Castanea sativa*) R | Blackthorn (*Prunus spinosa*) O, Elder (*Sambucus nigra*) O, Hawthorn (*Crataegus monogyna*) O, Hazel (*Corylus avellana*) F, Midland Hawthorn (*Crataegus laevigata*) R, Rosa canina agg. R, Rosa stylosa x canina = R. x andegavensis (*f x m*) R, Spindle (*Euonymus europaeus*) R, Wych Elm (*Ulmus glabra*) R | Bluebell (*Hyacinthoides non-scripta*) O, Bracken (*Pteridium aquilinum*) R, Bugle (*Ajuga reptans*) R, Cleavers (*Galium aparine*) R, Cock's-foot (*Dactylis glomerata*) R, Common Dog-violet (*Viola riviniana*) O, Common Ivy (*Hedera helix*) O, Common Nettle (*Urtica dioica*) LA, Cow Parsley (*Anthriscus sylvestris*) R, Creeping Buttercup (*Ranunculus repens*) R, Creeping Soft-grass (*Holcus mollis*) R, Creeping-Jenny (*Lysimachia nummularia*) R, Dog's Mercury (*Mercurialis perennis*) A, Enchanter's-nightshade (*Circaea lutetiana*) F, False Oat-grass (*Arrhenatherum elatius*) R, Grey Sedge (*Carex divulsa*) R, Ground-ivy (*Glechoma hederacea*) O, Hedge Woundwort (*Stachys sylvatica*) R, Hogweed (*Heracleum sphondylium*) R, Lords-and-Ladies (*Arum maculatum*) R, Meadowsweet (*Filipendula ulmaria*) R, Mnium hornum LA, Primrose (*Primula vulgaris*) R, Red Campion (*Silene dioica*) F, Rough Meadow-grass (*Poa trivialis*) F, Rubus vestitus DAFOR, Water Mint (*Mentha aquatica*) R, Water-pepper (*Persicaria hydropiper*) R, Wood Avens (*Geum urbanum*) R, Wood Dock (*Rumex sanguineus*) O, Wood Speedwell (*Veronica montana*) R | - |
| 69 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | Potential ancient woodland | - | Long Wood | 09/10/2019 | Mixed broadleaved woodland, of two stand types. Northern half likely secondary or regrowth following clearfelling, with canopy dominated by young ash, shrub layer dominated by hawthorn and elder and field layer by bramble. Southern half appeared longer established, dominated by mature hornbeam trees with very open species-poor field layer. Wood used for rearing gamebirds, with pheasant pens and duck pond. | - | - | - | - |

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| **Target note ID** | **Phase 1 habitat** | **Priority habitat** | **Ancient Woodland / potential ancient woodland** | **Potential GWDTE** | **Site name** | **Date surveyed** | **Habitat description** | **Canopy** | **Shrub** | **Ground** | **Bryophyte** |
| 70 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | Potential ancient woodland | - | Brewhouse Wood | 28/07/2020 | Broadleaved semi-natural woodland with boundary bank on all sides, including along track separating woodland from Bishop's Wood to the east. Mixed canopy of ash, hornbeam and pedunculate oak, with many large old hornbeam maiden trees and coppice stools. Boundary bank with large ash coppice stools and frequent hazel stools. There is a pond in the western part of the wood, which looks rather polluted by wildfowl. The site is used to raise pheasants and ducks. | Ash (*Fraxinus excelsior*) A, Hornbeam (*Carpinus betulus*) F, Pedunculate Oak (*Quercus robur*) O, Wild Cherry (*Prunus avium*) R | Blackthorn (*Prunus spinosa*) LA, Dogwood (*Cornus sanguinea*) R, Elder (*Sambucus nigra*) R, Field Maple (*Acer campestre*) O, Goat Willow (*Salix caprea*) R, Hawthorn (*Crataegus monogyna*) F, Hazel (*Corylus avellana*) F, Holly (*Ilex aquifolium*) R, Midland Hawthorn (*Crataegus laevigata*) O, Spindle (*Euonymus europaeus*) R, Ulmus minor O | Atrichum undulatum R, Black Bryony (*Tamus communis*) R, Bluebell (*Hyacinthoides non-scripta*) A, Cock's-foot (*Dactylis glomerata*) R, Common Dog-violet (*Viola riviniana*) O, Common Ivy (*Hedera helix*) R, Common Nettle (*Urtica dioica*) O, Cow Parsley (*Anthriscus sylvestris*) R, Creeping Thistle (*Cirsium arvense*) R, Dog's Mercury (*Mercurialis perennis*) A, Enchanter's-nightshade (*Circaea lutetiana*) O, Field-rose (*Rosa arvensis*) R, Fissidens taxifolius R, Ground-ivy (*Glechoma hederacea*) F, Hedge Woundwort (*Stachys sylvatica*) R, Hogweed (*Heracleum sphondylium*) R, Holly (*Ilex aquifolium*) R, Honeysuckle (*Lonicera periclymenum*) R, Hop (*Humulus lupulus*) R, Male-fern (*Dryopteris filix-mas*) R, Mnium hornum LA, Nipplewort (*Lapsana communis*) R, Plagiomnium undulatum R, Primrose (*Primula vulgaris*) R, Red Campion (*Silene dioica*) F, Red Currant (*Ribes rubrum*) R, Remote Sedge (*Carex remota*) R, Rough Meadow-grass (*Poa trivialis*) F, Rubus vestitus DAFOR, Three-nerved Sandwort (*Moehringia trinervia*) R, Wood Avens (*Geum urbanum*) R, Wood Dock (*Rumex sanguineus*) O, Wood Speedwell (*Veronica montana*) O, Wood-sedge (*Carex sylvatica*) R, Yorkshire-fog (*Holcus lanatus*) R | - |

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| **Target note ID** | **Phase 1 habitat** | **Priority habitat** | **Ancient Woodland / potential ancient woodland** | **Potential GWDTE** | **Site name** | **Date surveyed** | **Habitat description** | **Canopy** | **Shrub** | **Ground** | **Bryophyte** |
| 71 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | Potential ancient woodland | Potential GWDTE | Spitman's Gardens | 28/07/2020 | Broadleaved semi-natural woodland with low bank and ditch around boundaries. Canopy of mature pedunculate oak and ash maiden trees and former ash coppice stools, and some hornbeam trees. There is an ancient field maple pollard on the southern boundary bank. Shrub layer with old hazel coppice stools. Most of the canopy in the west and north-east half of the site has been disturbed and is dominated by mature sycamore and the field layer dominated by bramble. Western half also disturbed, with canopy of younger trees but mature field maple and pedunculate oak remain on boundary. Ground layer with abundant common nettle and red campion in many areas, but ancient woodland species frequent throughout. Shallow valley in middle of northern half of wood appears to be a seasonal spring, with abundant pendulous and thin-spiked wood sedges, enchanter's-nightshade and wild angelica. No evidence of tree regeneration throughout. | Ash (*Fraxinus excelsior*) A, Hornbeam (*Carpinus betulus*) R, Pedunculate Oak (*Quercus robur*) O, Salix fragilis s.l. R, Sweet Chestnut (*Castanea sativa*) R, Sycamore (*Acer pseudoplatanus*) LA | apple (*Malus pumila*) R, Blackthorn (*Prunus spinosa*) R, Elder (*Sambucus nigra*) O, Field Maple (*Acer campestre*) F, Hawthorn (*Crataegus monogyna*) O, Hazel (*Corylus avellana*) O, Horse-chestnut (*Aesculus hippocastanum*) R, Midland Hawthorn (*Crataegus laevigata*) R, Ulmus minor O, Wild Cherry (*Prunus avium*) R, Wild Privet (*Ligustrum vulgare*) R, Wych Elm (*Ulmus glabra*) R | Ash (*Fraxinus excelsior*) R, Bittersweet (*Solanum dulcamara*) R, Bluebell (*Hyacinthoides non-scripta*) R, Climbing Corydalis (*Ceratocapnos claviculata*) R, Cock's-foot (*Dactylis glomerata*) R, Common Nettle (*Urtica dioica*) A, Cow Parsley (*Anthriscus sylvestris*) R, Creeping Thistle (*Cirsium arvense*) R, Dog's Mercury (*Mercurialis perennis*) A, Echinate Bramble (*Rubus echinatus*) R, Enchanter's-nightshade (*Circaea lutetiana*) R, False Brome (*Brachypodium sylvaticum*) R, False Oat-grass (*Arrhenatherum elatius*) LA, Field-rose (*Rosa arvensis*) R, Garlic Mustard (*Alliaria petiolata*) LA, Great Willowherb (*Epilobium hirsutum*) R, Ground-ivy (*Glechoma hederacea*) F, Hedge Woundwort (*Stachys sylvatica*) R, Hemlock (*Conium maculatum*) R, Herb-Robert (*Geranium robertianum*) R, Hogweed (*Heracleum sphondylium*) R, Lords-and-Ladies (*Arum maculatum*) R, Nipplewort (*Lapsana communis*) R, Pendulous Sedge (*Carex pendula*) LA, Red Campion (*Silene dioica*) A, Red Currant (*Ribes rubrum*) R, Rough Meadow-grass (*Poa trivialis*) F, Rubus ulmifolius R, Rubus vestitus DAFOR, Spear Thistle (*Cirsium vulgare*) R, Thin-spiked Wood-sedge (*Carex strigosa*) R, White Dead-nettle (*Lamium album*) R, Wild Angelica (*Angelica sylvestris*) R, Wood Avens (*Geum urbanum*) R, Wood Dock (*Rumex sanguineus*) R | - |
| 72 | A1.1.2 Broadleaved woodland - plantation | Lowland Mixed Deciduous Woodland | Ancient Woodland Inventory site | - | Topinghoehall Wood | 27/07/2017 | - | - | - | - | - |
| 73 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 10/10/2019 | Small oak wood in field corner, with large mature trees. | - | - | - | - |

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| **Target note ID** | **Phase 1 habitat** | **Priority habitat** | **Ancient Woodland / potential ancient woodland** | **Potential GWDTE** | **Site name** | **Date surveyed** | **Habitat description** | **Canopy** | **Shrub** | **Ground** | **Bryophyte** |
| 74 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 11/10/2019 | Secondary woodland on banks of former quarry. Majority of woodland dominated by oak, with open understorey dominated by hawthorn and species-poor field layer dominated by ivy. Better lit areas with abundant bramble. Steep banks in some locations around boundary with mature oak trees and richer calcifugous woodland flora, with ancient woodland species such as field rose and greater stitchwort. Area to west more artificial, with non-native trees. | - | - | - | - |
| 75 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 10/10/2019 | Trees and shrubs on banks of small sunken disused track, overgrown in places by nettles. | - | - | - | - |
| 76 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 11/10/2019 | Not accessed due to locked boundary fence. Mixed broadleaved woodland with ash the dominant canopy tree, with under storey dominated by hawthorn and field layer by common nettle and ground ivy. | - | - | - | - |
| 77 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | - | - | - | 10/10/2019 | Grown out field boundary with large shrubs billowing out into field and several large ash and oak trees. Scrubby areas dominated by blackthorn, with elder and hawthorn. One large small-leaved lime tree. | - | - | - | - |
| 78 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | Potential ancient woodland | - | Porter's Grove | 13/02/2020 | Narrow stand of old hornbeam coppice and along stream, with hazel stools and hornbeam and mature pedunculate oak trees along stream. Viewed from bank to west during survey. | Hornbeam (*Carpinus betulus*) D, Pedunculate Oak (*Quercus robur*) F | Hazel (*Corylus avellana*) F, Holly (*Ilex aquifolium*) R | - | - |
| 79 | A2.1 Scrub - dense/continuous | Wet Woodland | Potential ancient woodland | Potential GWDTE | The Grove (*2*) | 13/02/2020 | Scrub dominated by grey willow in low-lying very wet area by stream. Kept clear of trees due to overhead lines. | Ash (*Fraxinus excelsior*) R, Salix R | Grey Willow (*Salix cinerea*) D, Hazel (*Corylus avellana*) F | Thin-spiked Wood-sedge (*Carex strigosa*) A | - |
| 80 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | Potential ancient woodland | - | The Grove (*2*) | 13/02/2020 | Secondary or heavily disturbed/modified woodland dominated by ash and sycamore, lacking the coppice-with-standards structure and ancient woodland plants of woodland in south-western corner of larger block of broadleaved woodland. Very open shrub layer and ground vegetation with abundant ivy and common nettle. | - | - | - | - |

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| **Target note ID** | **Phase 1 habitat** | **Priority habitat** | **Ancient Woodland / potential ancient woodland** | **Potential GWDTE** | **Site name** | **Date surveyed** | **Habitat description** | **Canopy** | **Shrub** | **Ground** | **Bryophyte** |
| 81 | A1.1.1 Broadleaved woodland - semi-natural | Lowland Mixed Deciduous Woodland | Potential ancient woodland | - | The Grove (*2*) | 13/02/2020 | Mixed ash woodland, with ash and pedunculate oak standards and large hazel stools. Bank and ditch around western, southern and eastern boundaries, with large bank along southern. Part of site used for pheasant rearing. | Ash (*Fraxinus excelsior*) D, Field Maple (*Acer campestre*) F, Hornbeam (*Carpinus betulus*) R, Pedunculate Oak (*Quercus robur*) O, Sycamore (*Acer pseudoplatanus*) R | Common Ivy (*Hedera helix*) F, Elder (*Sambucus nigra*) F, Field Maple (*Acer campestre*) R, Goat Willow (*Salix caprea*) R, Gooseberry (*Ribes uva-crispa*) R, Hawthorn (*Crataegus monogyna*) F, Hazel (*Corylus avellana*) A, Honeysuckle (*Lonicera periclymenum*) R, Rubus vestitus F, Spindle (*Euonymus europaeus*) R, Traveller's-joy (*Clematis vitalba*) R, Ulmus R | Bluebell (*Hyacinthoides non-scripta*) R, Cleavers (*Galium aparine*) F, Common Nettle (*Urtica dioica*) F, Cow Parsley (*Anthriscus sylvestris*) F, Creeping Buttercup (*Ranunculus repens*) R, False Brome (*Brachypodium sylvaticum*) F, Garlic Mustard (*Alliaria petiolata*) R, Ground-ivy (*Glechoma hederacea*) F, Lesser Celandine (*Ficaria verna*) A, Lords-and-Ladies (*Arum maculatum*) F, Primrose (*Primula vulgaris*) O, Red Campion (*Silene dioica*) F, Rough Meadow-grass (*Poa trivialis*) A, Thin-spiked Wood-sedge (*Carex strigosa*) R, Three-nerved Sandwort (*Moehringia trinervia*) R, Water Figwort (*Scrophularia auriculata*) R, Wild Angelica (*Angelica sylvestris*) R, Wood-sedge (*Carex sylvatica*) O | Brachythecium rutabulum A, Kindbergia praelonga A, Thamnobryum alopecurum O |
| 82 | - | Wood-Pasture and Parkland | - | - | Boreham House | 14/09/2016 | - | - | - | - | - |