# A12 Chelmsford to A120 widening scheme

# TR010060

# 6.3 ENVIRONMENTAL STATEMENT

# APPENDIX 7.2 CULTURAL HERITAGE DESK BASED ASSESSMENT

Infrastructure Planning

Planning Act 2008

# A12 Chelmsford to A120 widening scheme
Development Consent Order 202[ ]

## ENVIRONMENTAL STATEMENT
## APPENDIX 7.2 CULTURAL HERITAGE DESK BASED ASSESSMENT

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## Contents

# Executive summary

This Desk Based Assessment (DBA) identifies and assesses cultural heritage assets that have the potential to be affected by the A12 Chelmsford to A120 widening scheme, hereafter referred to as the 'proposed scheme'. It was originally prepared in 2018 and has been updated to include the results of archaeological surveys carried out to inform Chapter 7: Cultural heritage, of the Environmental Statement [TR010060/APP/6.1].

This DBA provides the baseline information and an assessment of the value of heritage assets. The assessment was originally undertaken based on guidance provided by the Design Manual for Roads and Bridges (DMRB) Volume 11, Section 3, Part 2: Cultural Heritage (HA 208/07) (Highways Agency *et al.*, 2007). HA 208/07 was superseded in 2019 by DMRB LA 106 Cultural Heritage Assessment, which was itself revised in 2020 (Highways England 2020a), and elements of DMRB LA 104 Environmental Assessment and Monitoring (Highways England 2020b). Where appropriate and necessary, the value of designated cultural heritage assets has been adjusted to reflect the current guidance.

The area along the A12 has, in places, been extensively archaeologically investigated. Essex is a rich county archaeologically and the study area contains a range of high and medium value cultural heritage assets representing half a million years of occupation and settlement in this part of Essex. There are 946 cultural heritage assets within the baseline of the proposed scheme, comprising 462 archaeological sites and finds, 465 built heritage assets and 19 historic landscape types. Excluding chance finds of artefacts, there are 251 known non-designated archaeological sites within the 300m study area.

This DBA, as well as with previous archaeological work in the area, has identified a high potential for the presence of unknown buried archaeological remains which may be affected by the proposed scheme.

There are a number of cultural heritage assets which have the potential to be impacted upon as a result of the proposed scheme. These assets include a range of known archaeological sites of Prehistoric, Roman and medieval date, designated and non-designated historic buildings and other built heritage assets of medieval and post-medieval date, and designed landscapes such as Boreham House (Asset 67), Hatfield Priory (Asset 162) and Braxted Park and Gardens (Asset 480).

To improve the understanding of the cultural heritage baseline and the potential effects of the proposed scheme upon it, the following studies have been carried out and are presented as appendices to Chapter 7: Cultural heritage, of the Environmental Statement [TR010060/APP/6.3]:

- A specialist Palaeolithic Desk Based Assessment to confirm the extent and value of the buried deposits (Appendix 7.3).

- An Aerial Investigation and Mapping report which reviewed available aerial photographs and plotted the location and extent of cropmarks of potential archaeological origin (Appendix 7.4).

- A geophysical survey of all areas of offline development (including the site of offline structures, borrow pits and attenuation ponds) where ground conditions allowed (Appendices 7.5 and 7.6).

- Archaeological trial trenching of all areas of offline development where ground conditions and land access constraints allowed (Appendix 7.7).

- A Palaeolithic and Palaeoenvironmental Evaluation combining results of data gathered from test pits dug during the archaeological trial trenching, borehole transects, and specialist geophysical surveys (Appendix 7.8).

# 1      Introduction

1.1.1   National Highways (the Applicant) has submitted an application under section 37 of the Planning Act 2008 (the '2008 Act') to the Secretary of State for Transport via the Planning Inspectorate (the Inspectorate) for an order to grant development consent for the A12 Chelmsford to A120 widening scheme (the proposed scheme).

1.1.2   This Desk Based Assessment (DBA) identifies and assesses the value of cultural heritage assets that have the potential to be affected by construction and operation of the proposed scheme.

1.1.3   The proposed scheme comprises improvements to the A12 between junction 19 (Boreham interchange) and junction 25 (Marks Tey interchange), a distance of approximately 24km, or 15 miles. The proposed scheme involves widening the A12 to three lanes throughout (where it is not already three lanes) with a bypass between junctions 22 and 23 and a second bypass between junctions 24 and 25. It also includes safety improvements, including closing off existing private and local direct accesses onto the main carriageway, and providing alternative provision for walkers, cyclists and horse riders (WCH) to existing routes along the A12, which would be removed.

1.1.4   The purpose of the DBA is to:

- Collate and assess existing information about the archaeology of the study area and to determine as fully as possible the nature, survival, extent and value of any archaeological remains within the study area

- Provide an assessment of the archaeological potential and survival based on the above research

- Collate and assess existing information about standing historic buildings and conservation areas within the study area and assess their historical value

- Characterise the historic landscape of the study area and assess its value

1.1.5   The assessment was undertaken based on guidance provided by the Design Manual for Roads and Bridges (DMRB) Volume 11, Section 3, Part 2: Cultural Heritage (HA 208/07) (Highways Agency *et al*., 2007). This report was originally prepared in 2018 and subsequently HA 208/07 has been superseded by DMRB LA 106 Cultural Heritage Assessment (Highways England 2020a) and elements of DMRB LA 104 Environmental Assessment and Monitoring (Highways England 2020b). Where appropriate and necessary, the value of designated cultural heritage assets has been adjusted to reflect the current guidance.

# 2    Legislative and planning context

## 2.1    National

### National Policy Statement for National Networks

2.1.1    The National Networks National Policy Statement (NNNPS) (Department for Transport, 2014) sets out the Government's policies to deliver nationally significant infrastructure projects on the national road and rail networks in England. It provides a framework for the treatment of the historic environment in relation to nationally significant infrastructure projects.

2.1.2    The Historic Environment section of the NNNPS explains that any applicant should define the significance of any cultural heritage asset affected, including the contribution made to its setting. While acknowledging that a documentary record of our past is not as valuable as the assets themselves, the NNNPS confirms that an asset should be recorded in order to understand its significance before it is lost, either in whole or in part.

### Ancient Monuments and Archaeological Areas Act 1979 (amended by the National Heritage Act 1983 and 2002)

2.1.3    The Ancient Monuments and Archaeological Areas Act provides a legislative framework to designate and protect scheduled monuments.

### Planning (Listed Buildings and Conservation Areas) Act 1990

2.1.4    The Planning (Listed Buildings and Conservation Areas) Act 1990 sets out a framework to designate and protect grade I, II* and II listed buildings and conservation areas. In addition to the protection of the asset, its setting is also considered.

## 2.2    Regional

### Essex Transport Strategy: The Local Transport Plan for Essex

2.2.1    The Essex Transport Strategy produced by Essex County Council in 2011 sets out the vision for transport, policies for transport and approach to implementation. Policy 9 states that '*the County Council will protect the natural, historic and built environment from the harmful effects of transport'*.

## 2.3    Local

### Braintree District Publication Draft Local Plan (2017)

2.3.1    The Braintree District Local Plan was approved for consultation by the Council in June 2016. The Local Plan includes strategic policies for the wider area of North Essex as part of the Shared Strategic Plan and a specific vision and objectives for the Braintree District. The Local Plan has a range of policies which relate to the built and historic environment; those of particular note for cultural heritage are detailed below.

2.3.2    LPP 50: Built and Historic Environment; The Council will promote and secure the highest possible standards of design and layout in all new development and the protection and enhancement of the historic environment in order to:

a)    Respect and respond to the local context, especially in the District's historic areas, where development may affect the setting of listed buildings and other buildings of historic or architectural significance, conservation areas, registered parks and gardens and areas of high archaeological and landscape sensitivity including designated heritage assets

b)    Promote and encourage the contribution that heritage assets can make towards driving regeneration, economic development, tourism and leisure provision in the District

c)    Actively encourage local groups to formulate Local Lists of buildings and structures of historic or architectural significance

d)    Create built environments which are safe and accessible to everyone and which will contribute towards the quality of life in all towns and villages

e)    Create good quality built environments in commercial and business districts and in the public realm as well as in residential areas

f)    Be capable of meeting the changing future needs of occupiers

g)    Promote the sympathetic re-use of buildings, particularly where they make a positive contribution to the delivery of sustainable development and regeneration.

2.3.3    LPP 55: Layout and Design of Development; The Council will seek a high standard of layout and design in all developments in the District and encourage innovative design where appropriate. Planning permission will be granted where the relevant following criteria are met:

5)    Designs shall be sensitive to the need to conserve local features of architectural, historic and landscape importance, particularly within Conservation Areas and in proximity to heritage assets.

2.3.4    LPP 56: Conservation Areas; The Council will encourage the preservation and enhancement of the character and appearance of designated Conservation Areas and their settings. These include the buildings, open spaces, landscape and historic features and views into, out from and within the constituent parts of designated areas. Built or other development within or adjacent to a Conservation Area and affecting its setting will be permitted provided that all the following criteria are met:

a)    Where the proposal enhances the character, appearance and essential feature of the Conservation Area or its setting

b)    Details of existing buildings which make a positive contribution to the character and appearance of the Conservation Area will be retained

c)    Building materials are of high quality and appropriate to the local context.

2.3.5    LPP 60: Heritage Assets and their Settings; Development of internal, or external alterations, or extensions, to a listed building or listed structure (including any

structures defined as having equivalent status due to being situated within the curtilage of a listed building and locally listed heritage assets) and changes of use will be permitted when all the following criteria are met:

a) The works or uses do not harm the significance of the setting, character, structural stability, and fabric of the building or structure

b) The works or uses do not result in substantial harm, or damage to the building or structures historic and architectural elements which are considered to be of significance or special importance

c) The works or uses include the use of appropriate materials and finishes

d) The application submitted contains details of the significance of the heritage asset, within a Heritage Statement which should include any contribution made by their setting e. There may be a requirement for appropriate specialist recording to be carried out prior to the change of use, demolition or conversion of a listed building or associated historic building

2.3.6 The Council will seek to preserve and enhance the immediate settings of heritage assets by appropriate control over the development, design and use of adjoining land.

2.3.7 LPP 63: Archaeological Evaluation, Excavation and Recording:

- Where important archaeological remains are thought to be at risk from development, or if the development could impact on a Scheduled Monument or Historic Park and Garden, the developer will be required to arrange for an archaeological evaluation of the site to be undertaken and submitted as part of the planning application. The Essex Historic Environment Record should be the primary source for assessment for archaeological potential. The evaluation will assess the character, significance and extent of the archaeological remains and will allow an informed decision to be made on the planning application. Such assessments should be proportionate to the importance of the site and a programme of archaeological investigation may be necessary for sites likely to contain significant archaeology.

- Planning permission will not be granted if the remains identified are of sufficient importance to be preserved in situ and cannot be so preserved in the context of the development proposed, taking account of the necessary construction techniques to be used.

- Where archaeological potential is identified but there is no overriding case for any remains to be preserved in situ, development which would destroy or disturb potential remains will be permitted, subject to conditions ensuring an appropriate programme of archaeological investigation, recording, reporting and archiving prior to development commencing. There will be a requirement to make the result of these investigations publicly accessible.

### Colchester Borough Council Adopted Local Plan 2001 – 2021

2.3.8    The Colchester Borough Council Adopted Local Plan (Colchester Borough
Council, 2008) includes various documents which are intended to plan for the
future of the borough up to 2021. This includes the Core Strategy (adopted in
2008) which contains the following policies:

- DP14: Historic Environment Assets. This policy sets out the principles that
development will not be permitted that adversely affects a listed building, a
conservation area or other asset. The policy also states that sufficient
information needs to be provided to assess the impacts of development
proposals in historic environment assets. Specific reference is also made
to the significance of Colchester as a historic town, and as such there is
policy in place which details the need to protect and enhance the historic
environment. It is the preferred option where possible to favour
preservation in situ for remains of national importance.

- UR2: Built Design and Character. This policy sets out the principles that all
development design should be informed by context appraisals, and that
developments that fail to enhance the character, quality and function of an
area will not be supported. It states that buildings, conservation areas,
archaeological sites, parklands, views, the river, and other features that
contribute positively to the historic and distinctive character of Colchester
will be protected from demolition, and inappropriate development.
Archaeological assessments will be required on development sites where
there are known archaeological deposits, or where there is a high potential
for unknown remains. An emphasis is placed on preservation of
archaeological remains in situ.

### Chelmsford Local Plan 2013 to 2036 (Adopted May 2020)

2.3.9    The Chelmsford Local Plan 2013 to 2036 sets out the Borough Council's
strategy and policies relating to the historic environment.

2.3.10   Strategic Policy S3: Conserving and Enhancing the Historic Environment:

- The Council will conserve and where appropriate enhance the historic
environment recognising the positive contribution it makes to the character
and distinctiveness of Chelmsford through the diversity and quality of
heritage assets. This includes wider social, cultural, economic and
environmental benefits.

- The Council will designate and keep under review Conservation Areas in
order to preserve or enhance their special architectural or historic interest
with an emphasis on retaining and where appropriate improving the
buildings and/or features that make a positive contribution to their
character or appearance.

- The Council will conserve or enhance the significance (including any
contribution made by its setting) of Listed Buildings, Scheduled
Monuments and Registered Parks and Gardens with an emphasis on
preserving and where appropriate enriching the social, cultural, economic
and environmental benefits that these heritage assets provide.

- The Council will seek the protection, conservation, and where appropriate and important to their significance, re-use and/or enhancement of historic places and sites on the Heritage at Risk Register and the local buildings at risk register.

- When assessing applications for development, the Council will place great weight on the preservation or enhancement of designated heritage assets and their setting. The Council will encourage applicants to put heritage assets to viable and appropriate use, to secure their future preservation and where appropriate enhancement, as appropriate to their significance. Policy DM13 sets out how the Council will consider proposals affecting the different types of designated heritage assets and their significance.

- The Council will seek to conserve and where appropriate enhance the significance of non-designated heritage assets and their settings, which includes buildings, structures, features, gardens of local interest and protected lanes. Policy DM14 sets out the Council's approach to the protection and retention of these assets. Chelmsford contains a number of sites of archaeological importance. As set out in Policy DM15, the Council will seek the preservation and where appropriate enhancement of sites and their setting of archaeological interest.

2.3.11    Policy DM13: Designated Heritage Assets:

a)  The impact of any development proposal on the significance of a designated heritage asset or its setting, and the level of any harm, will be considered against any public benefits arising from the proposed development. Where there is substantial harm or total loss of significance of the designated heritage asset, consent will be refused unless it can be demonstrated that the substantial harm or loss is necessary to achieve substantial public benefits that outweigh that harm or loss; or all of the following apply:

  i.    the nature of the heritage asset prevents all reasonable uses of the site

  ii.   use of the asset is not viable in itself in the medium term, or not demonstrably possible in terms of grant funding

  iii.  the harm or loss is outweighed by bringing the site back into use

  Where there is less than substantial harm to the heritage asset this will be weighed against the public benefits of the development proposal, including securing the optimum viable use of the heritage asset.

  The Council will take account of the desirability of sustaining and enhancing the significance of heritage assets and the positive contribution that conservation of heritage assets can make to sustainable communities, local character and distinctiveness.

b)  Listed Buildings - In addition to Part a) the Council will preserve Listed Buildings and will permit proposals where:

    i.    any extension/alteration would not adversely affect its significance as a building of special architectural or historic interest, both internally and externally

    ii.   development within the setting of a listed building would not adversely affect the significance of the listed building, including views to and from the building, landscape or townscape character, land use and historic associations

    iii.   any change of use would preserve its significance as a building of special architectural or historic interest and ensure its continued use

c) Conservation Areas- - in addition to Part a) development will be permitted in Conservation Areas where:

    i.    the siting, design and scale would preserve or enhance the character or appearance of the area

    ii.   building materials and finishes are appropriate to the local context

    iii.   features which contribute to the character of the area are retained

    iv.   important views are preserved

Development involving demolition or substantial demolition will only be granted if it can be demonstrated that:

    v.    the structure to be demolished makes no contribution to the special character or appearance of the area

    vi.   it can be demonstrated that the structure is beyond repair or incapable of beneficial use

    vii.   the substantial public benefit would outweigh the harm

    viii.  it can be demonstrated that the removal of the structure would lead to the enhancement of the Conservation Area

d) Registered Parks and Gardens - development proposals should protect Registered Parks and Gardens and their settings. Harm should be assessed in accordance with the tests within Part a) of this policy.

e) Scheduled Monuments - development proposals should protect Scheduled Monuments and their settings. Harm should be assessed in accordance with the tests within Part A) of this policy.

2.3.12    Policy DM14: Non-Designated Heritage Assets - proposals will be permitted where they retain the significance of a non-designated heritage asset, including its setting. Where proposals would lead to harm to the significance of a non-designated heritage asset or its loss, proposals should demonstrate that:

    i.    the level of harm or loss is justified following a balanced judgement of harm and the significance of the asset

    ii.   harm is minimised through retention of features of significance and/or good design and/or mitigation measures

2.3.13    Policy DM15: Archaeology - planning permission will be granted for development affecting archaeological sites providing it protects, enhances or preserves sites of archaeological interest and their settings. Applications shall have assessed the site in consultation with the Historic Environment Record and taken account of the archaeological importance of those remains, the need for the development, the likely extent of any harm, and the likelihood of the proposal successfully preserving the archaeological interest of the site by record.

**Maldon District Local Development Plan 2014 – 2029**

2.3.14    The Local Development Plan sets out the planning strategy for future growth over the next 15 years. Those of relevance to cultural heritage are detailed below:

2.3.15    Policy D1: All developments must respect and enhance the local character and context of the historic environment, particularly in relation to designated and non-designated heritage assets.

2.3.16    Policy D3: All development proposals that affect a heritage asset (both designated and non-designated) and its setting will be required to preserve or enhance its special character and/or setting, and submit a heritage statement which will explain the significance of the heritage asset and the impact of development proposals upon the given asset. Change of use, extensions, additions, alterations and demolition (partial or total) to any heritage asset or building within a conservation area will only be permitted if the Council is satisfied that the proposal would not harm the asset, building, setting and/or any features that contribute to their special interest, or should the public benefits of the proposal outweigh the loss or harm to the heritage asset or building. In all cases where development might affect archaeological or built heritage, a suitable heritage or historic environment assessment must be undertaken.

2.3.17    Policy E5: The Council will support developments which contribute positively to the growth of local tourism in a sustainable manner and realise opportunities that arise from the District's landscape, heritage and built environment. Development for new tourist attractions, facilities and accommodation will be supported across the District where it can be demonstrated that:

- Any adverse impact on the natural and historic environment should be avoided wherever possible. Where an adverse impact is unavoidable, the proposal should clearly indicate how the adverse impacts will be effectively mitigated to the satisfaction of the Council and relevant statutory agencies. Where a development is deemed relevant to internationally and nationally designated sites, the Council will need to be satisfied that a project level HRA has been undertaken and that no potential significant adverse impact has been identified.

## 2.4     Good practice and guidance

2.4.1     In addition to the guidance provided by HA 208/07, the following best practice guidance was also taken into account:

- Chartered Institute for Archaeologists (2014a), Code of Conduct

- Chartered Institute for Archaeologists (2017a), Standard and guidance for Historic Environment Desk Based Assessment

- Chartered Institute for Archaeologists (2014b), Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment

- English Heritage (2008), Conservation Principles, Policies and Guidance

- Historic Environment Good Practice Advice in Planning 2: Managing Significance in Decision-Taking in the Historic Environment (Historic England, 2015)

- Historic Environment Good Practice Advice in Planning 3: The Setting of Heritage Assets (Second Edition) (Historic England, 2017b)

**Regional research framework**

2.4.2     Regional Research Frameworks were developed by English Heritage (now Historic England) in collaboration with local authorities in order to provide an effective yet flexible structure for decision making regarding archaeological research. The contribution a cultural heritage asset makes to our understanding of the historic environment through its input into such research topics is an important consideration in assessing the value of a cultural heritage asset.

2.4.3     The East of England Regional Research Framework which includes Essex, was reviewed in 2011. The review considers evidence from archaeological excavation, other fieldwork and research on a period-by-period basis, subdivided within each period into an assessment of key projects undertaken since 2000. The review provides an assessment of progress on research topics and a consideration of future research topics (Medlycott, 2011).

# 3      Methodology

## 3.1      General methodology

3.1.1      The following matters have been considered:

- Archaeological remains – the material remains of human activity from the earliest periods of human evolution to the present. These may be buried traces of human activities, sites visible above ground, or moveable artefacts.

- Historic buildings – architectural or designed or other structures with a significant historical value. These may include structures that have no aesthetic appeal or structures not usually thought of as 'buildings', such as milestones or bridges.

- Historic landscape – the current landscape, whose character is the result of the action and interaction of natural and/or human factors. The evidence of past human activities is a significant part of the historic landscape and may derive both from archaeological remains and historic buildings within it.

3.1.2      Collectively, the individual sites, buildings, landscapes or other remains that make up the three matters are known as cultural heritage assets. The wider surroundings of any cultural heritage asset (i.e. its setting) can significantly contribute to its heritage value. The nature and extent of the feature's setting is not fixed and can change over time as the asset and its setting evolve (Historic England, 2017).

## 3.2      Study area and data gathering

3.2.1      A 300m study area has been applied to all heritage assets, which is considered appropriate to assess the potential physical and setting impacts on designated and non-designated assets.

3.2.2      The assessment has also considered a wider study area of 1km from the Order Limits for impacts on the settings of designated heritage assets, comprising scheduled monuments, listed buildings (all grades), registered battlefields, registered parks and gardens, and conservation areas.

3.2.3      Beyond 1km, a selection of heritage assets has been assessed for setting impacts based on professional judgement, informed by the Zone of Theoretical Visibility and viewpoint analysis provided in Chapter 8: Landscape and visual, of the Environmental Statement [TR010060/APP/6.1].

3.2.4      To inform the baseline for the study area the following sources of information were consulted:

- The National Heritage List (England) for information on statutory designated cultural heritage assets (world heritage sites, scheduled monuments, listed buildings, registered battlefields and registered parks and gardens) was reviewed using open access designation datasets (Historic England, 2017, updated January 2021).

- Cultural heritage assets recorded on the Essex Historic Environment Record (HER), Essex Historic Environment Characterisation Project data, Aerial Photography Plots and Pleistocene Potential maps and Historic Landscape Characterisation data were provided by Essex County Council in August 2017, June 2018 and January 2021.

- Cultural heritage assets recorded on the Colchester HER were provided by Colchester Borough Council in January 2021.

- Information on conservation areas from Braintree District Council and Chelmsford Borough Council, Colchester Borough Council and Maldon District Council websites.

- Essex Record Office (visited 23/05/2017).

- A Palaeolithic DBA (Appendix 7.3 of the Environmental Statement [TR010060/APP/6.3])

- An Aerial Investigation and Mapping (AIM) Report (Appendix 7.4 of the Environmental Statement [TR010060/APP/6.3])

- Geophysical (magnetometer) surveys undertaken between 6 December 2019 and 6 March 2020 (Appendices 7.5 and 7.6 of the Environmental Statement [TR010060/APP/6.3])

- The final report on the archaeological trial trenching (Appendix 7.7 of the Environmental Statement [TR010060/APP/6.3])

- Palaeolithic and Palaeoenvironmental Evaluation Report (Appendix 7.8 of the Environmental Statement [TR010060/APP/6.3])

## 3.3    Archaeological evaluation

**Palaeolithic Desk-Based Assessment**

3.3.1    The Palaeolithic DBA (Appendix 7.3 of the Environmental Statement [TR010060/APP/6.3]) presents a detailed review and assessment of existing desk-based sources on the potential for survival of Palaeolithic deposits and artefacts within the Order Limits. It identifies 18 distinct Palaeolithic and Quaternary character zones and assesses their archaeological potential on a scale of high, moderate low or unknown. Of these zones, four are identified as being of high potential, eight moderate, three low, and three uncertain. The Palaeolithic DBA also presents recommendations for further evaluation to confirm these assessments.

**Geophysical survey**

3.3.2    Two phases of geophysical survey were conducted between December 2019 and March 2020, comprising a magnetometer survey of approximately 635 hectares. The results of these surveys are presented as Appendices 7.5 and 7.6 of the Environmental Statement [TR010060/APP/6.3]. Anomalies detected by the geophysical survey resulted in the identification of 10 previously unrecorded archaeological sites, mostly interpreted on the basis of their

morphology, proximity to similar sites, and the presence of datable surface finds as being of prehistoric or Roman date. The 10 assets identified in this way were: 407, 430, 949, 950, 951, 953, 954, 956, 957 and 958. Their locations and extent are shown on Figure 7.1 of the Environmental Statement [TR010060/APP/6.2], and full descriptions presented in the Cultural Heritage Gazetteer (Appendix 7.1 of the Environmental Statement [TR010060/APP/6.3]).

### Aerial Investigation and Mapping

3.3.3     To supplement and enhance the archaeological baseline derived from the HER and geophysical survey, an AIM report was commissioned from Place Services and is presented as Appendix 7.4 of the Environmental Statement [TR010060/APP/6.3]. The survey involved systematic examination of readily available aerial photographs followed by accurately plotting all visible archaeological features in a GIS so their location, extent and morphology could be better understood. A single new asset was identified through this process (Asset 955), although additional information about many others was revealed.

### Trial trenching

3.3.4     A total of 2,117 linear trenches were used to target known HER assets, specific geophysical survey anomalies and cropmarks, and to test blank areas. A full report on the results of the trial trenching is presented in Appendix 7.7 of the Environmental Statement [TR010060/APP/6.3]. As well as providing additional detail and dating evidence for previously known assets, 18 previously unknown archaeological sites were identified (Assets 952, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974 and 975), mostly of late prehistoric or Roman date, with some sites of post-medieval date also being identified.

### Palaeolithic evaluation

3.3.5     The results of evaluations to characterise the palaeolithic potential of the proposed scheme are presented in Appendix 7.8: Palaeolithic and Palaeoenvironmental Evaluation Report [TR010060/APP/6.3].

3.3.6     Specialist geophysical techniques were employed to see if it was possible to characterise the relationship between deposits using non-intrusive methods and to supplement the results of test pit and borehole surveys. A single electrical resistivity imaging technique transect was conducted at the location of proposed borrow pit I, and electromagnetic conductivity transects were conducted at eight locations within the Order Limits.

3.3.7     Transects of machine-dug test pits were excavated to a depth of 3m below ground level in a sample of 88 trial trench locations to test for the presence of Palaeolithic deposits and contribute to development of a deposit model of the Order Limits. Soil samples from each test pit were carefully hand sieved to identify worked flint and animal bone, and samples were also taken for palaeoenvironmental assessment and scientific dating.

3.3.8     A total of 113 boreholes arranged in 18 transects were sunk to characterise the nature of the sedimentary sequence throughout the proposed scheme. They reached depths of between 5m and 10m below ground level depending on the methodology used and ground conditions, and were used to create a deposit

model to aid understanding of the palaeolithic stratigraphy of the proposed scheme. Six of the transects were used to characterise the Holocene deposits associated with the river valleys crossed by the proposed scheme.

3.3.9 The evaluation confirmed the presence of deposits with potential for the presence of *in situ* Palaeolithic archaeological remains. Rather than a single lake with its shores in the vicinity of Colemans Farm, east of junction 22 (Coleman's Interchange), a more complex series of lake events with deposits indicating the presence of surrounding wetlands was revealed in this area (Asset 979), with four further areas of high potential elsewhere on the proposed scheme (Assets 978, 980 and 981). An area of high palaeoenvironmental potential was also identified south of junction 19 (Boreham Interchange), and associated with the River Blackwater (Asset 977).

# 3.4 Assessment of value

3.4.1 The NNNPS notes that the '*sum of the heritage interests that a heritage asset holds is referred to as its significance. Significance derives not only from a heritage asset's physical presence, but also from its setting*' (Department for Transport 2014, 71). For the purposes of this report, the term 'value' has been employed in order to avoid confusion with the terminology commonly used in Environmental Impact Assessment, and particularly with 'significance of effect'.

3.4.2 An assessment of the value of identified cultural heritage assets was undertaken on a six-point scale of very high, high, medium, low, negligible and unknown. Assessments of value were based on professional judgement guided by the criteria presented in Table 3.1, which were derived from the descriptions provided in Table 3.2N of DMRB LA 104 (Highways England 2020b). The assessment of the setting of cultural heritage assets, including its contribution to their historic legibility and capacity for change, was undertaken based on the guidance contained in Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (Historic England, 2017b).

**Table 3.1: Criteria to assess the value of cultural heritage assets**

| Value and sensitivity | Description | Examples within the study area |
|---|---|---|
| Very high | Very high importance and rarity, international scale and very limited potential for substitution. | None in the cultural heritage baseline |
| High | High importance and rarity, national scale, and limited potential for substitution. | • Scheduled monuments<br>• Listed buildings<br>• Registered parks and gardens<br>• Potential archaeological remains of Palaeolithic date<br>• Non-designated archaeological remains and built heritage assets, assessed on a case-by-case basis |

| Value and sensitivity | Description | Examples within the study area |
|---|---|---|
| Medium | Medium or high importance and rarity, regional scale, limited potential for substitution. | • Conservation areas, assessed on a case-by-case basis<br>• Non-designated archaeological remains and built heritage assets, assessed on a case-by-case basis |
| Low | Low or medium importance and rarity, local scale. | • Non-designated archaeological remains and built heritage assets, assessed on a case-by-case basis |
| Negligible | Very low importance and rarity, local scale. | • Non-designated archaeological remains and built heritage assets, assessed on a case-by-case basis |

# 4 Geology and topography

4.1.1    To the west of the existing A12 is a low plateau, mostly gently undulating but flatter around Silver End. The plateau is dissected by the River Tey to the south and the River Blackwater to the north.

4.1.2    To the north around Marks Tey there is a low ridge of land dipping northwards into the valley of the Domsey Brook.

4.1.3    To the south of the existing A12 are the valleys of the River Chelmer and River Blackwater.

4.1.4    The underlying bedrock is London Clay, overlain by superficial deposits, formed largely of sands and gravels:

- Glaciofluvial deposits - sands and gravels

- Alluvium deposits - clays, silts, sands and gravels

- Brickearth - clays, silts and sands

- Head - clays, silts, sand and gravel

- Lowestoft Formation – glacial till

- Cover Sand – clay, silts and sand

# 5 Archaeological and historical background

**Palaeolithic and Mesolithic**

5.1.1 For most of the Palaeolithic, Britain was joined to continental Europe by a low lying land bridge. The River Thames, which was larger and more powerful than today, flowed through East Anglia and only moved to its present location as the ice sheets pushed south. The Thames also deposited significant quantities of gravels (i.e. the Kesgrave sands and gravels) which provided a rich landscape for animals and therefore hunters.

5.1.2 The lake deposits are exemplified by the Marks Tey deposits (Turner, 1970) and are very rich in palaeoenvironmental information. Archaeological work in the area of Rivenhall End (Asset 388) has confirmed the presence of these interglacial lake deposits with well-preserved faunal and floral remains (Bates, 2015). The Palaeolithic evaluations carried out for the proposed scheme (Appendix 7.8 of the Environmental Statement [TR010060/APP/6.3]) confirmed the potential of this area, and revealed a more complex landscape of lakes and surrounding wetlands (Asset 979), as well as identifying further areas of high potential south of Witham (Asset 978), south of the River Blackwater near Kelvedon (Asset 980) and north of Copford (Asset 981).

5.1.3 Alongside important information about the environment and landscape during the Palaeolithic within the study area, several Palaeolithic artefacts have been recovered, including hand axes from Hatfield Peverel (Asset 150) and Durwards Hall (Asset 362), among others.

5.1.4 The Mesolithic began in Essex some 9,000 years ago with the retreat of the last ice sheets and a change in landscape from one similar to tundra or the steppes, to a birch and pine forest. The period is characterised by rapid climate change and this forest was replaced by a mixed deciduous woodland cover of oak, lime and elm. These new landscapes provided space for new fauna such as red deer, elk and wild cattle, which in turn gave opportunities for the spread of hunter-gatherers.

5.1.5 During the Mesolithic complex tools being produced and retained, for example composite tools where small flint blades, microliths, were set in bone, wood or antler to create complex tools such as the flint tipped arrows or toothed spears and harpoons. Mesolithic stone tools have been recorded as chance finds within the area, such as adzes recovered from the Copford area. More recently stone tools are being recorded outside of the study area under the Portable Antiquities Scheme, but the locations of these finds are very broad, usually limited only to the parish.

5.1.6 The majority of evidence for the Mesolithic in Essex is comprised of residual stone tools and the waste from their production. Residual finds occur in deposits which are of a provable later date than the artefact. This means that their archaeological significance is limited, but they are an important indication of the range of Mesolithic activity within the area, if not its precise location and context.

5.1.7   Within the study area one possible Mesolithic occupation site has been identified. Fieldwalking to the south of Durwards Hall, Rivenhall recovered microliths, blades and flint cores dating throughout the Mesolithic Period, which suggest that tools were being produced at the site and that it was occupied for a long period. This has been interpreted as a Mesolithic hunting camp or other short stay site (Asset 335). Asset 335 is likely to have been in a marshy area on the edge of a large post-glacial lake. This would have been a resource-rich location, with watering animals, wildfowl and fish present, as well as plants and reeds which could be made into bedding, baskets and rope, and it is likely to have been regularly visited for many years (Buckley *et al.*, 1988).

**Neolithic (4000 BC – 2200 BC)**

5.1.8   Neolithic saw the introduction of domesticated plants and animals, including wheat, barley, flax, domestic cattle and sheep, and the introduction of an agrarian economy. The landscape was still predominantly wooded, and pollen evidence suggests a mixture of lime, oak and hazel (Hedges, 1980).

5.1.9   Within the Neolithic period people began to shape the landscape in new ways. Monumental structures were built, traces of which can be seen as cropmarks throughout the study area, many of which were investigated through the Essex Cropmark Enclosures Project 1995-98.

5.1.10  The earliest structures were elongated enclosures defined by ditches and sometimes including palisades or an internal mound. These structures comprise both long barrows and long mortuary enclosures, such as the Rivenhall long mortuary enclosure (Asset 399). Asset 399 is associated with a range of other Prehistoric remains which form a ritual landscape, including the cropmarks of a small circular henge like monument. The area therefore has the potential to be a similar landscape to that of Springfield Lyons, where a causewayed enclosure was constructed overlooking the Chelmer valley, with a long barrow to the south and, directly aligned on this, a cursus monument (Brown and Medlycott, 2013). The discovery of the causewayed enclosure has been described as the 'unexpected by-product' of archaeological investigation of a Bronze Age site (Brown, 1997 p.90). These monuments are taken as evidence of social organisation with groups coming together to hold ritual and other events, probably on a seasonal basis. The causewayed enclosure was one of the earliest monuments constructed in the Springfield area, and along with the cursus to the south would have formed prominent landscape features used for millennia (Brown and Medlycott, 2013 p.153).

5.1.11  Neolithic occupation sites are often identified as concentrations of flints known as scatters and single chance finds of Neolithic flint work are increasingly being reported through the Portable Antiquities Scheme, such as a Neolithic axe head from Kelvedon.

5.1.12  Major new technological changes occurred in the Neolithic with the introduction of polished flint and ground stone axes and, in particular, ceramics. Examples in the study area include residual late Neolithic Peterborough Ware found at a Bronze Age site at Springfield (Asset 19) and Asset 532, a chance find of a flaked tool interpreted as a possible a sickle, a new type of tool for people now engaged in agriculture.

### Bronze Age (2500 BC – 700 BC)

5.1.13  The Bronze Age evidence is widespread throughout Essex, with distinctive beaker pottery and new flint technologies such as tanged and barbed arrowheads. However, the most significant technological change was introduction of metal working around 2000BC, and the presence of metal tools, weapons and jewellery in the archaeological record for the first time. These include chance finds such as a Late Bronze Age spearheads from north of Boreham (Asset 76) and Kelvedon (Asset 535).

5.1.14  Like the Neolithic, the Bronze Age is also exemplified by the creation of ceremonial, ritual and burial monuments, many of which can be seen through cropmarks visible throughout the study area. For example, the numerous ring ditches are likely to be the remains of bronze age burial mounds.

5.1.15  Towards the end of the Bronze Age a pattern of fields and farms emerges as agriculture intensifies with the production of both cereals and bean crops.

5.1.16  Excavations at Boreham Interchange (Asset 19) revealed a Bronze Age enclosure on a small spur on the upper slope of the river valley. The Boreham Interchange site fell into disuse and was replaced by a Late Bronze Age enclosure at Springfield Lyons.

5.1.17  The geophysical survey carried out for the proposed scheme (Appendices 7.5 and 7.6 of the Environmental Statement [TR010060/APP/6.3]) identified six groups of anomalies which were interpreted as being of potential Bronze Age date (Assets 407, 430, 953, 954, 955 and 957), and a further potential site was identified from aerial photographs (Asset 955).

### Iron Age (700 BC – AD 42)

5.1.18  Field boundaries seen as cropmarks and small enclosed and unenclosed settlement sites, usually comprising a round hut and a storage building, provide extensive evidence for a pastoral and arable landscape across the gravel terraces of the River Blackwater and up onto the plateau to the north throughout the Iron Age.

5.1.19  Archaeological evidence suggests that there would have been larger settlements at Witham and Kelvedon. In Witham, traces of Early Middle Iron Age pottery were recovered during fieldwalking and excavation (Assets 179) and, just outside the study area, Chipping Hill Camp was enclosed by two concentric earthworks containing a number of round houses. When the railway cut through the site in 1844 metal work and Iron Age burials were discovered (ECC and EH, 1999). Excavations at Ivy Chimneys north of the B1389 on the western edge of Witham revealed traces of a substantial defensive ditch from the Middle Iron Age. Turner suggested that the status of this site would have been similar to that of a small hillfort, a raised settlement, surrounded by a defensive ditch enclosing several round houses (Turner, 1999). Within the footprint of the proposed scheme, geophysical survey identified a pattern of anomalies west of Prested Hall (Asset 951) interpreted as being of possible Iron Age date based on its size and morphology.

5.1.20  Kelvedon in particular appears to have been a significant settlement in the Iron Age. An Iron Age burial, known as the Warrior Burial was recovered from south

of the study area overlooking Kelvedon. A sword, a shield, and a spear were found here alongside a range of grave goods, and it is notable that the spear and shield boss were made across the Channel in Gaul.

### Roman period (AD 43 – AD 409)

5.1.21    The Roman Period saw significant changes to the landscape and society of the area, including the establishment of major towns at Colchester (*Camulodunum*) and Chelmsford (*Caesaromagus*), linked by a road, the course of which was followed by the original A12 (Asset 1 and 111). Colchester in particular was an important and wealthy city which had been rebuilt following its destruction during the Boudican Revolt of AD 60. This would have supported the development of similar high status occupation in the broader area.

5.1.22    The road was part of a larger network of roads joining the major towns and settlements of Roman Britain and smaller local roads. Examples of these have been found within the study area (Assets 736, 376, 761, 774, 772, 780, 927 and 736). Smaller towns and trading centres grew up at strategic points along this road network, for example the Roman settlement at Kelvedon (*Canonium*) developed at a crossing over the River Blackwater (Rodwell, 1988).

5.1.23    One characteristic of Roman archaeology is the large number of personal possessions found, either as chance finds or the results of archaeological excavations. Within the study area the examples demonstrate the variety and quality of the archaeological remains including not only jewellery and coins but other more unusual types. These include parts of cosmetic sets, such as a Late Roman nail cleaner (Asset 398) from Rivenhall End or an unusual furniture fitting with a lion's paw decoration that may have supported a box or possibly even an altar, from Marks Tey (Asset 791).

5.1.24    Building techniques and materials also changed during this period with the use of brick and tile, particularly in towns and villas becoming widespread. Within the study area at Inworth is the site of a possible Roman tile kiln (Asset 673). To the north of the existing A12, overlooking the Blackwater Valley there are several Roman villas, including a scheduled monument at Rivenhall and a Roman villa set within a network of fields and enclosures at Great Holts Farm, Boreham (Germany, 2003). These high status sites are both important, Rivenhall continued to be occupied until the Saxon Period and at Great Holts Farm, which was abandoned in the 5th century, there is a close association between Roman and post-medieval ditches suggesting some form of continuity within the landscape.

5.1.25    The nature of ritual and religious life would have changed during this period with the introduction of Roman deities and the Imperial Cult which fused with local religious practices, and ultimately the introduction of Christianity. The site at Ivy Chimneys, Witham (MEX38616), continued from the Iron Age into the Roman Period. By the late 3rd century a large square structure had been built overlooking the river valley, which has been interpreted as a Romano - Celtic Temple (Turner, 1999). The site, with alterations and new buildings, continued into the 5th century and the presence of a baptismal font suggest that it may have become a Christian place of worship.

5.1.26     The geophysical survey identified a single but extensive site of potential Roman date, Geophysical Anomalies south and east of Potts Green (Asset 953).

### Early medieval period (AD 410 – AD 1065)

5.1.27     Beginning in the 5th century AD, there is evidence from distinctive burials and cemeteries, new settlements, and new forms of pottery and metalwork of the immigration into Britain of settlers from northern Europe. The Roman towns appear to have gone into rapid decline, Chelmsford was abandoned, and the old rural settlement pattern appears to have been disrupted; however, some Roman settlements and cemeteries continued to be in use, for example in Witham and at the Rivenhall Roman Villa.

5.1.28     Archaeological work at the Maltings in Witham (Asset 187) identified two main areas of Saxon occupation from features which included two sunken floored buildings and a single cremation which has been interpreted as evidence of a cemetery. The pottery dates the sites to the 5th century (ECC FAU, 2010).

5.1.29     One of the most distinctive features of the period are the cemeteries dated to the early Anglo-Saxon period (the 5th to the 7th centuries AD). One example found at Kelvedon (Asset 646) is now a scheduled monument and is situated on the river gravels which rise to the east of the River Blackwater, overlooking the valley. The cemetery includes at least four ring ditches with central graves which are visible as cropmarks revealed by aerial photography. Originally these burials had earthwork mounds over the central graves, the material for the mounds being derived from the surrounding ditches. Further ring ditches (Asset 648) outside of the scheduled area are interpreted as being associated with the cemetery.

5.1.30     A widespread phenomenon across Essex and East Anglia is the re-use of early sites as cemeteries, not only can this be seen from Kelvedon, but the Bronze Age enclosure at Springfield Lyons was re-used during the Early Saxon period as a cemetery.

5.1.31     The Late Saxon period was marked by Viking raids and invasions. In 894 Alfred's army destroyed the Viking camp and ships at Benfleet. Later Edward the Elder reclaimed Essex from the Danelaw, at the same time founding the burghs (fortified towns) at Colchester, Maldon and Witham.

5.1.32     The establishment of towns in the Saxon Period is evidenced in part by standing buildings which originated in this period, such as the Parish Church of All Saints at Inworth (Asset 708) which has fabric dating to the early 11th century.

### Medieval Period (AD 1066 – AD 1539)

5.1.33     The earliest evidence for medieval settlement can be seen in parish churches across the region, including two within the study area, St Andrew at Boreham (Asset 94) and St Andrew at Marks Tey (Asset 796), which can be dated to the immediate Post-Conquest period.

5.1.34     There are also medieval towns and settlements at Witham Feering, Boreham, Hatfield Peverel and Kelvedon, and a range of buildings with medieval origins still survive, such as the Crown Public House (Asset 140) a grade II* listed building in Hatfield Peverel.

5.1.35     The rural settlement was dispersed and based on church and hall complexes such as the Manor House at Prested Hall (Asset 769) or the buildings at Bridgefoot (Assets 551). These would have been the focus for a wide agrarian landscape surrounded by small settlements for the labourers within field systems, traces of which survive as crop marks.

5.1.36     One of the most significant changes to the landscape came from the monastic orders which not only built great abbeys and monasteries, but also farmed large estates, often moving away from the traditional arable landscape to large flocks of sheep. Within the study area a secular college was founded at Hatfield Peverel in the 11th century. It was converted to a Benedictine Priory (Asset 165) early in the 12th century which was dissolved in 1536.

5.1.37     Medieval Chelmsford was surrounded by several great houses and parks such as New Hall (Asset 7), which had an extensive deer park (Asset 5). The earliest records for New Hall or Nova Aula come from 1301 which suggest that New Hall had been built in the 12th or 13th centuries (Clarke, 2003). New Hall became a palace for Henry VIII who acquired it in 1517 from Thomas Boleyn. Henry VIII rebuilt the great hall and south range in 1518 and renamed it Beaulieu.

**Post-medieval period (AD 1540 – AD 1899)**

5.1.38     The pattern of settlement in the post-medieval Period would be very familiar today with many of the listed buildings dating to this period. The contraction of medieval parks in the 18th century meant that many former lodges and smaller manors developed as farmsteads, while some of the estates became great stately homes such as Boreham House (Asset 69). This period also saw the development of planned parks and gardens such as those at Braxted (Asset 480) and Hatfield Priory (Asset 162).

5.1.39     However, the period also saw the development of an industrial economy with the coming of the railway and the canalisation of the River Chelmer. The London Clay had been used for brick and tile production since the Roman Period, but this reached new levels in the 19th century with the establishment of brick kilns on the clay such as the Collier Brickworks (Asset 804) near Marks Tey.

**Modern period (AD 1900 – Present)**

5.1.40     Essex played a significant role in the defence of Britain and sites from both World Wars are present within the study area, including an early airfield from the First World War at Easthorpe (Asset 778). In the post war period a Cold War Nuclear Monitoring Post (Asset 172) survives at Hatfield Peverel.

# 6 Baseline conditions

## 6.1 Summary

6.1.1 There are 946 cultural heritage assets within the baseline. The values of all cultural heritage assets are summarised in Table 6.1 below and are shown on Figures 7.1 and 7.2 of the Environmental Statement [TR010060/APP/6.2].

6.1.2 A description of the baseline for each of the matters listed in Table 6.1 is provided in the following sections.

**Table 6.1: Summary of baseline features**

| Matter | Negligible | Low | Medium | High | Very high | All values total |
|---|---|---|---|---|---|---|
| Archaeological remains | 301 | 106 | 45 | 10 | 0 | 462 |
| Built heritage (inc. conservation areas) | 5 | 23 | 9 | 428 | 0 | 465 |
| HLTs (inc. registered parks and gardens) | 7 | 6 | 2 | 4 | 0 | 19 |
| **Total** | 313 | 135 | 56 | 442 | 0 | **946** |

## 6.2 Archaeological remains

6.2.1 A total of 462 archaeological sites have been identified within the baseline. Details of these can be found in Appendix 7.1 of the Environmental Statement [TR010060/APP/6.3] and their locations are shown on Figure 7.1 of the Environmental Statement [TR010060/APP/6.2].

**Very high value**

6.2.2 There are no archaeological remains of very high value within the baseline.

**High value**

6.2.3 Ten archaeological sites have been assessed as being of high value, five of which are scheduled monuments (Assets 399, 646, 737, 818 and 976).

6.2.4 Asset 399 is a long mortuary enclosure situated on the flood plain of the River Blackwater. Although no longer visible as an earthwork at ground level the monument can be clearly seen as a cropmark and on aerial photographs. The cropmarks indicate the survival of infilled ditches which surround a monument which was regular in plan with parallel sides and rounded corners and measured 49m east-west by 16m north-south. A small sample of the monument was excavated in 1986.

6.2.5    Assets 411 and 958 are a complex series of enclosures and field boundaries arranged around a central ring ditch near Hole Farm, Kelvedon. Asset 411 was recorded in the HER as a cropmark site, and geophysical surveys and trial trenching conducted for this project confirmed the presence of all the main elements and recovered dating evidence from the Mesolithic, Neolithic, Bronze Age and Roman periods. Asset 958, Enclosures west of Snivellers Lane, was identified in the same way and is located immediately west of Asset 411. Both assets were assessed to be of high value because of the archaeological complexity and continuity of occupation of Asset 411, and the apparent physical and temporal relationship between the two sites.

6.2.6    The Kelvedon Iron Age Warrior (Asset 657) was a chance discovery of a high-status individual buried with arms and armour including a sword which appeared to have been deliberately broken (Sealey, 2007). The AIM report (Appendix 7.4 of the Environmental Statement [TR010060/APP/6.3]) identified a number of linear cropmarks in the area including a possible enclosure, and trial trenching confirmed the presence of ditches, some of considerable depth, as well as numerous pits and post holes. Dating evidence from the Iron Age and Roman periods including pottery brick and tile suggest the presence of a complex settlement contemporary with the warrior burial. Asset 657 was assessed to be of high value because of its archaeological complexity and potential relationship with the warrior burial.

6.2.7    Asset 646, the Anglo Saxon cemetery east of Easterthorpe Mill, lies on river gravels on the far bank of the River Blackwater between Kelvedon and the existing A12. Anglo Saxon burial practices include both inhumation and cremation, but Asset 646 seems to be predominantly an inhumation cemetery. There are at least four ring ditches with central graves, which originally would have been covered by earthwork mounds constructed from material taken from the enclosing ditches. Between the ring ditches are a series of flat burials in pits.

6.2.8    Asset 737, the monument includes the buried remains of a Neolithic mortuary enclosure and adjacent round barrow located some 500m north west of Feering village and 160m south west of Frame Farm, sitting on the northern slope of the Blackwater river valley. Although the long mortuary enclosure and round barrow are no longer visible on the ground, their infilled ditches can be seen from the air as cropmarks. These cropmarks were first identified on aerial photographs dating from the 1970s and the site has since been targeted by aerial survey, showing up particularly well in the dry summer of 1996.

6.2.9    Marks Tey Hall Moated Site (Asset 818) is of medieval date and is a relatively undisturbed and well-defined archaeological feature which includes three water-filled sections. Asset 818 contributes to regional research by forming a part of the corpus of information on moated sites, which are assessed as needing further research, and to the study of the late medieval rural landscape. (Medlycott, 2011, p. 70-71).

6.2.10    Assets 949 and 953 are both potentially complex settlement sites of late
         prehistoric or Roman date. They were detected as series of linear and isolated
         anomalies in the geophysical survey, and their interpretation refined during the
         trial trenching. The value of both assets was assessed to be high because of
         their apparent archaeological complexity.

6.2.11    The Roman villa, Anglo-Saxon hall, cemetery and church site, around and to
         the north and east of St Mary and All Saints Church (Asset 976) is a scheduled
         monument located approximately 1km north of the proposed scheme at
         Rivenhall.

### Medium value

6.2.12    There are 45 archaeological sites of medium value within the baseline.

6.2.13    These include four areas identified as being of high potential for the presence of
         in situ Palaeolithic archaeological remains (Assets 978, 979, 980 and 981). All
         four have been assessed to be of medium value based on their ability to
         contribute to regional research objectives on the Palaeolithic period.

6.2.14    The majority of these assets are traces of prehistoric settlements, enclosures
         and field systems of Bronze Age or Iron Age date identified through a
         combination of aerial photograph interpretation, geophysical survey, and trial
         trenching (Assets 70, 72, 81, 227, 339, 353, 383, 391, 393, 407, 430, 439, 495,
         647, 775, 855, 863, 888, 906, 951, 952, 954, 957, 960, 961, 962, 964, 968, 971,
         973 and 974). They have been assessed to be of medium value based on their
         apparent complexity and their ability to contribute to regional research
         objectives.

6.2.15    Eight assets of Roman date were assessed to be of medium value (Assets 354,
         530, 950, 956, 965, 966, 967 and 975). Kelvedon Roman Cemeteries
         (Asset 530) is one of four known cemetery sites in the vicinity of the modern
         town identified from chance discoveries during the 19th and 20th centuries.
         Assets 354, 950, 956 and 965 are all examples of ditched enclosures containing
         evidence for settlement which was confirmed during trial trenching.

6.2.16    Pondhalton Farm enclosure and ponds (Asset 208) is the only non-designated
         archaeological site of medieval date assessed to be of medium value. It is
         believed to represent the partially infilled remains of a moated site and
         associated fishponds, as well as having some evidence of a preceding early
         medieval settlement.

6.2.17    Asset 70 comprises a series of cropmarks at Hammond's farm; a series of old
         field boundaries, ring ditches, faint elements of a large rectangular enclosure,
         and a curving double ditched trackway. Potential huts, and the possibility that
         the ring ditches represent plough levelled barrows, pose the possibility of
         expanding the corpus of material relating to the relationships between late
         Prehistoric ritual and domestic sites, and their function and distribution
         (Medlycott, 2011, p. 21, and 57-58).

6.2.18    Assets 393 also represent areas of cropmarks, south of Durward's Hall,
         comprising an enclosure, four ring ditches, two with central pits, two trackways,
         and other linear features, all visible on aerial photographs. Field walking within
         the area of the cropmarks in 1982 yielded extensive Mesolithic material in the

form of microliths – small flint blades characteristic of the period. These
artefacts suggest the presence of a short stay, task specific site which may
have been visited on several occasions, such as a hunting camp. The presence
of these artefacts may not be related to the crop marks, as the Mesolithic is
generally considered to predate permanent settlement in a majority of cases. A
lack of intrusive investigation into these cropmarks, means that the potential
remains for in situ archaeological remains, possibly dating to the Prehistoric or
early medieval periods, given the prevalence of these time periods in the area
(Medlycott, 2011, p. 21, and 57-58).

6.2.19   Asset 439 north of the existing A12 near Hole Farm, Kelvedon was identified in
the HER as a cropmark site comprising a series of possible field boundaries
east of and on a similar alignment to Asset 411. Surface finds of pottery
indicated a late prehistoric or Roman date. The extent and layout of Asset 439
was confirmed by the AIM report (Appendix 7.4 of the Environmental Statement
[TR010060/APP/6.3], 12 - Identified Site 7). The geophysical survey
commissioned for the proposed scheme confirmed the extent of these features
within the proposed scheme footprint, and identified further ditches and possible
pits. Trial trenching carried out at this site confirmed both the layout of features,
and date range of occupation. Because of the apparent complexity of this site
Asset 439 has been assessed to be of medium value.

6.2.20   Asset 339 represents an area of Iron Age and Roman occupation, identified
through linear features thought to represent ancient boundaries, and pits
containing ceramic material, animal bone, shells and refuse, indicating domestic
settlement. This site has the potential to contribute to local research aims to
better characterise the Iron Age to Roman transition (Medlycott, 2011, 31). The
asset has strong contextual connections to the surrounding Roman landscape
of infrastructure and settlement, and the site may be able to answer questions
concerning land use in rural areas, and the distribution and hierarchies of such
sites (Medlycott, 2011, 31 and 47)

6.2.21   While Asset 530 has been largely excavated, its position and relationship with
Asset 648 are a high quality example of a Roman mortuary landscape. A lack of
invasive investigation into the cropmarks that comprise Asset 648 suggests that
archaeological remains survive *in situ*, and have the potential to contribute to
the contextual relationships of Asset 530. The late Roman to early medieval
date of the possible cemetery (Asset 648) may represent a continuity of land
use over the period in this area, and may provide evidence for the transitional
phase after the Roman period (Medlycott, 2011, pg.48). Assets 530 and 648
both contribute (or have the potential to) greatly to the corpus of early medieval
material, as evidence from the period is particularly ephemeral in many cases
(Medlycott, 2011, pg. 58-59).

6.2.22   Assets 339 and 353 are archaeological remains in the vicinity of Colemans
Farm at Rivenhall. The lack of intrusive investigation into Asset 353 poses the
potential that sub surface features and/or deposits survive, which have the
potential to contain further early Prehistoric material. This could contribute to the
regional research aim to develop deposit modelling as a means to further
assess the early Prehistoric resource (Medlycott, 2011, p. 8).

6.2.23   Asset 430 is a geophysical anomaly describing small, a roughly square enclosure measuring approximately 12m across located south of the A12 and Hole Farm, Kelvedon. Its function and date are currently unknown although it is assumed to be of prehistoric date based on its morphology.

6.2.24   Assets 952 and 977 are areas of palaeoenvironmental potential identified during trial trenching and creation of borehole transects respectively. Both are located close to junction 19 (Boreham Interchange), and Asset 977 in particular is likely associated with the River Blackwater where conditions have developed to enable the preservation of organic material. Such deposits have the potential to contribute to a number of research questions at a regional level, and the value of both assets has been assessed to be medium.

6.2.25   Asset 152 Chelmer and Blackwater Canal is probably the most obvious feature of the Industrial revolution surviving in Essex. There are remains, in various conditions, of 11 locks. The earliest plans for this navigation were in 1677, but it was in fact built under the act of 1793 and completed in 1797. There was still timber trade on the navigation until recent years. The Act to construct the Navigation was passed in 1793, the aim being to make the Chelmer navigable between Maldon and Chelmsford. A sea lock was constructed at Heybridge Basin, from where an artificial channel was cut to Beeleigh Abbey, to the confluence of the rivers Chelmer and Blackwater. The newly formed Company of Proprietors of the Chelmer and Blackwater Navigation Ltd bought small areas of land along the riverside both for the towpath, to create the Cuts and weirs and to bypass meanders and mills. These pieces of land can still be recognised as field boundaries, some marked by posts. The full length of the Navigation, from Heybridge to Springfield Basin, was opened on 3 June 1797. This site contributes greatly to regional research on communication and infrastructure from the period, due to its level of preservation and extensive documentary evidence. The asset has been assessed to be of medium value.

**Low value**

6.2.26   There are 106 undesignated sites of archaeological remains which have been assessed as being of low value:

6.2.27   There are a large number of cropmarks of low value within the baseline, a large number of which appear to represent former parish and field boundaries, trackways, and garden features such as former ponds. These assets comprise; Assets 14, 28, 72, 95, 130, 173, 174, 189, 194, 228, 277, 327, 338, 349, 368, 458, 463, 487, 600, 647, 668, 758, 768, 771, 788, and 824. A majority of these sites have not been subject to intrusive investigation, and cannot be securely dated or have their function identified. Asset 327 appears to partially represent World War One slit trenches, and Asset 487 a former Post Mill. The crop marks present at Assets 28 and 647 appear to be obscured by marks created by underlying geology.

6.2.28   Assets 32, 65, 80, 119, 321, 436, 473, 495, 755, 757 and 775 comprise crop marks which contain ring ditch features, as well as linear features that appear to continue to represent former boundaries and trackways. These ring ditches have the potential to represent Prehistoric settlement activity such as Iron Age roundhouses, for example, or round barrows. Asset 363 appears to represent a

ploughed out long barrow, potentially of Neolithic date. As with the assets discussed above, most of these cropmarks have not undergone intrusive investigation, and cannot be securely dated or identified, and in some cases are obscured by underlying geology (Assets 32 and 80). The main period of barrow construction occurred between 2000 and 1500BC. These assets have the potential to contribute to the East of England's Regional Research Framework's aim to explore Bronze Age burial practice (Brown and Glazebrook, 2000), but due to their poor preservation and lack of contextual associations they have been assessed as low value.

6.2.29   Assets 107, 179, and 809 represent mid to late Prehistoric occupation of the area. Asset 11 comprises a Neolithic to Bronze Age occupation site, evidenced by flint recovery during field walking, and trial trenching revealing an isolated curvilinear ditch and Bronze Age pottery. Much of this site has been truncated and destroyed by subsequent development.

6.2.30   Assets 107, 179 and 809 represent Iron Age occupation. Assets 12, 111 and 179 are evidenced by isolated ditch features associated with Iron age pottery and areas of burnt flint. Asset 809 is an Iron Age coin hoard, which does not to date appear to be associated with a contemporaneous settlement.

6.2.31   Asset 395 at Durward's Hall, represents a number of Prehistoric features of uncertain date uncovered during an archaeological evaluation at the Hall grounds. Sherds of Bronze Age pottery were found, as well as struck flint, again of uncertain date. These features have suffered severe truncation, and continued disturbance.

6.2.32   Assets 27, 288, 383 and 673 represent Roman occupation sites within the baseline, alongside the evidence for Roman infrastructure discussed below. Assets 288 and 673 predominantly consist of Roman ceramics, Asset 288 comprising a collection of intact urns, and 673 appearing to represent a kiln site due to the density of ceramic material uncovered. Asset 27, uncovered during a field evaluation in 1996, revealed a range of evidence appearing to represent settlement activity, and 383 indicates the presence of a Roman cemetery, although this may be residual evidence from a known nearby Roman cemetery site.

6.2.33   Assets 1, 111, 112, 376, 736, 772, 774 and 780 all represent Roman Roads, either their physical remains or projected course. The route of Asset 736 is still partially followed by a road before its alignment diverges from the course of modern infrastructure. These assets all appear to form parts of the known London to Colchester Roman route. Assets 111, 736, 772, 774 and 780 have clear evidence in the form of physical remains, crop marks, of map evidence, whereas the others are suggested routes based on potential crop marks and alignments.

6.2.34   Assets 84 and 291 represent medieval occupation. Asset 84 at Buxted Chicken Factory, comprised medieval property boundaries, dated by in situ pottery to the 10th to 11th centuries. Asset 291 east of Olivers Farm appears to be later medieval, and the high density of ceramics found indicates the presence of a kiln site. Two non-designated potential moated sites are also recorded within the study area at Inworth and Eight Ash Green (Assets 706 and 932).

6.2.35    A number of post-medieval and Modern period remains are present as low value remains. Asset 73, the site of Boreham Windmill, is the site of a Post Mill, built in 1813 and demolished for road widening in 1942. Hogwells Brickworks (Asset 110), comprised a group of extensive industrial buildings, which does not appear to survive. Asset 185 comprises post-medieval remains recovered during excavation, and appears to represent a former farm track, which has been considerably disturbed. Asset 184 is in close proximity to a known multi-period site discovered during investigation preceding development at Maltings Lane. Asset 184 comprises an investigation preceding further development, which revealed only limited post-medieval material. Asset 179 at Witham, although only yielding one feature containing securely datable Prehistoric material, does represent a range of dates from the Mesolithic to medieval period from field walking, and from the excavation of pit-like features. A linear crop mark in the area potentially represents a Prehistoric trackway. This asset is poorly defined, but has the potential to relate to Prehistoric and medieval sites in the area.

6.2.36    There are also extant and demolished farm remains dating to the post-medieval and modern periods; Assets 123 and 372 represent the model farms at Berwick and Rivenhall End respectively, designed and built in the mid-1850s. Asset 135, 'Crix', is the site of a farm shown on the Andre and Chapman map of 1777, but may have earlier origins. The farm was demolished in the late 18th century, and is now under grass.

6.2.37    Assets 29, 329, 380 and 791 are all ceramic finds within this category. Asset 29 comprises ceramic finds recovered during a field walking survey undertaken during works on the Boreham A12 interchange. These surface scatters of Roman material suggest the presence of a nearby Roman site. Field walking and subsequent trial trenching also recovered a large amount of late to Post-medieval pottery, although associated features only comprise two potential post holes.

6.2.38    Assets 380 and 791 also represent chance finds of ceramic vessels, dating from the Roman period.

6.2.39    Asset 329 is an example of Roman or medieval wares found at Rivenhall.

6.2.40    Assets 150, 342, 393, 390 and 813 are surface scatters of flint, and solitary flint artefacts. Assets 342 and 390 are scatters of flint artefacts recovered during field walking, and represent Neolithic and Bronze Age activity.

6.2.41    Assets 150, 393 and 813 are finds of Palaeolithic hand axes, assumed to be re-deposited, although asset 393 is believed to be the area of a post glacial lake, and has the potential to yield further Palaeolithic evidence.

6.2.42    Two solitary metal finds of low value are represented in the baseline; Asset 398 is the find spot of a Roman bronze nail cleaner, in an area of known cropmarks, and asset 917 is the findspot of a Bronze Age palstave axe head.

6.2.43    Asset 354, the Burgate Field enclosure, represents the posited site of an enclosure bank, of uncertain date. Evidence for this site stems mainly from historical and cartographic evidence. Landscape analysis has suggested that its origin stems from the Roman or early medieval period, possibly during the era of medieval new town formation.

6.2.44   There are three notably multi-period sites of low value within the baseline. Asset 196 was identified during field walking at Witham carried out over a 45ha site preceding development. Evidence for intermittent activity ranging from the Mesolithic to Modern periods was recovered, although the highest density of material appears to be Roman, with building material of the period suggesting an area of settlement in the vicinity.

6.2.45   Asset 397, Durwards Hall at Rivenhall, is a 19th century building constructed over an older site. The hall is situated within an area of archaeological activity spanning the Prehistoric, Roman, and post-medieval periods. The brick building is surrounded by extensive formal gardens.

6.2.46   Greater Beaulieu Park, Asset 6, represents a complex range of surviving archaeological features, representing the Iron Age, Roman, medieval, post-medieval and modern periods. A large number of features were identified through geophysics, with further evidence and datable material recovered through trial trenching. A late Iron Age field system is present, as well as Early Roman and medieval settlement, and later medieval moat.

6.2.47   Two additional moated sites of low value are present in the baseline. Pondhalton Farm (Asset 208) and Badcocks Farm (Asset 933) both have irregular, partially filled in moats, with those at Asset 208 and 933 surviving partially as ponds.

6.2.48   There are five assets associated with former railway lines. Asset 345 represents the former Witham to Maldon railway line, previously part of a longer route through the region. The line was closed in 1966. Although large portions of the track and ballast have since been removed, this section of the line includes short and long span bridges comprising two timber viaducts, brick arch culverts, and a below ground disused water main, once part of a wider network. Large portions of the trackway have been destroyed by subsequent development, and most associated buildings are not extant. Asset 735, the Kelvedon-Tiptree-Tollesbury light railway, is still partially visible as cropmarks.

6.2.49   Assets 293, 301, and 307 represent bridges, culverts and crossings associated with the railways.

6.2.50   Assets 5, New or Little Park, and 45, Red Deer Park are low value park landscapes, and are both one of the four parks surrounding New Hall. They are both 17th century, and both have their own keepers lodge. The four parks together form the highest status parkland in Essex.

6.2.51   Prested Hall gardens (Asset 767) are the remains of formal gardens surviving as crop marks in the grounds of Prested Hall.

6.2.52   There are a number of low value assets associated with the rivers and canals within the study area. Assets 40, 43, and 85 are water feeders and water feeder ditches for the Chelmer and Blackwater navigation, and survive as earthwork features. Asset 60 is the remains of a meander in the river, which survives to the south of the Navigation as a copse.

6.2.53   There are five boundary and marker posts recorded as low value within the study area; Assets 48, 47, 651, 777, and 823. Of these, only 48 and 47 are extant, and are associated with the Chelmer and Blackwater Navigation.

6.2.54    There are also three extant milestones, comprising Assets 118, 158, and 318.

6.2.55    There are three assets in the baseline representing the modern period. Asset
172 is the remains of a Cold War nuclear monitoring post. Its compound
remains in-tact in the middle of an arable field, and a number of other features
remain in good condition. However, some structural features are badly
damaged and the interior has been completely stripped.

6.2.56    Assets 306 is the Constance Close Crossing at the Witham to Maldon
dismantled railway, marked on the 1875 OS map. A metal structure in a triangle
shape pierced by three holes may represent part of a World War Two defence.

6.2.57    Asset 778 is the World War Two landing ground at Easthorpe. There were no
structures of any kind here beyond tents and a wind sock, and as such, none
survive. A chalk shape brought to the surface by ploughing potentially
represents the ground signal pad. None of the temporary structures would have
left any sub surface features of remains. The area of the airfield is open, and is
larger now after the demolition of the adjacent Little Domsey farmhouse.

6.2.58    Asset 385 is the area of a geophysical survey at Coleman's farm, which did not
identify any clear archaeological features.

### Negligible value

6.2.59    Within the baseline 301 archaeological remains of negligible value have been
identified. These are assets with very little or no surviving archaeological
interest. These include those archaeological objects which have been physically
removed from the site of their discovery such as sherds of pottery or flints found
during general ground disturbance and items found through metal detecting and
recorded under the Portable Antiquities Scheme. Other types of asset valued as
negligible include previous archaeological work where no archaeological
evidence was recorded and cropmarks of field boundaries and trackways
shown on the First Edition Ordnance Survey.

### Potential for unknown archaeological remains

6.2.60    The area along the A12 has, in places, been extensively archaeologically
investigated. Essex is a rich county archaeologically with evidence for human
occupation dating back approximately 500,000 years. The underlying geology of
sands and gravels are recognised as favourable conditions for early settlement
and the A12 formed a significant communications route within the area from at
least the Roman Period. Therefore, there is a high potential for the presence of
unknown archaeological remains throughout the study area, examples of these
are highlighted below:

- Archaeological work around junction 19 (the Boreham Interchange - Asset
44 and 45) has revealed a large number of multi period settlement and
industrial sites. In particular, to the north of the junction are areas of
settlement and industrial activity from the Late Bronze Age, including a
settlement enclosure containing one or more buildings, through to the end
of the Roman Period. There is also evidence for medieval occupation
where a cluster of finds, including building material and hearths indicates a
small settlement. To the south east of the junction archaeological work has
also recovered evidence for earlier settlement, including a Neolithic

occupation site, possibly where flint tools were constructed on the Boreham Brook. This evidence combined with the cropmark sites identified suggest that there is a high potential for the presence of unknown archaeological remains around junction 19 (Boreham).

- Similar levels of potential for the presence of unknown archaeological remains exist for wherever construction work takes place off the existing line of the A12. Areas of particular potential include the fringes of Witham, and in particular Kelvedon where the Roman settlement is known to have extended to the south of the existing village.

- There has been little archaeological work between Feering and Marks Tey, but as the A12 is a Roman road, and a communications link from before then, unknown archaeological remains are to be expected on either side of the existing A12.

- Field walking and other archaeological work around Coleman's Farm has recovered a wide range of archaeological material, particularly from the Prehistoric period. Combined with cropmark evidence, geological data and the presence of a scheduled monument this is a rich multi-period archaeological landscape with a very high potential for the presence of unknown archaeological remains.

6.2.61   The AIM Survey, geophysical survey and trial trenching conducted for the proposed scheme have allowed a detailed understanding of the archaeology within the Order Limits to be made.

6.2.62   A Palaeolithic Desk-Based Assessment, Appendix 7.3 of the Environmental Statement [TR010060/APP/6.3], was prepared to investigate the potential for buried remains from the Palaeolithic period to be present within the Order Limits. This was followed by specialist fieldwork to provide more detail on the presence and extent of deposits considered to be of high Palaeolithic potential. The results of this can be found in and Appendix 7.8: Palaeolithic and Palaeoenvironmental Evaluation Report, of the Environmental Statement [TR010060/APP/6.3].

## 6.3   Built heritage

6.3.1   A total of 249 designated and non-designated built heritage assets, including four conservation areas, have been identified within the 300m study area and are included in the baseline. A further 216 designated built heritage assets between 300m and 1km from the proposed scheme have been included in the baseline as there is the potential for an effect on their setting. Details of these can be found in Appendix 7.1: Cultural Heritage Gazetteer, of the Environmental Statement [TR010060/APP/6.3], and they are shown on Figure 7.2 of the Environmental Statement [TR010060/APP/6.2].

### High value

6.3.2   There are 428 built heritage assets assessed to be of high value, comprising three scheduled monuments, 10 grade I, 40 grade II*, and 375 grade II listed buildings. Of these, 249 are within the 300m study area and a selection are

summarised below. Details of the remaining high value historic buildings are found in Appendix 7.1: Cultural Heritage Gazetteer [TR010060/APP/6.3].

6.3.3    Asset 165, a secular college on the site of Hatfield Priory was founded in the 11th century. It was converted to a Benedictine Priory (a cell of St Alban's Abbey) early in the 12th century. The Priory was dissolved in 1536 and, probably soon after this, the presbytery with its chapels, the transept and the central tower were pulled down. The nave, which had been used for the parish church, was left standing. Wickham Bishops Timber Trestle Railway Viaduct (Asset 290) is the last surviving example of a timber trestle viaduct in England. It was built in 1847 for the Witham to Maldon branch line. Asset 804 includes two circular kilns and their associated brick working floor, flues and chimney base located within W H Collier Brick and Tile Works, Church Lane, Marks Tey. The western kiln is a grade II listed building (Asset 803). All three assets are designated as scheduled monuments.

6.3.4    Asset 420, Hole Farmhouse, dates from the 15$^{th}$ century. The building is set adjacent to the current A12, which is to the north west. The Asset is surrounded by out buildings and agricultural structures, bordered on three sides by agricultural fields, and by deciduous trees which screen the property from the current A12. Asset 420 retains a number of original features, including original wattle and daub infill and exceptionally preserved timber framing, although there is extensive 19$^{th}$ century alteration and additions to the asset, as well as a 16$^{th}$ century extension. Asset 420 is a grade II* listed building and is assessed as high value.

6.3.5    Asset 781, Badcocks Farmhouse, is a late 15$^{th}$ century timber framed hallhouse. The hall was rebuilt in the 16$^{th}$ century, and there are 17$^{th}$-19$^{th}$ century alterations and additions to the building. The site was formerly moated. The Asset is screened to the east, north east and south by deciduous trees, and the view to the west comprises agricultural buildings and arable fields. Asset 781 is a grade II* listed building and is assessed as high value.

6.3.6    Asset 139, Hatfield Place is a large house to the south west of Hatfield Peverel. It was built between 1791 and 1795 in Gault brick in a Flemish bond with limestone and Coade stone dressing. It was designed by John Johnson for Col. John Tyrell and is the best documented of all Johnson's Essex houses. To the west of Asset 139 the formal park and ornamental grounds are bounded by the River Ter. Asset 139 is set-back c.100m to the south of the existing A12 and screened by wooded grounds and deciduous trees. Asset 139 is a grade II* listed building and is assessed as high value.

6.3.7    Asset 140, the Crown Public House dates from the 15$^{th}$ century. The building is set slightly back to the south of the B1137 with hardstanding to the front and car-parking to the western side, where the building has an open aspect with good visibility to the west. It is timber framed and plastered with some exposed framing. The building was altered in the 16$^{th}$ century and again in the 18$^{th}$ or 19$^{th}$ century; however, the crown post roof is almost complete. Asset 140 is located less than 100m south of the current A12, which is within a cutting at this section, and is screened by a densely treed area. Asset 140 is a grade II* listed building and is assessed as high value.

6.3.8      Asset 551, Bridgefoot House dates from the 15th and 16th centuries and was altered in the 17th and 18th centuries. The building has a very complex plan showing much development and alteration over time, but it still retains many unusual early features. Asset 551 is located approximately 240m north of the current A12, which is within a cutting in this area, and is partially screened by deciduous trees. Asset 551 is a grade II* listed building and is assessed as high value.

6.3.9      Asset 816, the Barn to the south of Marks Tey Hall dates to c.1500. It is timber framed with a crown post roof in complete condition. Asset 816 is located approximately 300m southeast of the current A12 and is screened by deciduous trees. Asset 816 is a grade II* listed building and is assessed as high value.

6.3.10     Asset 94, the Parish Church of St Andrew at Boreham dates from the late 11th or early twelve centuries. It retains numerous elements dating from the 11th to 14th centuries and includes and unusual 19th century timber framed porch extension. Asset 94 is located approximately 650m south of the current A12 and is screened by the village of Boreham. Asset 94 is a grade I listed building and is assessed as high value.

6.3.11     Asset 650, the Parish Church of All Saints at Feering dates to the 13th century and was restored in the 19th century. Asset 650 is located approximately 600m northwest of the current A12 and is screened by vegetation and buildings within the village of Feering. Asset 650 is a grade I listed building and is assessed as high value.

6.3.12     Asset 796, the Parish Church of St Andrew at Marks Tey is Romanesque in style and includes some Roman brickwork. Asset 796 is located approximately 300m northwest of junction 25 (Marks Tey) and, although deciduous trees provide partial screening, there is the potential for limited visibility between the current A12 and Asset 796. Asset 796 is a grade I listed building and is assessed as high value.

6.3.13     Asset 466, the Parish Church of St Mary at Kelvedon dates from the 12th century, was extended in the 13th to 19th centuries, and was restored in 1877. Asset 466 is located approximately 900m to the north of the current A12 and is well screened by deciduous trees. Asset 466 is a grade I listed building and is assessed as high value.

6.3.14     Asset 708, the Parish Church of All Saints at Inworth comprises flint rubble, puddingstone, freestone and Roman brick. The chancel, nave and various features date to the 11th century, with additions and alterations dating from the 13th to 19th centuries. Asset 708 is located along Inworth road and approximately 970m south of the current A12 and is well screened by deciduous trees. Asset 708 is a grade I listed building and is assessed as high value.

6.3.15     Asset 69, Boreham House was designed by James Gibbs for Benjamin Hoare and built between 1727 and 1728. The building is set within a grade II Park and Garden (Asset 67) which includes an 18th century formal canal to the front of the house and a small lake with island to the rear. The formal canal accentuates the grand approach and the view towards Asset 69 from Main Road; however, the deciduous trees and shrubs flanking the canal provide partial screening from

most other directions. Asset 69 is situated approximately 420m southeast of the current junction 19. Asset 69 is a grade I listed building and is assessed as high value.

6.3.16    Asset 23, New Hall is the surviving wing of a great quadrangular palace built by Henry VIII soon after 1518. It has undergone significant alteration and restoration since its construction and now operated as a school. Asset 23 is situated in grounds which are largely surrounded by open fields, approximately 900m to the north of the current junction 19. Deciduous trees planted within the grounds and flanking the approach from the south provide high levels of screening from the current A12. Asset 23 is a grade I listed building and is assessed as high value.

6.3.17    Asset 485, 1-5 High Street, Kelvedon was the Provincial Mansion of the Abbot of Westminster and dates to the early 16<sup></sup>th century. It was altered in the 18th and 19th centuries, though many of the original elements were maintained. Asset 485 is located approximately 700m north of the current A12, directly fronting High Street, and is visually screened by southwest Kelvedon. Asset 485 is a grade I listed building and is assessed as high value.

6.3.18    A further 375 grade II listed buildings were assessed to be of high value, of which 190 are within the 300m study area.

**Medium value**

6.3.19    There are nine historic buildings and Conservation Areas which have been assessed as medium value.

6.3.20    Marks Tey War Memorial (Asset 913) is a marble obelisk commemorating 19 local men who died during the First and Second World Wars. It is a non-designated heritage asset and its value has been assessed to be medium.

6.3.21    There are eight conservation areas in the baseline, the value of each of which has been assessed to be medium:

- Chelmer and Blackwater Navigation (Asset 68), Boreham Church Road (Asset 96), Boreham Roman Road (Asset 106), Witham (Chipping Hill) (Asset 96), Witham Town Centre Conservation Area (Asset 259), Kelvedon Conservation Area (Asset 341), Feering Conservation Area (Asset 652) and Copford Green Conservation Area (Asset 853).

**Low value**

6.3.22    There are 23 non-designated built heritage assets of low value within the baseline mostly comprising common types including agricultural buildings and farms (Assets 123, 372, 638, 891, 910, 911 and 929); houses and cottages (Assets 397, 832, 915 and 918); railway buildings (Assets 307, 920 and 921); non-designated mileposts (Assets 118, 158 and 318); a former Methodist church (Asset 928), a weir (Asset 52), Easthorpe village green (Asset 902), and WWII and Cold War military structures (53, 172 and 310).

**Negligible value**

6.3.23    Five non-designated built heritage assets of negligible value were identified
within the baseline (Assets 691, 692, 693, 905, and 907), including two mis-
recorded duplicates of designated assets (Assets 905 and 907).

# 6.4    Historic landscape

6.4.1    The historic landscape topic includes designated Registered Parks and
Gardens and non-designated historic landscape types.

6.4.2    There are four Registered Parks and Gardens included within the baseline
(Assets 7, 67, 162 and 480).

6.4.3    The Essex Historic Landscape Characterisation Project identified 54 historic
landscape character types across Essex (ECC and English Heritage, 2011). A
total of 15 historic landscape types fall within the study area, these are
summarised below. They are shown on Figure 7.2 of the Environmental
Statement [TR010060/APP/6.2].

**High value**

6.4.4    There is one grade II* Registered Park and Garden, Braxted Park (Asset 480)
that has been assessed as high value. Asset 480, Braxted Park covers c. 202
hectares situated in a rural setting. It was a deer park in the 14th century, but
little is recorded of the landscape between then and the mid-17th century at
which point the estate was purchased and Braxted Lodge built. Various
landscaping elements were incorporated during the 18th century, and the park
was greatly enlarged and enclosed by a park wall in 1823. At its closest point,
the park boundary lies approximately 880m south of the current A12 and is
screened by deciduous trees. Asset 480 is a grade II* registered park and
garden and is assessed as high value.

6.4.5    There are three grade II Registered Parks and Gardens, Boreham House Park
and Garden (Asset 67), New Hall Boreham (Asset 7) and Hatfield Priory (Asset
162) which have been assessed as high value.

6.4.6    There are no historic landscape types of high value within the baseline.

**Medium value**

6.4.7    There are two historic landscape types which have been assessed as being of
medium value:

* HLT7: Post-medieval designed landscape. The majority of this type are
designed ornamental landscapes laid out around the 'great' or 'grand'
house in the post-medieval period, such as Boreham House (Asset 348).
The parks may include a formal garden, lakes, woodland, avenues, rides,
vistas, and architectural features such as a ha-ha, terrace, folly or grotto,
or in the case of Asset 348, a sun dial. There may be remains of
greenhouses and ice-houses. At Boreham Hall, traces of the earlier
medieval Parkland are also present.

- HLT8: Ancient Woodland. Defined by Natural England as '*land that has had a continuous woodland cover since at least 1600 AD and may be ancient semi-natural woodland, which retains a native tree and shrub cover that has not been planted, although it may have been managed by coppicing or felling and allowed to regenerate naturally*'. The predominant species are deciduous, broad-leaf trees and shrubs. In the Essex Historic Landscape Characterisation, this category also includes traditional wood-pasture, such as seen at Hatfield Forest, where single or small groups of pollarded trees occur in pasture alongside small coppice-with-standards managed woodlands. Ancient woodland can preserve features which are natural such as an uneven land surface, or which predate the woodland such as Prehistoric earthworks or medieval cultivation ridges where woodland has regenerated, or which relate to the woodland itself such as coppiced trees and wood banks.

**Low value**

6.4.8 There are six historic landscape types which have been assessed as being of low value:

- HLT1: Built Up Areas – Historic. This type has been applied to the relict layers of modern built up or urban areas which have a historic core, and ranges from cities, towns, villages, and hamlets to large farms. All examples pre-date the 1st edition OS maps. These areas were not mapped as the urban area was not part of this project. This and further information is available in the Essex Historic Settlement survey reports.

- HLT9: Post-medieval Plantation. This includes all managed and planted woodland which post-date ancient woodland. These may be planted as commercial concerns or as ornamental woodland in association with informal parkland. These woodlands can be replanting of cleared woodland, inter-planting within existing woodland, or new planting within former fields. Some plantations may have been planted and felled between the OS 1st Edition mapping and modern mapping. Many plantations are comprised of a single or couple of species of deciduous or coniferous tree, though some may have been designed with a mixed composition to imitate traditional woodland.

- HLT10: Unenclosed Heath. These are open areas, marked on the First Edition as 'heath'. Originally termed 'waste' in medieval times, they comprise areas of natural or semi-natural vegetation (particularly grass and heather) on dry, acidic soils. Historically these were too dry and impoverished for arable cultivation and were managed mainly as areas for pasturage of livestock, with management for woodland products. Some areas of heathland have experienced intermittent arable cultivation or small scale quarrying. This can leave earthworks of archaeological interest. Lack of grazing in the 20th century has resulted in the growth of scrub and bracken on many heaths.

- HLT11: Enclosed Meadow Pasture. These are sinuous fields that border rivers, often forming part of the flood plain/regime of the river, where the river floods naturally. They may be marked as areas of rough pasture. The traditional use from medieval times up to the 1950's was to produce a hay crop for winter fodder and for grazing. Some have been subsequently wooded or alternate with wooded areas along the river's course.

- HLT12: Pre 18th Century 'Irregular' Enclosure. Irregular enclosures vary considerably in size and shape, forming both arable and pasture, and are widespread though more common to the north and west of the county. They are probably the result of piecemeal enclosure and may be of medieval origin or earlier. Morphologically they tend to have sinuous edges and offset corners.

- HLT13: 18th Century and Later Enclosure. These fields were created, by informal agreement, to subdivide a pre-existing earlier field system. They are characterised by straighter boundaries. This is a difficult form to consistently identify, as it may also comprise the enclosure of former waste, common, common arable or subdivision of various earlier enclosure patterns.

**Negligible value**

6.4.9    There are seven historic landscape types which have been assessed as being of negligible value:

- HLT2: Communications. This type covers major roads and railways lines, road interchanges, and railway sidings, which have had a significant impact on the landscape. Although roads have a long history, this type is concerned with the modern infrastructure of the 20th/21st centuries. The railway network developed in 19th century but suffered cuts in the mid-20th century.

- HLT3: Industrial. Mostly areas of late 20th century industrial buildings.

- HLT4: Restored Land. Areas of previous gravel extraction or historic landfill that have been restored.

- HLT5: Horticulture. This type covers nurseries and greenhouses for market gardening. The main distribution of this type is in the Lea Valley in the west of the county. Greenhouses used to be constructed of glass but have mostly been replaced with other materials or polytunnels. They may sit within an earlier field boundary pattern, or may have replaced it. These date from the late 19th/early 20th centuries.

- HLT6: Recreation. This type includes country parks, golf courses, caravan parks, camping grounds, playing fields and other areas of land used for recreation and leisure. This type may have completely reworked and destroyed previous elements of the landscape, or may retain elements of its previous use, such as former parkland, or of the surrounding character of the landscape, such as field boundaries, trees, and woodland. Golf initially became popular in the 19th century. The main development of this type is from the 20th century and is continuing.

- HLT14: Modern Agriculture. These represent field boundary lost since the 1950's due to mechanisation and changes in agricultural practices. This may range from the loss of a single boundary merging two fields into one, or many field boundaries being removed to form a single field. The resultant field is a hybrid and palimpsest, with edges that may have several periods of origin. The surviving edges of these fields are of historic importance.

- HLT15: Artificial Water Bodies. This type covers a wide range of water bodies, including public water supply reservoirs, flooded mineral extraction pits, and farm reservoirs and ponds for irrigation and livestock use. Most were created in the 20th century, but farm ponds may go back, predating the earliest map sources.

# 7 Statement of confidence

7.1.1 This assessment has been based on data gathered from the National Heritage List, Essex and Colchester HERs, and Essex Record Office, supplemented by the results of extensive non-invasive and invasive archaeological investigations within the Order Limits (see Appendices 7.3, 7.4, 7.5, 7.6, 7.7. and 7.8 of the Environmental Statement [TR010060/APP/6.3]). These investigations have confirmed the presence of archaeological remains including the identification of 29 previously unknown sites, as well as providing detailed information on their extent, date, and state of preservation. The Applicant therefore has a high degree of confidence in the results.

# 8 Conclusions

8.1.1 The area along the A12 has, in places, been extensively archaeologically investigated. Essex is a rich county archaeologically and the study area contains a range of high and medium value cultural heritage assets representing half a million years of occupation and settlement in this part of Essex.

8.1.2 There is a high potential for the presence of unknown archaeological remains throughout the study area. In particular, the area around junction 19 (Boreham Interchange), on the fringes of Witham, and at Kelvedon, the section between Feering and Marks Tey and the area between Coleman's Farm and Rivenhall End have high potential for the presence of unknown buried archaeological remains. Additionally, the deposits between junction 19 and Hogswell, to the south east of Witham and south of Kelvedon to Feering and to the east of Marks Tey have been assessed as being of very high or high potential for Palaeolithic remains.

8.1.3 Archaeological investigations carried out as part of the proposed scheme have confirmed the presence of archaeological remains including the identification of 29 previously unknown sites, as well as providing detailed information on their extent, date, and state of preservation.

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