

**Integrated Waste Management Facility (IWMF)
Cable and Water Main Connections
at
Rivenhall, Coggeshall Road (A120), Braintree
Essex**

Cultural Heritage Assessment

NGR TL 82400 20600

**Prepared for
The Guildhouse Consultancy**

**ASE Project No: 8548
ASE Report No: 2015453**

23 December 2015

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Date of Issue:	23/12/2015		
Revision:	V4. Revision following comment from Planning Agent		

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Summary

This Cultural Heritage Assessment has been prepared to consider the archaeological impacts arising from the proposed excavation of underground electricity and water abstraction and discharge pipeline(s) connections from an IWMF facility at the former Rivenhall Airfield (Bradwell Quarry) to Galleys Corner, Braintree and the River Blackwater respectively. Parts of the possible routes run through formerly quarried areas, along or on the verge of recent access roads/tracks, and along or on the verge of the highway.

This assessment has concluded that:

- No known heritage assets have been identified on the alternative routes themselves;*
- There is the potential for, as yet unknown, archaeological remains to be present;*
- These are most likely to be of local to perhaps regional significance;*
- Any proposed development will impact upon any archaeological remains that are present;*
- Previous impacts (e.g. quarrying, airfield construction/clearance and highway construction and maintenance) have been identified along the route;*
- These may have resulted in the complete loss and some disturbance/damage to the archaeological remains along various sections of the route;*
- Where archaeological remains have survived the previous impacts they will be impacted upon by the proposed works;*
- There is the potential for some parts of the construction and installation to have a temporary (short term) impact on the setting of certain heritage assets (Listed Buildings) as the cable trenching and installation work pass through;*
- Mitigation in the form of a Watching Brief during groundworks is proposed.*

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1.0 INTRODUCTION

General Introduction

- 1.1 This Cultural Heritage Assessment report has been prepared by Archaeology South-East (the contracting division of The Centre for Applied Archaeology at the Institute of Archaeology, University College London) and the Guildhouse Consultancy, on behalf of Gent, Fairhead & Co Ltd (GFC). It is understood that this report will form part of a Regulation 22 Addendum ES to be submitted to both Essex County Council (ECC) and the Planning Inspectorate in response to the latter's request for further information dated 13th November 2015 regarding Gent Fairhead & Co Limited's Appeal No APP/Z1585/W/15/3053088, in respect of an extension of time to implement its planning permission No. ESS/55/14/BTE for the integrated waste management facility (IWMF) at Rivenhall Airfield.
- 1.2 This report presents the archaeological considerations regarding an updated baseline to the current Environmental Statement (ES) in relation to the proposed IWMF Service Connections. These are as follows:
- Electricity Grid Connection U/G Cables
 - River abstraction/discharge pipelines
- 1.3 It also includes a Cumulative Impact Assessment (CIA) that addresses other foreseeable developments, details of which have been provided by GFC and which are summarised as follows:
- Mineral extraction and restoration
 - On-going operations A2, A3 & A4
 - New Field Stockpile & Sheepecotes Lagoon [within Site R]
 - Local Development Framework Projects
- 1.4 In order to complete this, a new baseline review and study was undertaken along the alternative routes for the services connections, in association with GFC and other specialist consultants.
- 1.5 The specific objectives of the review of the alternative services routes were as follows:
- To undertake a desk-based review of the three proposed services routes;
 - To advise on any major constraints which might affect the route options;
 - To advise on any more minor constraints which might require mitigation and to identify that mitigation.

Previous Experience at Rivenhall Airfield: Cultural Heritage Project Team

- 1.6 For the past fifteen years The Guildhouse Consultancy and Archaeology South-East (ASE – a division of University College London formerly known as the Essex County Council Field Archaeology Unit – ECC FAU) have been variously retained to advise GFC and its associate quarrying company Blackwater Aggregates Ltd. on archaeological Planning and fieldwork requirements with ASE/ECC FAU carrying out the actual field and post-excavation works relating to their various planning applications. This report is one of a considerable number produced on Rivenhall Airfield in recent years which relate to the completed, ongoing and proposed mineral extraction and the related IWMF site (formerly the 'RCF'/ 'eRCF'). These works have been summarised in Section 3.0 of this report and where immediately relevant have been listed in the bibliography. Works have comprised desk-based assessments, written schemes of investigation for fieldwork (relating to both built and buried heritage assets), evaluation, excavation, interim fieldwork reports and related analysis, publication and archive deposition. All works have been carried out further to discussion and agreement with ECC 'Place Services' who act as heritage advisors to the Planning Authority, and all resultant documentation has been approved by them. This consistency of approach has considerably benefitted the archaeology, not only in terms of maintaining a high standard in terms of advice but also ensuring 'best practice' with regard to mitigation strategies, methodologies and the interpretation of results as well as maintaining due regard throughout for the heritage assets.

Assessment Aims

- 1.7 A formal brief for this Cultural Heritage Assessment has not been prepared, but is based on discussions with the Guildhouse Consultancy and in line with the guidance provided in national planning policy (NPPF) and professional standards and guidance set out by the Chartered Institute for Archaeologists (CIfA).
- 1.8 This assessment relates to the preferred routes of the underground electricity cable (Red Line; Fig. 1) and water abstraction and discharge pipeline(s) routes (Blue Lines; Fig. 1) connections to the proposed Integrated Waste Management Facility (IWMF) close to Woodhouse Farm (known as the Rivenhall IWMF). These works will involve the excavation of service trenches as follows;
- The maximum width and depth of the electricity cable trench will be approximately 1m (w) and 1.2m (d).
 - The maximum width and depth of the existing abstraction licence water main will be approximately 1m (w) and 1.2m (d);
 - The maximum width and depth new combined abstraction and discharge line will be approximately 1.6m (w) and 1.2m (d)

- 1.9 The aims of the assessment, within the broader project objectives set out in 1.5 (above), are to:
- Identify designated and non-designated archaeological and historical heritage assets along/close to the line which may be affected;
 - Consider the archaeological potential of the runs;
 - Assess the relative importance of the heritage assets in the local/regional/national context;
 - Comment on the likely potential impact of the proposed works on the known and potential archaeological remains.

Planning Policy

- 1.10 Government policies relating to Planning are given in the National Planning Policy Framework (NPPF). Section 12 (paragraphs 126 – 141) of the Framework (*Conserving and enhancing the historic environment*) outlines policies relating to the historic environment and the key role it plays in the Government's definition of sustainable development, the principle which underpins the document. The Framework recognises that '*heritage assets are an irreplaceable resource*' and should be conserved '*in a manner appropriate to their significance*'. The Framework requires that planning applicants should '*describe the significance of any heritage assets affected*' by their application, '*including any contribution made by their setting*'. The level of detail should be '*proportional to the assets significance*'.

Methodology

- 1.11 The Cultural Heritage Assessment (desk-based assessment) has been undertaken in accordance with the Chartered Institute for Archaeologists (CIfA) *Standard and Guidance for Historic Environment Desk-Based Assessment* (CIfA 2014).
- 1.12 In preparing this assessment cartographic sources and archaeological data relating to the study area were obtained from the Essex Historic Environment Record (EHER) held by Essex County Council, Chelmsford. Historic Ordnance survey mapping was consulted to chart the development of the landscape. Listed Building and Conservation Area data was acquired from Historic England and Essex County Council. Relevant sources held within the Archaeology South-East library were utilised, and appropriate on-line databases interrogated. These included: Heritage Gateway, Historic England National Heritage List for England, and the Magic website, which holds government digital data on designated sites (Scheduled Monuments, Registered Historic Parks and Gardens and Registered Historic Battlefields) in GIS map form. Geological information was obtained from the online resources of the British Geological Survey.
- 1.13 The Essex Record Office (ERO) collections were not consulted as part of this study as the facility was closed for stocktaking when research

was being undertaken. The catalogue of the ERO, available on-line, was consulted and comment as to the likely cartographic sources which may be available has been considered in section 4.10 of this report. It is not felt

- 1.14 For the purposes of the assessment the study area comprised the preferred route of the cable and water main connections, as illustrated on maps provided by the commissioning bodies planning agent (S. Smith, Honace). It also included a 100-250m buffer zone extending either side of the preferred routes (Fig. 1), in order to place the site within its wider context. Information beyond this limit has been included where considered relevant.
- 1.15 It should be noted that this form of non-intrusive appraisal cannot typically be seen to be a definitive statement on the presence or absence of archaeological remains within any area but rather as an indicator of the area's potential based on existing information. In this instance parts of the possible routes have been subject to archaeological investigations, this is discussed in more detail in the following report.

2.0 POSSIBLE ROUTES FOR SERVICES CONNECTIONS

Location and Topography

- 2.1 The proposed cable and water abstraction and discharge pipeline(s) (water main) connection routes are located in Braintree District, to the south of the A120 and the east of Braintree (Fig. 1). The electricity cable route would run north-west from the rear of the proposed IWMF, to the west of Woodhouse Farm, northwards towards the existing Bradwell Quarry processing plant (in the direction of Bradwell Hall), before turning west along Ash Lane through the small settlements of Perry Green, Clapdog Green and Lanham Green to Galleys Corner (Fig. 1). Two possible water pipeline connections to the River Blackwater also run initially north-west from the IWMF to the edge of the existing quarry. The eastern option is that of a possible abstraction line and runs north-east to a licensed abstraction point on the River Blackwater. The western option is a proposed route for the combined abstraction and discharge line and runs north-west to the same river.
- 2.2 The River Blackwater lies in between the routes and the A120. The village of Silver End lies to the west of the IWMF. Whilst the area is largely rural in character, with scattered farms, sinuous roads and patches of woodland and meadow a large part of the area has been subject to mineral extraction (Fig. 2) and such works are on-going at the present time. This quarrying has largely taken place on the site of the historic Rivenhall Airfield, constructed during World War II.
- 2.3 The preferred routes are located at c. 50m AOD on the boulder clay plateau, on the interfluvium between the south-east flowing rivers Brain and Blackwater to the south-west and north-north-east respectively. The water pipeline routes drop down into the valley of the River Blackwater. The predominant aspect of the local terrain is that of a broad north-west to south-west spur of land, set within “a rolling landscape of rich agricultural land, predominantly under arable cultivation, but with some important areas of ancient woodland” (ECC HEM 2010).
- 2.4 Information as to the preferred routes for the electricity cable and water pipe connections been provided by GFC. For the purposes of this report these routes have been split into sections with each given an alpha-numeric identifier. The electricity cable has been split into twelve sections (**EL 1** to **EL 12**; Fig. 3) and the water pipeline routes into seven (**WA 1** to **WA 7**; Fig. 3). The possible pipeline route to the licensed abstraction point on the river comprises sections **WA 1**, **WA 2**, **WA 3** and **WA 4** and the proposed combined abstraction and discharge pipeline **WA 1**, **WA 5**, **WA 6** and **WA 7**.
- 2.5 The location of the sections and the proposed works can be summarised as follows:

ASE ID	Summary of route section and location of works in relation to the current landscape	Length
EL 1	IWMF (Woodhouse Farm) north-north-west then north to edge of existing quarry workings adjacent to the Bradwell Quarry. Works within or in verge of the proposed access road extension to the IWMF from the quarry haul road. (The connection into the IWMF is at the centre of the rear south-east side of the building – Fig. 2)	c. 1.55 km
EL 2	Edge of quarry north-west to a stream. The route runs alongside a quarry access road. Works within or in verge of the proposed access road extension to the IWMF from the quarry haul road (Fig.2).	c. 0.40km
EL 3	North-west from a stream, rising up the valley side to a lane (highway). Works within or on verge of recently constructed access road.	c. 0.2km
EL 4	West along the highway to the junction with Five Ash Lane. Along the highway to Perry Green, then south-west along Links Road, past Clapdog Green. Works in the highway or verge.	c. 2.1km
EL 5	North-west from Links Road, along the side of field boundaries to Lanham Green. Works along edges of fields.	c. 0.65km
EL 6	NNW along highway Lanham Green Rd in direction of Fells Farm. Works in the highway or verge	c. 0.19km
EL 7	South-west across the highway then alongside a field boundary to Lanham Farm Road. Works along the edge of a field.	c.0.15km
EL 8	North-West along Lanham Farm Road, along the highway or verge, across the highway in the vicinity of Lanham Manor Farm and then along to Lanham Wood. The western section after Lanham Manor Farm likely to be inside the field boundary hedge.	c. 0.7km
EL 9	South-west along the boundary by Lanham Wood, then alongside field boundaries, past Stacey’s Farm on the western side to Ashes Rd. Then along Ashes Road. Works along the edge of the wood through a hedge and along edge of field.	c. 1km
EL 10	Along highway around the north and west sides of the garden centre. Works within the highway and within the verge.	c. 0.72km
EL 11	Southern loop around the garden centre, running alongside field boundaries. Works on the field edges. [Possible option that is now understood to be discounted by the client GFC]	c. 0.62km
EL12	Along Crossing Road (from a point south of the garden centre) to electricity sub-station. Works along verge and cinder track.	c. 0.2km

Table 1: Summary descriptions of the preferred electricity cable route

ASE ID	Summary of route section and location of works in relation to the current landscape	Length
WA 1	IWMF (Woodhouse Farm) north-north-west then north to point roughly due east of Maxeys' Spring – splits at this point to WA 2 and WA 5. Works in restored quarry within or in verge of the proposed access road extension to the IWMF from the quarry haul road. (The connection into the IWMF is at rear south-west side of the building – Fig. 2)	c. 1km
WA 2	Alongside a sinuous boundary and around a lagoon; within the restored quarry. Along the inside edge of proposed quarry up to Cuthedge Lane near Herons Farm. Works in the field edge (eastern side of the boundary) in restored quarry.	c. 0.65km
WA 3	North-east across the corner of a field and then alongside a boundary towards the River Blackwater. Works within the edge of a restored former quarry (Coggeshall Pit) next to its abutment with agricultural field.	c. 0.75km
WA 4	East along the edge of the northern edge of the former Coggeshall Pit along the concrete road by the river, then slightly north to the riverside and to the river. Works along or in the verge of the pit road.	c. 0.54km
WA 5	North from Maxey's Spring to edge of existing quarry workings adjacent to the Bradwell Quarry. Works within or in verge of the proposed access road extension to the IWMF from the quarry haul road. Then alongside the existing quarry access road to a stream,	c. 0.65km
WA 6	Alongside the existing Bradwell quarry access road north-west from the quarry edge to the River Blackwater existing Bailey Bridge via two highway crossings at Ash Lane and Church Road then to the river. Works within or on the verge of the existing quarry access road.	c. 1km
WA 7	East along the River Blackwater. Works along the floodplain or along the adjacent field edge.	c. 0.3km

Table 2: Summary descriptions of the preferred water main route

Geology

- 2.6 An indication of the regional geology has been obtained from the British Geological Survey (BGS) Map Sheet 223 (scale 1:50,000) covering the Braintree area. The map shows that the site is underlain by a variety of superficial deposits; primarily Boulder Clay (now defined as the Lowestoft Formation), but with bands of Kesgrave Sand and Gravel, River Terrace Deposits and Alluvium. The latter is situated within the river valley to the north.

- 2.7 The Lowestoft Formation is characterised by chalky till, together with outwash sands and gravels, silts and clays. The basal beds have shown banding and crude laminations. Below the Lowestoft Formation a continuous, or almost continuous, sheet of sand and gravel is present. This is believed to be the Kesgrave Sands and Gravels, which are a sequence of fluvial glacial gravels laid down in a braided river system containing flint, vein quartz, quartzite, sandstone and occasional igneous and metamorphic rock gravel clasts.
- 2.8 The London Clay Formation underlies these superficial deposits. This is a stiff, blue grey, silty clay, in which the upper surface is often weathered, exhibiting a colour change to brown grey. The geological map indicates that up to 69m of London Clay is present in the area and it is exposed in the river valleys to the north and the south where the drift deposits have been eroded. Below the London Clay, the anticipated geology is the Thanet Sand, Lambeth Group and the Upper Chalk. The surface of the Upper Chalk lies at approximately 90m beneath the Site and dips to the south. The local topsoil comprises greyish brown friable silt clay with occasional stones. Archaeological works at Bradwell Quarry have shown it to be between 0.25m to 0.35m thick.
- 2.9 Areas of completed and ongoing gravel extraction are present at the eastern end of the preferred routes. Extraction has been undertaken in the general vicinity for centuries, reflected in field names such as ‘Gravel Pit Field’ (ERO D/DU 19/1 - estate map of 1721 - not reproduced) and ‘Further Sand Pit Field’ (ERO D/DU 19/4 - estate map of 1735 – not reproduced). Accordingly the preferred routes cross areas which have been worked and, in some instances, restored. The progress of this is clearly visible as sequence of aerial images on Google Earth (not reproduced)
- 2.10 The geology of the preferred routes and the artificial ground (i.e. the ground surface has been significantly altered by human activity) can be summarised as follows:

ASE ID	Superficial Geology / Artificial Ground
EL 1	Worked Ground (quarry areas Area R and A2) and on-going extraction. Partially re-instated. Archaeological mitigation (fieldwork) has been completed and reporting is in progress. A short section at the south lies outside the excavated areas.
EL 2	Worked ground, partially re-instated.
EL 3	Kesgrave Sands and Gravels (south), Lowestoft Formation (north)
EL 4	Primarily Lowestoft Formation, crossing a band of Kesgrave Sands and Gravels between Perry Green and Clapdog Green.
EL 5	Lowestoft Formation
EL 6	Lowestoft Formation

EL 7	Lowestoft Formation
EL 8	Lowestoft Formation
EL 9	Lowestoft Formation
EL 10	Lowestoft Formation
EL 11	Lowestoft Formation
EL12	Lowestoft Formation

Table 3: Superficial Geology and Artificial Ground, preferred electricity cable route.

ASE ID	Superficial Geology / Artificial Ground
WA 1	Worked Ground (quarry areas Area R and A2) and on-going extraction. Partially re-instated. Archaeological mitigation (fieldwork) has been completed and reporting is in progress. A short section at the south lies outside the excavated areas
WA 2	Edge of worked ground (Lowestoft Formation)
WA 3	Edge of worked ground (Lowestoft Formation/ Kesgrave Sands and Gravels)
WA 4	Alluvium
WA 5	Worked ground, partially re-instated.
WA 6	Lowestoft Formation (south) crossing an band of Kesgrave Sands and Gravels, exposed London Clay of the Valley side and River Terrace Deposits towards its base (north)
WA 7	Alluvium

Table 4: Superficial Geology and Artificial Ground, preferred water main route.

Historic Landscape Character

- 2.11 The Historic Environment Management and Records Teams of Essex County Council carried out an Historic Environment Characterisation project for Braintree District to provide an evidence base to the Local Development Framework (ECC HEM 2010). This defined Historic Environment Character Areas (**HECA**) and Historic Environment Character Zones (**HECZ**). The supporting information within the entries for these areas and zones includes information on the known historic environment and archaeological potential.
- 2.12 The site lies within **HECA 12** and **HECZ 12.1** and **12.3**. This assessment identifies the character area as one where, outside the quarried areas, the historic landscape survives relatively well with a dispersed settlement pattern of church/manor complexes, farms and moated sites. The Roman roads of Stane Street (the A120) and the former A12 have influenced settlement distribution and field alignment.
- 2.13 The Historic Environment Characterisation describes the field-scape as complex, comprising pre-18th century irregular fields which have their origins in the medieval period or earlier, along with some co-axial fields

also of some antiquity. There has been some post-medieval and modern boundary loss and the Essex Historic Landscape Characterisation identifies much of the area as being of pre 18th-19th century enclosure, with some areas of later enclosure. A significant proportion of the landscape at the south-east end of the preferred routes was altered in the mid-20th century when Rivenhall Airfield was constructed and then subsequently became a centre for mineral extraction, ongoing to the present day.

3.0 PREVIOUS ARCHAEOLOGICAL WORKS

- 3.1 Extensive archaeological investigations have been undertaken at Bradwell Quarry, focused at, but not confined to, the disused Rivenhall Airfield. The most pertinent to this study is that undertaken in recent years in connection with extraction at Bradwell Quarry Site R, and the A2 and A3-4 quarry extensions (Fig. 2).
- 3.2 Five sets of archaeological fieldwork have been carried out in advance of gravel extraction at Bradwell and Rivenhall Airfield. These comprise fieldwalking and selective geophysical surveying of the entire airfield during 1991 and 1992 (Medlycott 1991; Johnson 1992), continuous monitoring and piecemeal excavation of Site R between 2001 and 2010 (Peachey 2003; Allen & Roy 2006; Germany 2006; Ennis 2008), trial-trenching of Areas A2 and A5 in 2006 and 2010 (Ennis 2006; Germany 2010), archaeological excavation and monitoring of part of area A2 during 2011 and 2012 (Germany in prep.), and trial trenching and excavation in A3 and A4 (Germany 2014; Clover in prep.). Details of the results where relevant to this desk-based assessment have been incorporated into the chronological narrative below.
- 3.3 The fieldwalking discovered fifteen concentrations of artefacts, four of which were situated within or immediately outside the south-eastern part of the A3 / A4 area (Germany 2014, fig. 2). Concentrations 6 and 8 overlapped and were indicated by pieces of prehistoric worked flint and Roman tile and pottery, concentrations 13 and 14 were indicated by pieces of post-medieval tile, and concentration 15 consisted of sherds of post-medieval pottery (Germany 2014). The geophysical survey targeted the fieldwalking concentrations, but found no significant anomalies.
- 3.4 An archaeological watching brief was maintained on topsoil stripping prior to the construction of an access road in 2001 which linked the quarry to the A120. The northern part of this road was formed by the improvement of an existing track and the southern part was previously quarried; as such only a 650m section in the centre of the route was monitored. No archaeological features were identified during these works. The proposed water combined abstraction and discharge line runs partly alongside this road.
- 3.5 The continuous observation of topsoil stripping and piecemeal excavation of Site R, between 1991 and 2010 recorded a small number of archaeological sites and intermittent features and finds. The sites included a Middle Iron Age round-house in the western part and medieval enclosures to its east and north-east. Evidence for the activities of other periods was minimal. Small amounts of Neolithic and later worked flint were present, although there were no concentrations, while Middle Bronze Age pits and finds were present on the northern and southern limits of the area and were possibly related to habitation

and domestic activity. Other features comprised several Late Iron Age / Roman ditches and an Early Saxon cremation burial.

- 3.6 The A2 and A5 trial-trenching discovered three archaeological sites. One of them lay north of Sheepcotes Farm and contained a small number of Middle Iron Age pits which may have been related to the Middle Iron Age roundhouse found previously. Pits and enclosure ditches dating to the 11th to 13th / 14th-century were also present at the same location and are likely to have been associated with Sheepcotes Farm, an adjacent long-lived settlement that is documented to have been founded during or before the 12th century. The second site was situated at the southern end of Area A5 and consisted of a thin scatter of prehistoric pits. The third site sat north-east of that and probably indicated the site of a Late Iron Age to Roman farmstead. A dense concentration of 13th-century pits was found on the southern edge of the Roman site and is conjectured to have been part of another small farmstead and / or an area of medieval quarrying.
- 3.7 Archaeological Evaluation of the IWMF site (in the eastern part of A2, Fig. 2) was undertaken in 2006 (Ennis 2006). It identified a low density of prehistoric, medieval and post-medieval remains. The archaeological monitoring and excavation of the western two thirds of area A2 in 2011 and 2012 revealed a Roman waterhole or well, which was probably part of the previously identified Roman farmstead. It also revealed two medieval sites, both of which contained remains of enclosures, ponds and medieval buildings (Germany in prep.). The archaeological field investigations in this area have been completed and mineral extraction is underway.
- 3.8 Archaeological trial trenching of Areas A3 and A4 was undertaken in 2012. This identified two areas of archaeological interest; part of an Early Iron Age enclosure and a medieval to modern settlement site (Germany 2014). Archaeological 'strip map and assess' excavation has been undertaken across A4 in 2014. This identified an Iron Age roundhouse, pits and post-holes and cremation burials along with a group of medieval features.
- 3.9 The majority of the archaeological works have been undertaken as part of the planning process and in accordance with briefs of works issued by, or detailed discussions with, Essex County Council Heritage Advice Management and Promotion team (later named Historic Environment Management, now Place Services) who act as archaeological advisors to Braintree District Council.
- 3.10 To the north of the existing quarry some 64 acres of land to the west of Curd Hall (Fig. 3) was to be quarried in the 1970s, limited trial trenching was undertaken, the extents and precise location of which is unclear (EHER 8611).

- 3.11 Beyond the quarry area there have been few archaeological investigations. These include the monitoring of water mains renewal along the A120 between Coggeshall and Whitesill Farm which identified prehistoric to post-medieval remains (EHER 47100).
- 3.12 To the west, in the vicinity of Cordons Farm, Long Green archaeological trial trenching was undertaken on the site of a former water transfer site which was located in an area where cropmarks had been recorded (EHER 48747). The site proved to be heavily disturbed and no archaeological remains were identified.
- 3.13 Archaeological monitoring was also undertaken during the excavation of a water pipeline in the vicinity of Lanham Green (EHER 48748). This too identified no remains, although it crossed a cropmark complex, although in this instance it was noted that conditions were 'unfavourable' and as such this may not reflect a true absence of remains.

4.0 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

4.1 Introduction

4.1.1 The following section summarises the known information relating to designated and non-designated heritage assets in the Study Area derived from the sources set out in 1.8. The identified heritage assets have been assigned an identifying number shown in **bold** in the text, and are tabulated in Appendix 1 and shown plotted on Fig. 3 unless otherwise indicated. Where possible numbers have been assigned chronologically.

4.2 Designated Heritage Assets

4.2.1 Heritage assets comprise a site, building, place, area or landscape of heritage interest and thus include both buildings and archaeological sites. Some heritage assets can be nationally designated, by legislation, or locally listed by the local planning authority. Many heritage assets are listed on county historic environment record databases, although this is not a definitive record of potential heritage assets – further examples may exist in an unrecognised or unrecorded form and absence from the HER database does not lessen the significance of any potential heritage asset.

4.2.2 Designated heritage assets are of a higher degree of status and significance, some of which enjoy a certain degree of legal protection from development. Nationally designated heritage assets include Scheduled Monuments (SM), Listed Buildings, Registered Historic Parks and Gardens, Historic Battlefields and Conservation Areas.

4.2.3 There are no nationally designated assets within the site itself.

4.2.4 Six Listed Buildings are located within the study area:

1: Parish Church of the Holy Trinity (List Entry No1337594)

Grade 1 – c.198m from the preferred routes

'Parish church. Early C12, altered in C14 and C15. Flint and pebble rubble containing blocks of indurated conglomerate and some Roman tile; original dressings of 'Coggeshall' brick, later dressings of limestone and clunch; porch timber framed and partly weatherboarded; roofs of handmade red plain tiles; belfry and spire timber framed and weatherboarded. The Chancel and Nave form a single cell, early C12, raised by approx. 0.5 metre in the C14 or earlier; S porch early C14; no other extensions or substantial alterations, other than to the windows'. (HE List Entry¹).

¹ <https://historicengland.org.uk/listing/the-list/list-entry/1337594>

2: Ancillary Building 50 Metres South East of Bradwell Hall (List Entry No 1123884)

Grade II – c.200m from the preferred routes

'Part of ancillary building of manor. Early C16. Timber framed, weatherboarded, roofed with handmade red plain tiles. 2 bays facing north-west, formerly of a longer building. 2 storeys. Open implement shed attached to SW, stable attached to NE, neither of special architectural or historic interest. Ground floor, plain boarded door and 2 C20 metal casements. First floor, plain boarded loading door and one defective window. Jowled posts, heavy studding, axial beam with plain joists of horizontal section jointed to it with soffit tenons with diminished haunches. Wide arched doorhead over present door. Crownpost roof with heavy down-bracing to central tiebeam and heavy arched bracing to collar-purlin. The high quality of the frame and the wide doorhead indicate that this is the remaining part of a building originally of manorial status, probably a court hall or granary/stable range. The boarding of the first floor is defective and is replaced by corrugated iron.' (HE List Entry²)

3: Perry Green Farmhouse (List Entry No 1123882)

Grade II – c.85m from the preferred routes

'House. C16, altered in C18 and C20. Timber framed, roughcast rendered, roofed with handmade red plain tiles. 3-bay main range facing S, with internal stack at right end against front wall, and C18/19 external stack at left end. 2-bay crosswing to right, re-roofed in C18/19 to align with main range. 2 parallel wings to rear, C18/19 and early C20. Single-storey extensions in rear left and rear right angles, forming catslides with the main block. Single-storey extension to rear left with pantiled roof. 2 storeys. 4-window range of C19 and C20 casements. C20 door. Gablet hip at left end of main roof. The roof ridge to right of the main stack is slightly higher than that to the left. The main range and crosswing are structurally separate, but both of the early to mid-C16, with jowled posts and heavy studding. The main range has a chamfered transverse beam with step stops, and to left of it a similar axial beam, both originally studded to form twin service rooms, but with the internal studs now removed. The service end is exceptionally long. To the right is a chamfered axial beam; the joists are plastered to the soffits. Large wood-burning hearth facing to left, mainly of C16 brickwork, but renewed below the level of the mantel beam. Crownpost roof complete, with an unusually heavy collar-purlin with an edge-halved and bridled scarf, and thin axial braces. The crosswing has diamond mortices for unglazed windows in the right wall, with a shutter groove in the lower storey,

² <https://historicengland.org.uk/listing/the-list/list-entry/1123884>

no shutter groove above. Floor joists from this wing have been removed, and re-used to form an open partition in the left bay of the main range, exposing the jointing, soffit tenon with diminished haunch, in the binding beam. Roof rebuilt above tiebeam level. RCHM 2.' (HE List Entry ³).

4: Barn 2m South West of Perry Green Farmhouse (List Entry No 1337593)

Grade II – c.90m from the preferred routes

'Barn. C16, altered in C19. Timber framed, weatherboarded, roofed with handmade red plain tiles. 4 bays aligned N-S, with midstrey to W. Lean-to extensions with corrugated iron roofs on both sides of midstrey. Jowled posts, heavy studding with curved braces trenched to the outside, edge-halved and bridled scarf in wallplate, cambered tiebeams. Roof rebuilt in C19' (HE List Entry⁴).

5: Silver Birches (List Entry No 1168513)

Grade II – c.10m from the preferred routes

'House. C16, altered in C20. Timber framed, plastered, roofed with handmade red plain tiles. 4 bays facing SE with axial stack near left end, external stacks at each end. Full-length rear lean-to raised to 2 storeys with flat roof c.1952. 2 storeys. Ground floor, 2 C20 casements and one square bay. First floor, 4 C20 casements. C20 door with small lean-to canopy. Full-length jetty, plastered. Jowled posts, heavy studding with ogee braces trenched to the inside. Chamfered axial beams with plain stops, plain joists of horizontal section. Shutter grooves for unglazed windows. Unglazed window at right end on first floor, blocked by external chimney. A C20 stair cuts through a wide wood-burning hearth facing to right. Roof rebuilt with ridge and much unsooted re-used timber. RCHM 3' (HE List Entry⁵)

6: Fowlers Farmhouse (List Entry No 1168605)

Grade II – c.50m from the preferred routes

'House. Circa 1400, extended in C18 and C19. Timber framed and brick, plastered, roofed with handmade red clay tiles. 2 bays aligned NE-SW; C18 single-storey extension to SE, with end stack, and lean-to extension to SW; mid-C19 brick range to NW, now forming entrance range, with 2 internal rear stacks. 2 storeys and cellar. Ground floor, 2 pairs of sashes, each of 2 + 2 horizontal lights with crown glass, mid-C19; first floor, 2 similar sashes, and central sash of 4 + 4 vertical lights. Central 4-panel

³ <https://historicengland.org.uk/listing/the-list/list-entry/1123882>

⁴ <https://historicengland.org.uk/listing/the-list/list-entry/1337593>

⁵ <https://historicengland.org.uk/listing/the-list/list-entry/1168513>

door in gabled porch of plastered brick with C19 serpentine bargeboards. Similar sashes in each return of the entrance range. The middle range is jettied at both ends, with at the NE end 3 wide plain brackets and an early C19 sash of 10 + 10 lights on each floor, and at the SW end 2 wide plain brackets and a horizontal sash of 6 + 6 lights on the ground floor. This range has a boxed-in binding beam, joists plastered to the soffits, and a crownpost roof with cross-quadrant central crownpost with broach stops and wide 4-way rising braces. The rear extension has primary straight bracing, and incorporates some re-used medieval timber. The middle range was originally the crosswing of an open hall which extended to lilt or SE, the remainder demolished. A cambered tiebeam in the present service range may be from it.' (HE List Entry⁶).

- 4.2.5 The Woodhouse Farmhouse, a Listed Building, is located towards the eastern end of the preferred routes just outside the study area. It has been included here as it is generally used as the address for the IWMF.

7: Woodhouse Farmhouse (List Entry No 1123843)
Grade II – c. 330m from the preferred routes

'House. Early C17, altered in C18 and C19. Timber framed, plastered with some weatherboarding, roofed with handmade red plain tiles. T-plan comprising 3-bay range facing SW with early C19 axial stack between left and middle bays, and one-bay original rear wing with internal stack at end. C18 extension in left rear angle. 2 storeys. One-bay wing beyond rear stack, of one storey with attics, date uncertain. Ground floor, 2 mid-C19 sashes of 16 lights with crown glass. First floor, 3 late C19 casements. Off-centre 6-panel door with simple canopy on brackets, with 3 cement-rendered brick steps. The rear bay has a gambrel roof. The right return of the main range has on the ground floor one mid-C19 sash of 12 lights with crown glass, in the rear elevation a 6-panel door, the top 2 panels glazed, and the right return of the rear bay has a C19 casement and a 5-panel door, the top panel glazed. The left return of the main range has on the ground floor one mid-C19 sash of 12 lights with crown glass, shaped sprockets below the eaves of the C18 extension, and a 4-panel door in the rear bay. The rear elevation of the rear bay is weatherboarded, with one C20 casement. The main range has jowled posts, close studding mainly plastered over, but visible where enclosed by the C18 extension, a chamfered binding beam with lamb's tongue stops, joists plastered to the soffits, and a C19 cast iron cooking range in an early C19 fire surround. The rear wing has a large wood-burning hearth facing to rear, reduced for a C20 grate. 2 staircases. In the rear bay is a chamfered beam with roll stops. Moated site'

⁶ <https://historicengland.org.uk/listing/the-list/list-entry/1168605>

4.3 Protected Lanes and Public Rights of Way

4.3.1 Cuthedge Lane is currently identified as a Protected Lane on the adopted Braintree District Local Plan Review (2005). These lanes are considered to have a particular historic and landscape value. The following policy relates to these lanes:

Policy RLP 87 Protected Lanes:

The District Council will seek to conserve the traditional landscape and nature conservation character of roads designated on the Proposals Map as Protected Lanes, including their associated verges, banks and ditches. Any proposals that would adversely affect the physical appearance of these protected lanes, or give rise to a material increase in the amount of traffic using them will not be permitted.

4.3.2 Braintree District Council has subsequently commissioned an assessment of these lanes as part of the evidence base for formulating Local Development Frameworks. This assessment, carried out by Essex County Council Place Services, comprised desk-based and field survey with the results being scored against specific criteria, for example historic integrity, diversity, aesthetic value and archaeological potential (ECC Place Services 2013). The assessment then applied a 'Threshold Score' to identify those "...deemed worthy of Protected Lane Status" (ECC Place Services 2013, 23). Cuthedge Lane was identified as now being below that threshold score (ECC Place Services 2013, fig 11 and Appendix 1).

4.3.3 Information on Public Rights of Way was obtained from Essex County Council, Essex Highways. Figure 4 shows Public Rights of Way crossing and in close proximity to the preferred routes, the reference numbers for which, obtained from ECC online mapping, are identified below:

ASE ID	PROW Refs. ⁷
EL 2 / WA 5	PROW 67.56
EL 4	PROW 67.58, 67.30, 67.33-4, 67.27-9, 67.28
EL 5	PROW 74.17
EL 8	PROW 74.1 (Byway to Lanham Manor Farm), PROW 74.23, 7.24, 74.36
EL9	PROW 74.23
EL 11	PROW 74.4
WA 3	PROW 67.71, PROW 67.55, PROW 67.24, PROW 67.43
WA 4	PROW 72.33

Table 5: Public Rights of Way in proximity to the preferred routes

⁷ <http://www.essexhighways.org/Transport-and-Roads/Getting-Around/Public-Rights-of-Way/Interactive-map.aspx>

4.4 Archaeological Background

- 4.4.1 The timescale of the archaeological periods referred to in this report is shown below. The periods are given their usual titles. It should be noted that for most cultural heritage assessment purposes the boundaries between them are not sharply distinguished, even where definite dates based on historical events are used.

Prehistoric: Palaeolithic (c. 750,000 BC - c. 10,000 BC)

Prehistoric: Mesolithic (c. 10,000 BC - c. 5000 BC)

Prehistoric: Neolithic (c. 5000 BC - c. 2300 BC)

Prehistoric: Bronze Age (c. 2300 BC - c. 600 BC)

Prehistoric: Iron Age (c. 600 BC - AD 43)

Romano-British (AD 43 - c. AD 410)

Early Medieval (c. AD 410 - AD 1066)

Medieval (AD 1066 - AD 1540)

Post-medieval (AD 1540 to date)

4.5 Prehistoric

- 4.5.1 An assessment of the natural sediments exposed at Bradwell quarry was undertaken by Dr Peter Allen (independent consultant), in order to determine the potential for Pleistocene faunal remains and Palaeolithic archaeology to be present (Allen 2011a). This concluded that the Kesgrave Gravels in this area have little potential to contain Pleistocene faunal remains/ Palaeolithic material but that a palaeosol (ancient soil) was present sealing the sands and gravels and which in turn was overlain by glacial till. The palaeosol was seen as representing a "B" horizon (subsoil) with the "A" horizon (topsoil) having been removed by subsequent glacial erosion. Although the "B" horizon had little potential, depressions containing areas of dark, brecciated organic material were seen as being of potential importance since a relative date of Marine Isotope Stage (MIS) 18 could be attributed to them, placing them in the time zone when early man is known to have been present in the East Anglian region (e.g. Pakefield, Suffolk – MIS 17, c. 700,000 BP and Happisburgh, Norfolk – MIS 22, c. 900,000 BP). Subsequent laboratory examination of samples indicates minimal organic presence and that the climatic conditions at the time of formation were likely to be hostile to human habitation (Allen 2011b & 2011c). Consequently it is considered unlikely that any remains of this date are present within the study area.

- 4.5.2 The archaeological works at Bradwell Quarry have identified remains of prehistoric date within the study area. The trenching evaluation of A3 and A4 identified a prehistoric gully (8). Its latest fill contained large quantities of charcoal and was uniformly black and distinctive. It produced twenty-six sherds of Early Iron Age pottery, and small amounts of burnt flint and later prehistoric / Iron Age worked flint. A few tiny fragments of burnt bone were also present. The range of finds present and its charcoal-rich fill, suggest that it is situated near an area

of settlement as none of this material is likely to have travelled far from its original point of use. This feature is interpreted as being part of an Early Iron Age enclosure. Substantial Iron Age remains have been identified to the north, close to the River Blackwater and this may relate to a peripheral focus.

- 4.5.3 A number of archaeological remains of prehistoric date have been recovered from the area to the west of Curd Hall, in the vicinity of **WA 3**. Investigation of a cropmark, subsequently not identified on the National Mapping Programme plots, situated to the west of Curd Hall, was undertaken in the early 1970s. These works recovered a Mesolithic flint blade from the field surface which represents the oldest remains located within the study area. The trial trenching identified a substantial ditch, "... proving to be 10m wide and 1.5m deep" (EHER 8611), containing Early Iron Age pottery (**9**). These dimensions are likely to be erroneous. Artefacts of probable prehistoric date have also been recovered from the field surface to the south of this enclosure (**10** and **11**). The location of the finds is considered to be approximate.
- 4.5.4 Prehistoric remains identified during watching brief works in Site R, included two groups of Middle Iron Age pits (**12** and **13**).
- 4.5.5 The extensive archaeological works to the south, outside the study area, but within Bradwell Quarry, have identified further areas of prehistoric remains. These included further finds scatters identified during fieldwalking, Neolithic and Middle Bronze Age pits and a Middle Iron Age roundhouse.
- 4.5.6 Overall the results of the archaeological works at Bradwell Quarry to date, including those beyond the study area, have provided evidence for occupation in the area from the Neolithic onwards, with the Middle Iron Age being particularly well represented in Site R.
- 4.5.7 Beyond the quarry there are few references to remains of definitive prehistoric date. This is, at least in part, likely to reflect the paucity of investigation. A Neolithic axe has been located towards the River Blackwater (**14**), residual finds of early Neolithic and Iron Age date were recovered from water main works in the vicinity of the A120 (**15**) and what may be prehistoric ring-ditches have been identified (**16**). The latter may perhaps be later in date (EHER 19966).

4.6 Roman

- 4.6.1 At the eastern end of the study area, to the south of Woodhouse Farm, evaluation in the vicinity of the latter identified the site of a Late Iron Age to Roman farmstead, **17** (Germany 2014). The focus of this lay within A5 (Fig. 2) and extended northwards into A2 where the remains have been subject to archaeological excavation (Germany in prep). Roman pottery has also been recovered from the moated area of Woodhouse Farm (**18**; AF Howland 2006).

- 4.6.2 The continuous monitoring of topsoil stripping and piecemeal excavation in Site R identified a minimal amount of Roman remains including, within the study area, a Middle Iron Age/Roman trackway (**19**; Germany 2014, fig 2) and a Roman pit (**20**).
- 4.6.3 Recorded Roman remains within the study area to the west of Curd Hall comprise surface findspots including principally pottery, tile and quern (**21**).
- 4.6.4 The A120, lying to the north of the study area, is on the line of a Roman road; Stane Street (EHER 1226). Works during the renewal of a water main along this route recovered a number of Roman finds dating from the 1st to 4th centuries AD (**22**). A possible Late Iron/Age/Roman settlement was identified through geophysical survey in the vicinity of the junction to Coggeshall and test-pits did find some evidence of what has been interpreted as industrial activity (**23**).
- 4.6.5 As with the earlier periods there is a paucity of known remains of Roman date in the study area to the west of the quarry, with none been recorded.

4.7 Early Medieval and Medieval

- 4.7.1 The early medieval period is sparsely represented in the archaeological record with no remains of this date being found within the study area.
- 4.7.2 The site lies within what is now the parish of Bradwell-juxta-Coggeshall and Cressing. In the 19th century and earlier it lay primarily within the parishes of Little Coggeshall, Bradwell, Cressing and Rivenhall (ERO Tithe Maps and Awards). The convergence of the parish boundaries in this area, coupled with the presence of detached holdings in some of the parishes, would suggest that the area may have been woodland pasture, the resources of which were split between the adjacent parishes (OAA 1997).
- 4.7.3 Prior to the Norman conquest the Domesday survey records that Coggeshall was held by the freeman Cola and Holy Trinity, Canterbury (Rumble 1983). Following the Conquest holdings in Coggeshall remained in the hands of Holy Trinity, Canterbury but the remainder transferred to Count Eustace.
- 4.7.4 Bradwell is not mentioned by name in the Domesday Survey, the first documentary reference dating to 1238, and there is minimal evidence for Bradwell and its church having developed from a late Saxon predecessor. Holy Trinity Church (**1**) and Bradwell Hall (**24**), the seat of the only manor in that parish, lie 1km from the nearest settlement.

- 4.7.5 Cressing is also not mentioned by name in the survey, and was probably part of the manor of Witham which was in the lordship of Earl Harold, and Burghard of Mendlesham prior to the conquest and in the hands of a variety of individuals including the King and Count Eustace after it. The placename dates to at least 1136 and is thought to derive from the presence of ditches and brooks noted for the presence of watercress (Reaney 1969).
- 4.7.6 Rivenhall was held by Earl Harold, Queen Edith, Wulfsi and Leofstan prior to the conquest and Count Eustace, Swein of Essex, Robert Gernon and Roger God-save-ladies following it (Rumble 1983).
- 4.7.7 The study area is situated within a landscape where a number of settlement sites that may have medieval origins still survive including Woodhouse Farm (**25**), Lanham Manor Farm (**26**), Herrings Farm (**27**) and Stacy's Farm (**28**).
- 4.7.8 Woodhouse Farm (**25**) is still extant, and just outside the study area. It lies to the south of the historic route of Pantlings Lane which a track once linked it to. The main access is from the south, from a road spur off Hollow Road. The latter used to link Kelvedon and Silver End prior to the construction of the airfield. Woodhouse Farm is a moated site of probable medieval date (EHER 8697). The moated enclosure is irregular in plan, being trapezoidal in shape; the roughly parallel western and eastern arms being c.60m and 130m in length respectively. The northern arm is continuous, linking the east and west arms, but the southern arm is much shorter, allowing access to the platform from the southeast. A plan of the farm by Petchye, dating to 1634 (ERO T/M 460/1, not reproduced) shows no southern arm to the moat, in addition there is a substantial ditch feeding into the northwest corner of the moat, following a natural vale (OAA 1997). The Ordnance Survey records the moat as being 6m wide and 1m deep (EHER 8697). At the time of Petchye's survey an orchard area to the west of the homestead moat, partially surviving in the modern landscape, was also surrounded by a substantial ditch. The house would appear to have been situated roughly in the same position as that of the extant Grade II listed 17th century house.
- 4.7.9 Woodhouse Farm lay in the manor of Church Hall, *Chellevedana*, first recorded in AD 998. A manorial survey dated to 1294 details the holdings of the manor as follows: 523 acres of arable (in 12 fields), 10 acres of meadow and 60 acres of woodland (OAA 1997). The woodland, called 'Welde Wood' is likely to have been located to the west of Woodhouse Farm and south of Maxeys Spring, where later documents (ERO T/M 460/1 dating to 1643) show 'Wildwood'.
- 4.7.10 Lanham Manor Farm (**26**), also referred to as Langham Farm and Lanham Hall Farm, is also likely to have medieval origins. The 16th century house (no longer extant) was situated within a moated enclosure, which are typically medieval in date. The moat is an

incomplete rectangle, with two sides having been infilled in the 20th century. The historic house was demolished and replaced by a new building in the 1960s. The placename, thought to derive from the personal name of Edmund de Le(e)nham/Leynham and has been traced back to 1306 (Reaney 1969).

4.7.11 Other sites within the study area have been identified through a combination of historic mapping and placename study and as such they have not been definitively identified as medieval. Herring's Farm (now Herons) **(27)** is thought to have medieval origins, the earliest known reference to *Herings* dating to 1394 (Reaney 1969). The earliest map depicting it is the Chapman and Andre map of 1777 (not reproduced), although the small scale of the map makes details difficult to discern and the farm is not named. Stacey's **(28)**, named Stacey's Farm on historic OS mapping, also shown (but not named) on the Chapman and Andre map, may also have medieval origins. Medieval pottery has been found in a field to its south-east (EHER 6498) The placename is thought to derive from the personal name Walter Stace, dating to 1381 (Reaney 1969). The existing buildings would appear to be modern in date (Google Earth). Maxey's Spring **(29)** may be associated with the family of Antony Maxey (Reaney 1969).

4.7.12 The archaeological investigations within the quarry identified medieval remains. These included medieval enclosures **(30)** identified alongside a continuation of Cuthedge Lane during the Site R works and are thought to be a crop processing site, used between the 12th and 13th centuries (Germany 2012, 4 and 17). Works in A2, to the south-west of Woodhouse Farm, identified two medieval sites, both of which contained remains of enclosures, ponds and medieval buildings. The southern-most of these **(31)** dated to the 12th to mid-13th century and was probably an agricultural working area, complete with large barn or byre, while its counterpart to the north **(32)** was probably a messuage, dating to the early 13th to 15th century. Late 12th / early 13th-century enclosure ditches sat to the west of both sites **(33)**.

4.7.13 The distribution of the medieval sites in the general area, particularly to the east of the quarry, suggests that Cuthedge Lane has been in continuous use since the medieval period, linking Coggeshall Hamlet and Bradwell village. Archaeological works established that the westerly alignment of the route **(34)** did originally continue across Site R through towards Highfield Spring.

4.7.14 In the study area outside the quarry medieval artefact scatters **(35)** have been identified to the west of Curd Hall and activity was recorded during the works in the vicinity of Stane Street **(36)**.

4.7.15 Whilst the archaeological evidence as to the Medieval landscape is largely confined to the investigations at Bradwell Quarry these works have covered an extensive area and as such can be considered to provide a reasonable example of the medieval landscape in the

general area. These suggest that the pre-airfield landscape of the area was being established from the 12th century onwards (Germany 2014, 17). The occurrence of the sites may be connected to the likely foundation of Bradwell Hall and church in the 12th century. It is likely that the larger landholdings in the area were sub-divided, either for rental for tenant farmers or by partible inheritance and that some of these are represented by messuages, farms and service areas of these dates (Germany 2014, 17). The extent of woodland clearance by this date is unclear but the establishment of these settlements indicated that at least some assarting of the earlier woodland/ wood pasture had been undertaken.

- 4.7.16 There are also a number of 'greens' in the area, particularly to the west in the parish of Cressing. These include Perry Green, Lanham Green, Clapdog Green and Laysells Green (between Stacey's Farm and Fowlers Farm). The latter is marked on the Chapman and Andre map of 1777. This network of greens, both focused (at, for example, crossroads and junctions) and linear provided permanent grassland within the arable landscape of strip-fields and crofts (Hunter 1999, 101). Most of those found in Essex to the north of the A12 were established or defined in the 12th or 13th centuries (Hunter 1999, 99). Those in Cressing are part of the wider polyfocal settlement pattern. This is also likely to include areas of manorial woodland such as that at Lanham Woods (**37**) (Hunter 1999, 104) and, perhaps Links Wood (**38**). The surviving parts of these are identified as 'Ancient and Semi-Natural Woodland' by Natural England; that is an area that has been wooded continuously since at least 1600AD⁸.
- 4.7.17 Settlement would appear to have contracted or shifted in its focus in the 13th and 14th centuries. Several of the archaeological sites appear to be abandoned by the 14th century. They do not appear to be reoccupied and Woodhouse Farm (**25**) is established in this area by the 15th century. Whilst some of the sites may have been disused through the 15th and 16th centuries, thus perhaps reflecting a period of falling population, the earliest references to nearby farms, including Herring's (**27**) date to the 14th and 15th centuries, perhaps suggesting a re-organisation of landholding and settlement rather than abandonment.
- 4.7.18 The layout of the medieval field system can only be postulated from the later maps. The field pattern largely comprises relatively small, slightly irregular shaped fields which are aligned with the east west orientated lanes which access the area. Many are likely to be 'tenement fields'; small blocks of land which abutted and encompassed the houses and yards of rented farms and cottages (Martin & Satchell 2008, 45-08).

⁸ <https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences>

4.8 Post-medieval and Modern

Farms

- 4.8.1 The post-medieval landscape of Bradwell is thought to be largely unchanged from that established in the medieval period, being largely agricultural in character and based around the surviving medieval farms with some scattered cottages and agricultural buildings.
- 4.8.2 Medieval Woodhouse Farm (**25**) was altered in the post-medieval period, the (extant) house (**7**) being constructed in the 17th century, presumably replacing a medieval building, and lying outside the moated enclosures. A 1618 rental on the estate of William Marler mentions a tenement called 'Woodhouse and a Yard', which may relate to this farm, and in 1634 the Marler family rented the farm to the Bishop of London. It appears that the moat dried out after the perimeter track and loop dispersals associated with the airfield had been built directly to the east and north of the site. The farm estates lay along a trackway running west from the farm and, by the mid-19th century, included "Wild Woods". The latter was an area of land lying to the south of "Maxeys Spring", which was in the ownership of the Bishop of London in the mid-19th century (e.g. ERO D/CT 196b). By 1846 both Woodhouse and Wildwood were owned by Felix Unwin Patterson (ERO D/DBm P15). The field pattern in this area, remains largely the same through the 17th, 18th and mid-19th centuries, with some boundary loss occurring in the latter half of the 19th and early 20th centuries.
- 4.8.3 Herring's Farm is thought to have medieval origins but the earliest map depicting it (**27**) is the Chapman and Andre map of 1777 (not reproduced), although the small scale of the map makes details difficult to discern. The earliest map showing the farm in detail is the tithe map of 1839 (ERO D/CT 45B), depicting a group of five buildings arranged around a farmyard. The layout is broadly comparable to that of later Ordnance Survey mapping although the latter does appear to depict a layout somewhat more akin to that of a model farm. Capons Farm and a number of roadside cottages lie to the east, outside the study area. The field pattern in this vicinity, marked as "Blessed End" on the tithe map, shows some boundary loss between the mid and late 19th centuries but then appears largely static through the early 20th century.
- 4.8.4 There are a number of other farms located within the study area and depicted on historic maps. These include:
- Whiteshill Farm (**39**);
 - Links Farm (**40**);
 - Doctors Farm (**41**) and
 - Deans Farm (**42**).
- 4.8.5 Other post-medieval remains include the site of the West Mill on the River Blackwater (**43**) and the Lanham Water Tower (**44**), which dates to 1938.

Rivenhall Airfield

- 4.8.6 In late 1943 Rivenhall Airfield was opened, under the control of the US 9th Air Force. It was the base of the 363rd Fighter Group and, later, the 397th Bomb Group. On the 1st October 1944 the airfield was taken over by the Royal Air Force No. 38 Group, comprising two squadrons (Nos. 295 and 570) of Short Stirling Bombers and Airspeed Horsa gliders. These remained until January 1946 when they were disbanded. Rivenhall Airfield was used in the post-war period for housing displaced persons, but in 1956 it was acquired by the Marconi Company for field testing radar systems.
- 4.8.7 The airfield covered a large area including part of the study area (Fig. 5). Its layout was typical of an American-built wartime airfield, comprising three runways joined by a perimeter track, dispersal loops, bomb stores, administration and ops site, sick quarters, hangers/nissen huts as well as dispersed camps (EHER 14183). Although significant landscape alteration was undertaken during the construction of the airfield the degree of below ground disturbance was variable; as demonstrated by the results of the various investigations described above. The airfield has subsequently become the site of significant mineral extraction, with many of the buildings being removed. It is understood that some World War II remains (e.g. concrete pads) may be present in the vicinity of the TPO woodlands (Fig. 2).

Bradwell Quarry

- 4.8.8 Evidence of quarrying in the area dates back to at least the 18th century with large scale extraction taking place from the mid-20th century onwards; the earliest of these latter being situated to the west of the airfield bomb stores and presumably being associated with the construction of the airfield. Subsequent quarrying has taken place over large areas of the airfield. In those areas not subject to mineral extraction the landscape remains rural in character.

4.9 Cropmarks and Aerial Photographs

- 4.9.1 The National Mapping Programme has identified numerous cropmark complexes within the study area. These largely comprise linear features, some of which represent the remains of infilled/grubbed up field boundaries. Across the south of the study area the only feature shown is the extensive remains of the airfield runways. The following provides a summary of the cropmark complexes along the route, as grouped by the EHER. They are illustrated on Figure 5.
- 4.9.2 Cropmarks in the vicinity of the easternmost end of the licensed water pipeline (**WA 4**) comprise a small ring-ditch and linear feature (**45**). These lie on the other side of the river to the preferred route.

- 4.9.3 A single linear feature (**46**) and a group of linear features (**48**) lie to west of **WA 6**. These include what are probably former boundaries and a possible former trackway. Some of the presumed boundaries are on a different alignment to that of the historic field system, suggesting a differing date.
- 4.9.4 To the north of **EL 4** and **WA 6**, between Bradwell Hall and Perry Green, cropmarks of a ring ditch, pits and gravel extraction have been recorded (**47**). To the west of these a further complex of linear features (**49**) has been noted, some of which are historic field boundaries.
- 4.9.5 To the west of Perry Green a complex of ring ditches, pits and linear features (**50**) has been recorded. Whilst the EHER polygon impinges on the study area the mapped cropmarks lie some 300m west of the preferred route.
- 4.9.6 Complexes **51**, **52**, **53** and **54** lie to the north and south of **EL 44** to **EL 8**. As mapped all primarily comprise linear features and enclosures although the EHER entry relating to **53** (EHER 6521) refers to the complex as including ring-ditches, trackways and circular enclosures.
- 4.9.7 Complex **56** lies to the south-west of **EL 9**, other than a former field boundary the mapped cropmarks, which include a bomb crater, lie outside the study area.
- 4.9.8 Complexes **55**, **57** and **58** lie at the western end of the route, in the vicinity of Galleys Corner, these too comprise linear features, some of which are historic field boundaries.
- 4.9.9 The Aerial Photographic Archives of the Historic England Archive (National Monuments Record) in the vicinity of the historic airfield have been examined as part of a previous assessment (Heppell 2014). A total of 40 vertical aerial photographs and eight obliques were viewed (Appendix 2). These photographs are largely dated to the 1940's, with some from the 1960s and the 1980s. In keeping with the EHER for the area the only sub-surface features noted were field boundaries and trackways, all of which could be correlated with features shown on historic mapping.

4.10 Historic Mapping

- 4.10.1 Historic Ordnance Survey mapping has been utilised as part of this study to identify individual heritage assets, primarily farms, and the results incorporated into the main text above. It has also been used to consider the changes in the landscape through the centuries.
- 4.10.2 At the time of research the collections of the Essex Record Office, which houses the archives for the county, was closed. Their collections include the Tithe Maps, which date to the 1830s and 1840s, which pre-date the earliest detailed editions of the Ordnance Survey by 30 to 40

years. Reference to ERO online catalogue would suggest that there are c. five other maps (in addition to the tithes) which may cover parts of the study area. These date from the late 17th to mid-18th centuries.

4.10.3 In terms of the wider landscape of fields, woodlands and sinuous trackways the historic mapping shows that there was very little change in the landscape since the 19th century, if not earlier, other than some boundary loss and loss of woodland (Figs 6-11). The construction of the airfield and the modern quarrying have altered a significant proportion of the landscape but beyond their limits the landscape remains relatively unchanged.

4.10.4 The Ordnance Survey mapping for the following years has been examined:

- 1876
- 1881
- 1897
- 1898
- 1922
- 1924
- 1938
- 1953
- 1956
- 1967
- 1990

5.0 ASSESSMENT OF HERITAGE POTENTIAL AND SIGNIFICANCE

5.1 A review of the cultural heritage evidence detailed earlier indicates that the route crosses a landscape which has been utilised from the prehistoric period onwards. This section of the report provides a general overview of the potential for heritage assets of archaeological interest to be or to have been (lost following quarrying) present within the study area. Such assets may have been significantly impacted by past land-use, particularly mineral extraction, which will have limited their survival. These past impacts are discussed in more detail in section 6.0 below.

5.2 Prehistoric

5.2.1 Prehistoric remains, both features and findspots, have been found in the study area, the majority during the investigations in advance of or during gravel extraction. Some of the cropmarks may potentially date to the prehistoric, for example those of ring-ditches which are typically of this date. As such it is possible that as yet unknown remains of this date may be present. The available evidence from the wider area would suggest that such remains, if present, are likely to be small scale and of low to moderate significance.

5.2.2 The preferred water route **WA 6** runs in relatively close proximity to a ring-ditch recorded as a cropmark (**47**) which may perhaps be of prehistoric date.

5.3 Roman

5.3.1 Roman sites within the study area are limited to scatters of finds, a Late Iron Age / early Roman farmstead and fragments of a trackway. Given the limited amount of evidence for Roman activity identified through the extensive archaeological investigations it is considered that the potential for such remains to be present is low. They are perhaps most likely to be located in the vicinity of the A1209 which was a Roman road. Should such remains be present they are perhaps most likely to be characterised by findspots and agricultural features such as enclosure/boundary ditches. They are likely to be of low significance.

5.4 Early Medieval and Medieval

5.4.1 The early medieval period is sparsely represented in the archaeological record for the study area which would suggest low potential. Given the paucity of known assets any remains present would be of at least moderate significance.

5.4.2 The medieval period, in contrast is better represented in the record, with a series of farms, small settlements, greens and enclosures. As such the possibility that other, as yet unknown, remains may be

present cannot be discounted. The medieval remains are likely to be of moderate significance, having the potential to contribute to regional research for the period. The definition and origins of medieval settlement patterns and the origins of post-medieval farms and their adoption of new practices have been identified as important subjects requiring additional archaeological research (Brown & Glazebrook 2000, 25 and 42).

- 5.4.3 The preferred routes run in relatively close proximity to a number of the medieval assets, such as the farms by the roadside and greens which may have acted as foci. Perhaps the most significant is the moated site at Lanham Manor Hall (26) which lies close to section **EL 8** and was a manorial centre.

5.5 Post-Medieval

- 5.5.1 Post-medieval heritage assets either survive within the current landscape or by record, for example depicted on historic mapping and as cropmarks. It will cross some of these. Archaeologically the post-medieval assets of the area are generally found to comprise infilled boundary ditches and artefacts and occasional buildings. Such assets are generally considered to have low significance.

5.6 Cropmarks

- 5.6.1 There are extensive areas of recorded cropmarks across the study area. Whilst the dates of these assets have not been established many would appear to be parts of field systems or field boundaries. The cropmarks are likely to be of low to moderate significance.

5.7 Summary of Potential and Significance

- 5.7.1 The significance of a heritage asset is ‘the value of a heritage asset to this and future generations because of its heritage interest.’ (NPPF 2012, Glossary). The known heritage assets within the site areas are typically of local significance. Should as yet unknown archaeological remains be present the available evidence from the wider Study Area would suggest that any such assets are most likely to be of local to perhaps regional significance.

6.0 PREVIOUS IMPACTS ON HERITAGE ASSETS

- 6.1 Extensive previous impacts on known or potential heritage assets have taken place since the mid-20th century. These have primarily arisen during groundworks for the construction of the airfield and mineral extraction (e.g. Fig. 2). These previous impacts have been summarised by route section in Table 5 below.
- 6.2 The construction of the airfield runways, taxiways and aircraft parking bays involved ground levelling and topsoil removal by box-scrappers pulled by tractors and bulldozers (Stait 1984) and is likely to have damaged or destroyed any archaeological remains that were present in the immediate area of the runways and areas of concrete hard standing for the dispersing and parking of aircraft.
- 6.3 Mineral extraction has taken place across much of the area of the airfield and north towards the river (Fig. 2). In these areas any archaeological remains will have been removed during mineral extraction and thus they are considered to no longer have any archaeological potential. There may perhaps be some limited survival on the fringes of the extraction areas but given the amount of groundwork and plant movement in the vicinity it is considered likely that any archaeological remains present will have been disturbed or damaged.
- 6.4 The following sections of the routes are considered to have no archaeological potential due to the previous impacts of mineral extraction:
- **EL 2**
 - **WA 1**
 - **WA 3**
 - **WA 5**
- 6.5 The majority of section **EL 1** lies within the former mineral extraction area but the southern c.165m lies within the area of TPO woodlands (Fig. 13). Previous disturbance is likely to be more limited in this area and it is considered that there may be some archaeological potential.
- 6.6 Section **WA 3** of the route will be within the replaced soils and overburden of the restored quarry workings; namely the former Coggeshall Pit operated by Blackwater Aggregates. Hence, there will be no archaeological potential on this section of the route.
- 6.7 Sections **EL 3** and **WA 6** run within or along the verge of a relatively new access track. There is likely to have been some impact on any archaeological remains in this area arising from construction activities and heavy plant movement.

- 6.8 Much of the remainder of the routes runs along the highway or their verges. There is likely to have been some impact on any archaeological remains in this area arising from their construction, repair and use. This is particularly the case at the eastern end of the route where a considerable amount of modern development has taken place.
- 6.8 Sections **EL 5**, **EL 9** and **EL11** run across or along the edge of fields where previous impacts are likely to have been minimal.

ASE ID	Previous Impacts arising from:
EL 1	Mineral extraction (excluding the southern c.165m within the TPO woodlands)
EL 2	Mineral extraction
EL 3	Existing access track built in former mineral extraction area
EL 4	Highway and highway verge
EL 5	Agricultural activities
EL 6	Highway and highway verge
EL 7	Agricultural activities
EL 8	Agricultural activities and highway/highway verge
EL 9	Agricultural activities
EL 10	Along highway around the north and west sides of a garden centre etc. – impacts arising from the road and nearby construction
EL 11	Agricultural activities and highway/highway verge
EL12	Highway/highway verge
WA 1	Mineral extraction
WA 2	Edge of mineral extraction, pit road
WA 3	Edge of mineral extraction.
WA 4	Pit road and track
WA 5	Mineral extraction
WA 6	Existing quarry access road
WA 7	Agricultural activities

Table 6: Summary of previous impacts along the Cable and Water Main Connection routes

7.0 IMPACT OF PROPOSED WORKS

- 7.1 This section of the report considers the potential impacts of the proposed development. In considering the significance of the impact of the development on any heritage assets that are present it is necessary to understand both the significance of the asset and the likely degree of impact (e.g. how much of the asset will be destroyed). Although presence/absence and significance of any heritage assets on the site is undetermined there is potential for such assets to be present in some places. As heritage assets are a fragile and non-renewable resource such impacts on them are considered to be adverse. In some areas along the routes significant previous impacts have been identified which will have resulted in the loss of such assets. In other areas archaeological mitigation works have already been undertaken.
- 7.2 The proposals seek to provide underground electricity and water main connections to the IWMF at Rivenhall Airfield. This will involve the excavation of trenches for water mains to the River Blackwater and cable trenches to Galleys Corner, Braintree.
- 7.2 The preferred routes lie within an area where there is the potential for heritage assets of archaeological interest to be present, particularly given the size of the scheme. Should such below ground heritage assets be present on the site they are likely to be relatively shallowly buried, typically immediately below topsoil/subsoil. The cable trenches will be up to 1m wide (maximum) and the water pipe trenches 1.6m wide (maximum). These are likely to be cut by a mechanical excavator and no easement will be stripped. Accordingly the area of impacts will be limited to that of the trench itself.
- 7.3 In considering the impact of the proposed works on the heritage resource the general archaeological potential, previous impacts and previous mitigation have been considered in order to assess the likely impact of the proposed works. These are outlined in Table 7 below and illustrated on Figures 12, 13 and 14. Impacts have been identified as *negligible* where significant previous impacts and/or archaeological mitigation works have taken place, *minor adverse* where some previous impacts have been identified (e.g. on or close to roads) and *moderate adverse* where minimal previous impacts have been identified and no archaeological works have been undertaken.
- 7.4 In the wider landscape the proposals may have a temporary impact on the setting of designated heritage assets (Listed Buildings) in the vicinity. However this is not considered to be of significance given the temporary nature of the works.

ASE ID	Location of trench	Previous Impacts arising from:	Previous Mitigation Works:	Impact Of Proposals :
EL 1	Within TPO woodlands	Agricultural activities/ tree roots	None	Moderate adverse
EL 1	Within or on verge of proposed access road	Mineral extraction	Evaluation, Watching Brief/Excavation	None
EL 2	Within or on verge of existing access road	Mineral extraction	No	None
EL 3	Within or on verge of existing access road	Existing access road	Watching Brief during construction of access road (no archaeological remains)	Negligible
EL 4	Within or on verge of highways	Highway and highway verge	No	Minor adverse
EL 5	Agricultural field	Agricultural activities	No	Moderate adverse
EL 6	Within or on verge of highway	Highway and highway verge	No	Minor adverse
EL 7	Agricultural field	Agricultural activities	No	Moderate adverse
EL 8	Within or on verge of highway or field behind hedge	Agricultural activities and highway/highway verge	No	Minor adverse
EL 9	Agricultural fields	Agricultural activities and highway/highway verge	No	Moderate adverse
EL 10	Within or on verge of highway	Along highway around the north and west sides of the garden centre.	No	Minor adverse
EL 11	Fields	Agricultural activities and highway/highway verge	No	Moderate adverse

EL12	Within or on verge of highway	Along Cressing Road (from a point south of the garden centre) to electricity sub-station.	No	Minor adverse
WA 1	Within or on verge of proposed access road	Mineral extraction	Evaluation, Watching Brief/Excavation	None
WA 2	East in field edge	Edge of mineral extraction	Evaluation (A4) – not identified for further excavation	None/ Negligible
WA 3	Edge of field within restored quarry workings	Edge of mineral extraction	Historic (e.g. EHER 8611). Scope ill-defined	None
WA 4	Within track	Pit road and track	No	Minor adverse
WA 5	Within or on verge of existing access road	Mineral extraction	No	None
WA 6	Within or on verge of existing access road	New access track	Watching Brief (no archaeological remains)	Negligible
WA 7	Wet ground by river <u>or</u> along field edge and track	Agricultural activities	No	Minor or moderate adverse

Table 7: Summary of likely impacts arising from the proposed works.

8.0 CONCLUSIONS

- 8.1 There are no designated heritage assets (Listed Buildings, Scheduled Monuments etc.) directly on the possible routes that have been assessed but there are seven Listed Buildings within the wider study area. The proposed works will not have a direct physical impact on these assets although they may have a temporary impact upon their setting during construction. Therefore, there will be no residual impact on the setting of these assets.
- 8.2 Any proposed diversions to the preferred routes will need to take into account the presence of heritage assets, particularly at Lanham Manor Farm **26** (Fig. 13), immediately to the south of **EL 8** which is set within a moated enclosure. There are also two areas of Ancient Woodland, **37** and **38** which will act as potential constraints to be considered (Fig. 13).
- 8.2 Cuthedge Lane is currently identified as a Protected Lane in the adopted Braintree District Local Plan Review (2005). These lanes are considered to have a particular historic and landscape value. The impacts on this asset will be temporary in nature and residual impacts minimal. The preferred routes also lie in close proximity to a number of PROW. Restrictions on the use of these may be required during construction works. It is assumed that reinstatement will be undertaken following works and thus the residual impact on these assets will be negligible/minimal.
- 8.3 In considering the significance of the impact of the development on any non-designated heritage assets that are present it is necessary to understand both the significance of the asset and the likely degree of impact i.e. how much of the asset will be destroyed. No specific heritage assets have been identified on the proposed routes but it is considered that, given the results of previous archaeological works and the length of the route, there is the potential for as yet unknown assets of archaeological interest to be present. They are most likely to be of local to perhaps minor regional significance.
- 8.4 Extensive areas of previous disturbance have been identified along the preferred routes, in some cases removing any assets in their entirety. In these areas no impacts on the cultural heritage resource will arise from the works. In other instances previous impacts will have disturbed or damaged, but not necessarily destroyed any assets present.
- 8.5 Given that there is the potential for, as yet unknown, archaeological remains to be present, along some sections of the cable and water connections, and that such remains may be impacted by the works it is likely that a programme of archaeological mitigation will be required.

- 8.6 Mitigation in the form of a Watching Brief during groundworks is felt to be an appropriate response, ensuring the preservation by record of any such assets

9.0 CUMULATIVE IMPACT ASSESSMENT

- 9.1 This Cultural Heritage Assessment has focussed on the impact of the proposed services connections to the IWMF and has identified the potential for, as yet unknown, heritage assets of archaeological interest (i.e. buried archaeological remains) along some sections of the route. Such remains, if present, will be impacted by the excavation of the service trenches. This would represent a further (cumulative) impact on the archaeological resource in the area which has previously been impacted on by mineral extraction. Such impacts have been mitigated by the agreed programme of archaeological works (for example those outlined in section 3.0 above) which has ensured their preservation by record.
- 9.2 Whilst it is acknowledged that the service connections represent a further impact on the resource this is not considered to be significant (assuming that any assets present are of local/regional significance and that an appropriate programme of mitigation is put in place to ensure the preservation by record of any threatened remains). Of the c.5km of proposed water pipelines some c.2.9km lies within areas with no surviving archaeological potential (primarily areas of previous mineral extraction subject to previous archaeological mitigation) and of the remainder only c.0.97km crosses areas of minor or moderate archaeological potential. Similarly much of the c.8.5km electricity cable route runs through the quarried areas, access/haul roads and along the highways with a small proportion of this, c.2km, running through relatively undisturbed agricultural areas
- 9.3 The IWMF services connections represent a part of the IWMF scheme as a whole, the main components of which comprise:
- IWMF Plant
 - Access road
 - New Field Stockpile and Sheepcotes Lagoon
- These IWMF proposals are situated at locations within Bradwell Quarry (Site R, and Area A2; see Fig. 15). They almost entirely lie within areas of completed, ongoing or proposed mineral extraction which have already been subject to programmes of archaeological mitigation (see Fig. 2 and Fig. 15) or have agreed mitigation measures in place. Accordingly the impact of the IWMF on the below-ground heritage resource is not an addition to those previously identified and mitigated as part of mineral extraction works.
- 9.4 Forseeable developments in the area, as provided by GFC, comprise the ongoing mineral extraction and restoration works at A2, A3 and A4 (Fig. 2). As with A2, extraction Areas A3 and A4 have been subject to archaeological mitigation works to ensure the preservation by record of any threatened remains. The impacts of the IWMF on the below-ground heritage resource, when considered alongside the previous, ongoing future expansion of the quarry, will represent only a minimal addition to

those previously identified and mitigated as part of mineral extraction works.

10.0 ACKNOWLEDGEMENTS

- 10.1 Archaeology South-East would like to thank Adrian Havercroft of the Guildhouse Consultancy for commissioning this Desk-based Assessment on behalf of Gent Fairhead & Co. Ltd and for his help and advice during the preparation of the report. ASE would also like to thank Steven Smith (Planning Agent, Honace).

- 10.2 ASE would also like to thank the following people for their help and advice: Teresa O'Connor, Maria Medlycott, Helen Saunders; ECC Place Services.

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APPENDIX 1: Gazetteer of Heritage Assets

Designated Assets

ASE_No	LB_NO	Name	GRADE
1	1337594	Parish Church Of The Holy Trinity	I
2	1123884	Ancillary Building 50 Metres South East Of Bradwell Hall	II
3	1123882	Perry Green Farmhouse	II
4	1337593	Barn 2 Metres South West Of Perry Green Farmhouse	II
5	1168513	Silver Birches	II
6	1168605	Fowler's Farmhouse	II
7	1123843	Woodhouse Farm	II

Non-Designated Assets

ASE No	Period	Source	EHER	NMR
8	Prehistoric	EIA Gully (Germany 2014)	0	0
9	Prehistoric	EIA Ditch excavated by Rodwell (HER)	8611	381575
10	Prehistoric	Early prehistoric pottery (HER)	8753	0
11	Prehistoric	Prehistoric surface finds (HER)	9914	0
12	Prehistoric	MIA Pit (various ASE /ECC FAU reports)	0	0
13	Prehistoric	MIA Pits (various ASE /ECC FAU reports)	0	0
14	Prehistoric	Neolithic axe - surface find (HER)	8754	0
15	Prehistoric	Residual Early Neolithic finds, IA Finds (HER)	47100	0
16	Prehistoric	Ring ditches showing as earthworks, possibly forestry borders (HER)	19966	0
17	LIA/Roman	Farmstead (Germany 2014)	0	0
18	Roman	Roman finds -Woodhouse Farm (Germany 2014)	0	0
19	Prehist/Roman	MIA/Roman trackway (Germany 2014)	46004	0
20	Roman	Roman Pit (HER)	47102	0
21	Roman	Roman finds recovered from field surface (HER)	9914	0
22	Roman	Roman activity (HER)	47100	0
23	LIA/Roman	Late Iron age and Roman settlement, identified by geophysical survey and test pits (HER)	17903	0
24	Medieval	Bradwell Hall Complex - Med origins (HER)	8675	0
25	Medieval	Woodhouse Farm (various sources)	0	0
26	Medieval	Lanham - moat, Lanham Green (HER)	6437	0
27	Medieval	Herrings Farm (placename)	0	0
28	Medieval	Stacys Farm (placename)	0	0
29	Medieval	Maxey Spring (placename)	0	0
30	Medieval	Medieval enclosure (Germany 2014)	0	0
31	Medieval	Enclosures, ponds and buildings (Germany	0	0

		2014)		
32	Medieval	13th -15th century message (Germany 2014)	0	0
33	Medieval	Late 2th - 13th century enclosure ditches (Germany 2014)	0	0
34	Medieval	Cuthedge Lane (Germany 2014)	47195	0
35	Medieval	Medieval surface finds (HER)	9914	0
36	Medieval	Medieval remains water (HER)	0	0
37	Medieval	Lanham Wood Ancient Woodland)	0	0
38	Medieval	Links Wood (Ancient Woodland)	0	0
39	Post-Medieval	Whiteshill Farm (Historic mapping)	0	0
40	Post-Medieval	Links Farm (Historic mapping)	0	0
41	Post-Medieval	Doctors Farm (Historic mapping)	0	0
42	Post-Medieval	Dean's Farm (Historic mapping)	0	0
43	Post-Medieval	West Mill (HER)	46092	0
44	Modern	Water Tower (HER)	15610	0

Cropmarks

ASE No	EHER No	Site Name	Type
45	17178	Cropmark E of Schills Farm	Field Boundary
46	47953	Cropmarks at Perry Green	Field Boundary, Site
47	14192	Cressing - cropmarks of field boundaries	Field Boundary
48	14200	South of Whiteshill Farm - cropmarks of a linear feature	Linear Feature
49	47952	Cropmark N of Ashes Farm	Field Boundary
49	14194	Cropmarks at Perry Green	Field Boundary, Site
50	14193	Cressing - cropmarks of field boundaries	Field Boundary
51	14191	Cropmarks W of Bradwell Hall	Ring Ditch
52	14222	Cropmark N of Stacey's	Field Boundary
53	6521	Cropmarks at Perry Green farm	Cremation, Ring Ditch, Linear Feature, Field Boundary
54	14223	Bradwell cropmark complex - enclosures and field boundaries	Linear Feature, Ring Ditch, Pit, Circular Enclosure, Rectangular Enclosure, Trackway, Circular Enclosure, Site
55	14231	Cropmarks NE of Bradwell Hall	Field Boundary, Trackway, Site
55	14232	Cropmarks W of Clapdog Green	Boundary
56	14238	Stock Street - cropmarks of ring ditch and field	Ring Ditch, Field

		boundaries	Boundary
57	14215	Cropmark SE of Fowler's Farm	Field Boundary
58	14214	Cropmark W of Ashes Farm	Field Boundary, Pit, Bomb Crater, Linear Feature

Appendix 2: Catalogue of Aerial Photographs Vertical Photographs

Sortie number	Library number	Camera position	Frame number	Held	Centre point	Run	Date	Sortie quality	Scale 1:	Film details (in inches)	Film held by
RAF/106G/UK/1367	304	FV	7381	P	TL 833 213	12	03 APR 1946	A	10000	Black and White 8.25 x 7.5	NMR
RAF/106G/UK/1367	304	FV	7382	P	TL 826 213	12	03 APR 1946	A	10000	Black and White 8.25 x 7.5	NMR
RAF/106G/UK/1492	328	RP	3330	P	TL 825 217	9	10 MAY 1946	A	10000	Black and White 8.25 x 7.5	NMR
RAF/106G/UK/1492	328	RP	3331	P	TL 829 217	9	10 MAY 1946	A	10000	Black and White 8.25 x 7.5	NMR
RAF/106G/UK/1492	328	RS	4327	P	TL 830 196	17	10 MAY 1946	A	10000	Black and White 8.25 x 7.5	NMR
RAF/106G/UK/1565	377	RP	3062	P	TL 819 204	1	07 JUN 1946	AB	10625	Black and White 8.25 x 7.5	NMR
RAF/106G/UK/1565	377	RP	3063	P	TL 828 204	1	07 JUN 1946	AB	10625	Black and White 8.25 x 7.5	NMR
RAF/106G/UK/1565	377	RP	3064	P	TL 836 205	1	07 JUN 1946	AB	10625	Black and White 8.25 x 7.5	NMR
RAF/58/4627	2195	F41	230	P	TL 833 208	3	16 AUG 1961	AB	11000	Black and White 9 x 9	MOD
RAF/58/4627	2195	F41	231	P	TL 825 208	3	16 AUG 1961	AB	11000	Black and White 9 x 9	MOD
RAF/17/186	2313	V	40	P	TL 833 211	3	18 JUL 1958	AB	9000	Black and White 9 x 9	NMR
RAF/17/186	2313	V	41	P	TL 823 210	3	18 JUL 1958	AB	9000	Black and White 9 x 9	NMR
RAF/17/152	2646	V	67	P	TL 834 200	3	24 MAR 1958	A	10000	Black and White 9 x 9	NMR
RAF/17/152	2646	V	68	P	TL 826 199	3	24 MAR 1958	A	10000	Black and White 9 x 9	NMR

RAF/58/263	3027	V	5353	P	TL 820 203	13	25 JUN 1949	A	7600	Black and White 9 x 9	NMR
RAF/58/263	3027	V	5354	P	TL 817 209	13	25 JUN 1949	A	7600	Black and White 9 x 9	NMR
RAF/58/294	3056	V	5070	P	TL 817 206	1	22 JUL 1949	A	7700	Black and White 9 x 9	NMR
RAF/58/294	3056	V	5071	P	TL 814 213	1	22 JUL 1949	A	7700	Black and White 9 x 9	NMR
RAF/58/303	3066	V	5035	P	TL 820 204	1	14 AUG 1949	A	7600	Black and White 9 x 9	NMR
RAF/58/303	3066	V	5036	P	TL 817 209	1	14 AUG 1949	A	7600	Black and White 9 x 9	NMR
RAF/58/303	3066	V	5138	P	TL 835 207	2	14 AUG 1949	A	7600	Black and White 9 x 9	NMR
RAF/58/303	3066	V	5139	P	TL 832 212	2	14 AUG 1949	A	7600	Black and White 9 x 9	NMR
RAF/58/303	3066	V	5140	P	TL 829 218	2	14 AUG 1949	A	7600	Black and White 9 x 9	NMR
US/7PH/GP/LOC166	6860	V	5012	P	TL 829 206	2	30 JAN 1944	AB	15000	Black and White 18 x 9	FDM
US/7PH/GP/LOC186	6869	V	5014	P	TL 823 193	14	29 FEB 1944	AC	15000	Black and White 18 x 9	FDM
MAL/80031	7652	V	47	P	TL 827 222	2	09 OCT 1980	A	12000	Black and White 9 x 9	AF
MAL/81022	7702	V	116	P	TL 825 201	2	22 JUN 1981	A	12000	Black and White 9 x 9	AF
MAL/82001	7783	V	131	P	TL 832 215	3	02 FEB 1982	A	5000	Black and White 9 x 9	NMR
MAL/82001	7783	V	132	P	TL 828 214	3	02 FEB 1982	A	5000	Black and White 9 x 9	NMR
MAL/83016	7816	V	34	P	TL 820 210	8	26 JUN 1983	A	3000	Black and White 9 x 9	NMR
MAL/83016	7816	V	35	P	TL 820 213	8	26 JUN 1983	A	3000	Black and White 9 x 9	NMR

MAL/83016	7816	V	36	P	TL 821 216	8	26 JUN 1983	A	3000	Black and White 9 x 9	NMR
MAL/83016	7816	V	37	P	TL 821 219	8	26 JUN 1983	A	3000	Black and White 9 x 9	NMR
OS/66227	11027	V	103	P	TL 826 216	5	20 AUG 1966	A	7500	Black and White 9 x 9	NMR
OS/66227	11027	V	104	P	TL 832 215	5	20 AUG 1966	A	7500	Black and White 9 x 9	NMR
OS/66227	11027	V	129	P	TL 830 202	7	20 AUG 1966	A	7500	Black and White 9 x 9	NMR
OS/83146	13050	V	46	P	TL 826 216	2	29 JUL 1983	A	10400	Black and White 9 x 9	NMR
OS/89062	13431	V	130	P	TL 828 218	7	30 MAR 1989	A	8100	Black and White 9 x 9	NMR
OS/89062	13431	V	131	P	TL 821 218	7	30 MAR 1989	A	8100	Black and White 9 x 9	NMR
OS/89062	13431	V	143	P	TL 823 205	8	30 MAR 1989	A	8100	Black and White 9 x 9	NMR
OS/89062	13431	V	144	P	TL 830 205	8	30 MAR 1989	A	8100	Black and White 9 x 9	NMR

Oblique Photographs

Photo reference (NGR and Index number)	Film and frame number	Original number	Date	Film type		Map Reference (6 figure grid ref)
TL 8221 / 2	EXC 16918 / 13	433	24 JUN 1992	Colour neg	70mm,120,220	TL 820216
TL 8320 / 1	AFL 61355 / EAW001518		05 JUL 1946	BW Cut Roll Film	5½ "	TL 837206
TL 8320 / 2	AFL 61355 / EAW001519		05 JUL 1946	BW Cut Roll Film	5½ "	TL 837208
TL 8320 / 3	AFL 61355 / EAW001520		05 JUL 1946	BW Cut Roll Film	5½ "	TL 837206
TL 8320 / 4	AFL 61355 / EAW001521		05 JUL 1946	BW Cut Roll Film	5½ "	TL 837206
TL 8320 / 5	AFL 61355 / EAW001522		05 JUL 1946	BW Cut Roll Film	5½ "	TL 837206
TL 8320 / 6	AFL 61355 / EAW001523		05 JUL 1946	BW Cut Roll Film	5½ "	TL 836205
TL 8320 / 7	AFL 61355 / EAW001524		05 JUL 1946	BW Cut Roll Film	5½ "	TL 837208

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