



Historic England

**PLANNING ACT 2008 (AS AMENDED) – SECTION 88 AND THE
INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES 2010 (AS
AMENDED) - RULE 6**

**REPRESENTATIONS OF THE HISTORIC BUILDINGS AND MONUMENTS
COMMISSION FOR ENGLAND (HISTORIC ENGLAND)**

**APPLICATION BY NATIONAL HIGHWAYS FOR AN ORDER GRANTING
DEVELOPMENT CONSENT FOR THE PROPOSED A12 CHELMSFORD TO A120
WIDENING SCHEME**

APPLICATION REF: TR010060

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1. Introduction

- 1.1 The Historic Buildings and Monuments Commission for England (HBMCE), is better known as Historic England, and we are the Government's adviser on all aspects of the historic environment in England - including historic buildings and areas, archaeology and historic landscape. We have a duty to promote conservation, public understanding and enjoyment of the historic environment. HBMCE are an executive Non-Departmental public body and we answer to Parliament through the Secretary of State for Culture, Media & Sport.
- 1.2 In relation to section 88 of the Planning Act 2008 (as amended) and the infrastructure planning (examination procedure) rules 2010 (as amended) we are a statutory consultee with responsibilities within the terrestrial landscape.
- 1.3 The applicant has provided a full Environmental Statement, which includes a chapter on cultural heritage (ES Chapter 7, supported by Appendices 7.1-10). This includes the results of geophysical survey, archaeological trial-trenching and Palaeolithic and palaeoenvironmental evaluation.
- 1.4 Historic England has been engaged in detailed pre-application discussions with the applicant's heritage consultants since the Scoping Opinion stage of the proposals.
- 1.5 Historic England is in agreement with the baseline data considered in the cultural heritage chapter of the ES and the list of designated and non-designated heritage assets set out in Appendix 7.1. We are also in agreement with the methodology used to assess the cultural heritage datasets in Chapter 7.
- 1.6 In our Section 56 Representation (dated 21 October 2022, Our ref: PL00753271) we identified that this development has the potential to impact upon the historic environment, and that without mitigation this impact has the potential to be significant in relation to some heritage receptors.
- 1.7 Historic England's advice on designated heritage assets will be limited to the impact on the significance of highly-graded designated heritage assets (scheduled monuments, grade I and II* listed buildings) which we consider could be harmed by the proposed development.
- 1.8 We have concerns, in particular, in terms of the assessment of the impact of new offline road sections on the significance of two scheduled monuments: the 'Neolithic long mortuary enclosure at Appleford Farm, Rivenhall End' (NHLE 1008980) and the 'Medieval moat at Marks Tey Hall' (NHLE 1477794).
- 1.9 We do not wish to comment on grade II listed buildings or individual non-designated heritage assets as these are outside the remit of Historic England. We are content to defer to the Local Planning Authorities and their conservation and archaeological advisors on those matters and we refer the examining authority to their submissions as relevant.

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- 1.10 Our advice includes comments on potential groundwater issues that might have an impact on heritage assets, both on built heritage and buried archaeological remains.
- 1.11 In relation to archaeology, the remit for detailed comments and advice on non-designated archaeological remains lies with the relevant Local Authority Archaeological Advisors. However, our advice includes comments on the submitted documents relating to the archaeological assessments, specifically on the geophysical survey, the trial-trenched evaluation, Palaeolithic and palaeoenvironmental evaluation. These comments are set out below in Chapters 7- 10 of our Written Representation.
- 1.12 Our advice includes comments from our regional Science Advisor and includes suggestions of further detail we would like to see considered in the Archaeological Mitigation Strategy in order to ensure the strategy is robust.
- 1.13 Historic England has some concerns about the draft Development Consent Order. We recommend that DCO Section 7 of Schedule 2 Requirements relating to Archaeology should be amended in accordance with our comments and reissued for examination and approval before consent is granted.

2. Policy

- 2.1 The avoidance of direct impact on designated assets is an important principle and direct impacts on scheduled monuments are rare. Policy directs us towards sustaining and enhancing assets (see NPSNN 5.130) and great weight is given to their conservation in decision making (see NPSNN 5.131). Likewise, any impacts, significant effects or harm need clear and convincing justification (NPSNN 5.131).
- 2.2 In addition, Para 5.132 recognises that 'any' harmful impact on the significance of a designated heritage asset should be weighed against the public benefit, and that the greater the harm, the greater the justification that will be needed. In this case policy 5.134 is also relevant in that, '*Where the proposed development will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal*'.
- 2.3 The 2021 version of the National Planning and Policy Framework (NPPF) is also relevant in relation to the principles required to test this development. In particular, it establishes a presumption in favour of sustainable development in the planning system (paragraphs 7, 8, 10 and 11) which also identifies protection of the historic environment as an important element of achieving sustainable development. Further policy principles relating to the historic environment are set out in Chapter 16 of the NPPF.
- 2.4 Paragraph 199 requires the planning authorities to place 'great weight' on the conservation of designated heritage assets, and states that the more important the asset the greater the weight should be, '*this is irrespective of*

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whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance’.

- 2.5 Paragraph 200 States that *‘any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification’.*
- 2.6 Paragraph 202 states that where a development proposal will lead to *‘less than substantial harm’ to the significance of a designated heritage asset, this harm should be ‘weighed against the public benefits of the proposal’.*
- 2.7 Paragraph 203 also goes on to state states that *‘the effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset’.*

3. Comments on the draft Development Consent Order

PINS Document reference 3.1

- 3.1 We recommend the draft Development Consent Order is not approved until the following amendments have been made to Section 7 of Schedule 2 Requirements Part 1 relating to Archaeology.
- 3.2 We have raised a number of concerns, below, in our Rule 6 Written Representation about the archaeological mitigation strategy referred to in 7(1) of the draft Development Consent Order. We would recommend these concerns are addressed, and Section 7 of Schedule 2 is amended, and submitted for examination and approval before consent being granted.
- 3.3 The outline written scheme of investigation, referred to in 7(1)-(3) of the draft Development Consent Order should be prepared and submitted for examination and approval before consent being granted.
- 3.4 The outline written scheme of investigation should be supplemented by a detailed written scheme of investigation prepared for each stage of archaeological investigation by the archaeological organisation commissioned to undertake the work. This should be included in the Development Consent Order to ensure the detailed scope of investigation is approved by the relevant planning authority and Historic England prior to commencement of the archaeological investigation.
- 3.5 The written scheme of archaeological investigation for each stage of archaeological investigation should be approved by the relevant planning authority and also approved by Historic England, as the statutory historic

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body. We would recommend, therefore, that Historic England is a named party in the Development Consent Order to ensure subsequent documentation relating to archaeological investigation are also approved by Historic England post DCO being granted.

- 3.6 A timetable for each stage of archaeological investigation, including fieldwork, assessment, analysis, reporting, publication and archiving, as well as display and presentation and community engagement, should be submitted to and approved by the relevant planning authority and Historic England. This should be included in the Development Consent Order to provide clarity to all parties as to when the approval of the detailed written scheme of archaeological investigation or detailed method statement, by the competent authority, will occur. It should allow sufficient time for review and any amendments and discussion as necessary with the relevant planning authority and Historic England.
- 3.7 The archaeological organisation commissioned to undertake the scheme of archaeological investigation must be approved by the relevant planning authority and Historic England.

4. Comments in relation to the Environmental Statement: Chapter 7 Cultural Heritage

- 4.1 The applicant has provided a full Environmental Statement, which includes a chapter on cultural heritage (Chapter 7, supported by Appendices 7.1-10). We do not have any specific comments to make on the majority of designated heritage assets assessed in this document.
- 4.2 We broadly accept the findings, with the exception of the assessment of two scheduled monuments: the 'Neolithic long mortuary enclosure at Appleford Farm, Rivenhall End' (NHLE 1008980) and the 'Medieval moat at Marks Tey Hall' (NHLE 1477794). Historic England's advice on designated heritage assets will be limited to the assessment of the impact of new offline road sections on these scheduled monuments.
- 4.3 We also have a small number of comments and recommendations concerning the layout of Chapter 7, below:
- We note the scheduled monument known as 'Neolithic long mortuary enclosure at Appleford Farm, Rivenhall End' (NHLE 1008980) has not been illustrated on Figure 7.1. The scheduled monument known as 'Medieval moat at Marks Tey Hall' (NHLE 1477794) is also unclear on this illustration. We recommend the applicant is required to produce an amended illustration for examination to ensure these scheduled monuments are clearly illustrated.
 - In our view, it is difficult to distinguish the designated from the non-designated heritage assets in Appendix 7.9, the Cultural Heritage Impact Assessment Summary Table. Asset No. 399, for example, is the scheduled monument

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known as 'Neolithic long mortuary enclosure at Appleford Farm, Rivenhall End' (NHLE 1008980). This is unclear in the Summary Table, however, because Asset No. 399 is not labelled as a scheduled monument.

- We would advise that a separate column is added to Appendix 7.9, the Cultural Heritage Impact Assessment Summary Table, to ensure the designated heritage assets can be clearly identified; alternatively, the designated assets could be separated into a different table. We recommend this table is amended in accordance with our comments and reissued for examination.
- We would advise that detailed illustrations are produced to show the location of each asset number listed in the Summary Table, Appendix 7.9. Currently, only some of these are marked on Figure 7.1 and it is difficult to ascertain the location of the majority of the heritage assets listed in the ES. Also, they are not illustrated in either Appendices 7.1 or 7.2. We would recommend, therefore, that this document is amended in accordance with our comments and reissued for examination.

5. Comments in relation to the Historic Environment Settings Analysis

5.1 We note the assessment of likely significant effects in Section 7.11 of Chapter 7. The assessment concludes that no impacts have been predicted for the eight scheduled monuments identified in the baseline dataset during construction or operation (Sections 7.11.4 and 7.11.77, also Appendix 7.9, Tables A.1 and A.4). Section 7.11.4 states, *'their value is derived principally from their evidential and historical value. Their setting within the modern arable landscape contributes little to their value and would not be significantly affected by construction of the proposed scheme'*. Section 7.11.77 states that no significant operational effects are envisaged upon archaeological remains.

5.2 While we agree there would be no direct impacts on these scheduled monuments during construction, we have concerns in terms of the assessment of setting and the impact of new offline road sections on two scheduled monuments:

- the 'Neolithic long mortuary enclosure at Appleford Farm, Rivenhall End' (NHLE 1008980) (ES asset 399) and,
- the 'Medieval moat at Marks Tey Hall' (NHLE 1477794) (ES asset 818).

We would like to comment, below, on the assessment of these scheduled monuments.

5.3 'Neolithic long mortuary enclosure at Appleford Farm, Rivenhall End' (NHLE 1008980)

5.3.1 In terms of the impact on the scheduled monument known as 'Neolithic long mortuary enclosure at Appleford Farm, Rivenhall End' (NHLE 1008980), we note that a new offline and embanked section of road will be constructed in the field to the north of the monument.

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- 5.3.2 A large drainage attenuation and water treatment pond, as well as ecological ponds and planting, is proposed between the new offline road and the scheduled monument.
- 5.3.3 The magnitude of impact (and residual magnitude of impact) is assessed by the applicant as no change while the significance of effect (and residual effect) is assessed as neutral.
- 5.3.4 We do not accept this assessment of the impact of the proposed offline road section on the significance of this scheduled monument. We consider the setting of the scheduled monument contributes positively to its significance. We consider the setting of the monument will be affected by construction and also operation of the new offline road section.
- 5.3.5 The scheduled 'Neolithic long mortuary enclosure at Appleford Farm, Rivenhall End' is situated on, or just above, the flood plain of the River Blackwater, at the confluence of Cressing Brook. The valley side slopes gently upwards, and northwards, away from the floodplain. It is currently within an open agricultural setting. In our view, the rural landscape surrounding the scheduled monument makes a positive contribution to the setting, even though the monument is no longer visible as an earthwork.
- 5.3.6 The current line of the A12 is set down in a slight cutting c.400m to the north, partially hidden from view of the scheduled monument. The proposed development will require the construction of major new earthworks - a new embanked and offline section of road that would be closer to the scheduled monument, in the field immediately to the north (ES Figure 2.1 Environmental Masterplan CH. 23900 TO 25100, Sheet 11 of 21).
- 5.3.7 We consider the proposed construction of the road on an embankment to the north of the scheduled mortuary enclosure, along with associated landscaping works, would result in a substantial change to the context of the monument. In our view, this would result in harm to the significance of the scheduled monument known as 'Neolithic long mortuary enclosure at Appleford Farm, Rivenhall End', both during construction and operation. Placing this in terms of the National Networks National Policy Statement (NPSNN) we conclude that this would be a high degree of 'less than substantial' harm under paragraph 5.134.
- 5.3.8 We recommend the assessment of the setting of, and impact of the proposed development on, this scheduled monument is reconsidered by the applicant and, where appropriate, the document revised and reissued for examination. This is because the setting makes a positive contribution to the significance of this monument and because the proposed development will result in a significant change to the setting.
- 5.3.9 We consider the ExA would need to be assured the mitigation for the scheduled 'Neolithic long mortuary enclosure at Appleford Farm, Rivenhall End' would be sufficient to meet the policy tests given that we have identified

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harm to the significance of the assets. This is to ensure the balance can be weighed as set out in policy 5.134 NPSNN and 202 of the NPPF.

- 5.3.10 We would recommend that proposals should be put forward by the applicant to mitigate the impact of the offline section of road on the significance of the scheduled monument.
- 5.4 'Medieval moat at Marks Tey Hall' (NHLE 1477794)
- 5.4.1 We have concerns about the impact of the proposed offline road section adjacent to the scheduled monument known as 'Medieval moat at Marks Tey Hall' (NHLE 1477794).
- 5.4.2 The proposed development would divert the historic and current line of the A12 closer to the scheduled monument and listed buildings at Marks Tey Hall with a new offline road section. The proposed offline road section would also require the reconfiguration of the historic access - diverting the access road to the east, and creating a new roundabout and, alongside, a large drainage attenuation and water treatment pond and planting (ES Figure 2.1 Environmental Masterplan CH. 36700 TO 38200, Sheet 18 of 21).
- 5.4.3 Appendix 7.9 of the ES identifies the impact of the proposed development during construction on the scheduled Medieval moat at Marks Tey Hall. It is stated, the value of this asset is derived principally from its archaeological remains which would not be affected by construction of the proposed scheme. For construction, the magnitude of impact is assessed by the applicant as minor and significance of effect as moderate, while the magnitude of residual impact is assessed as minor and significance of residual effect as slight. During operation, the magnitude of impact is assessed as negligible and significance of effect as slight.
- 5.4.5 We consider the significance of the scheduled monument to be greater than the below-ground archaeological remains, as stated in the ES. We recommend the contribution the setting makes to the significance of the monument needs to be further assessed. This section should be revised and reissued for examination.
- 5.4.5 The scheduled moated enclosure at Marks Tey Hall is set back, and away, from the line of the historic route, that is the current line of the A12 London Road, within an agricultural landscape context. It is at the end of a historic access road, Hall Chase, that links the moated hall complex with the historic main road.
- 5.4.6 This historic landscape setting, and configuration of historic farm groups in relation to the A12, can still be readily appreciated. This is replicated to the southwest of Marks Tey Hall at the neighbouring grade II listed Doggetts Hammer Farm (NHLE 1266767) and at Easthorpe Green Farm, which includes the grade II listed Easthorpe Green Farmhouse (NHLE 1238923) and Church View House (NHLE 1225564).

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- 5.4.7 We are concerned to ensure the impact of these proposed changes are adequately assessed, and we believe the proposed construction of the new offline road section to the north of Marks Tey Hall would also result in a change to the historic landscape context of the scheduled monument. Placing this in terms of the NPSNN, we conclude this would be high 'less than substantial' harm under paragraph 5.134.
- 5.4.8 The impact of the proposed offline road section on all three listed buildings (ES asset numbers 816, 817 and 819) at Marks Tey Hall (the Grade II listed Marks Tey Hall (NHLE 1224576), the Grade II* listed Barn South of Marks Tey Hall (NHLE 1224577) and the C17 Barn to North West of Marks Tey Hall (NHLE 1266768) has been identified in Sections 7.11.37-68 and Tables 7.12 and 7.14 in Chapter 7 and Appendix 7.9.
- 5.4.9 In comparison to the scheduled monument, the magnitude of impact and significance of effect on the three listed buildings, as well as residual magnitude of impact and residual significance of effect, are all identified as moderate adverse by the applicant, during construction and operation.
- 5.4.10 Section 7.11.68 of Chapter 7 states the proposed construction activities are predicted to result in setting impacts to the group of listed buildings at Marks Tey Hall from the earthwork and landscaping activities with associated visual intrusion from construction machinery and traffic together with associated noise and dust. This is assessed as a moderate magnitude of impact on each of these assets and it is considered to result in three direct effects of moderate adverse significance.
- 5.4.11 Section 7.11.95 states, the operation of the proposed scheme is '*predicted to result in an impact from the presence of the earthworks and structures within settings of the Marks Tey Hall group of listed buildings, which is assessed as resulting in harm to the aesthetic value and historic legibility of the three listed buildings. This would result in moderate magnitude of impacts on three high value heritage assets, resulting in three effects of moderate adverse significance*'.
- 5.4.12 One of the principal reasons the moated enclosure is scheduled is for its group value with the Grade II listed Marks Tey Hall (NHLE 1224576), the Grade II* listed Barn South of Marks Tey Hall (NHLE 1224577) and the C17 Barn to North West of Marks Tey Hall (NHLE 1266768). All these designated assets form an historic group of high importance and in many ways can be considered as a single, integrated entity.
- 5.4.13 We note, moreover, that Section 7.11.65 of Chapter 7 states that the Marks Tey Hall moated enclosure contributes to the legibility, historic and communal value of the three listed buildings at Marks Tey Hall.
- 5.4.14 We note also the assessment of the impact on the landscape of the proposed offline bypass between J24 and J25, which includes the realignment of the access to Marks Tey Hall and associated landscaping works (Appendix 8.2 of Chapter 8; see also Table 8.14 of Chapter 8). The landscape effects schedule

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(Appendix 8.2) states the proposed offline section '*would add new, uncharacteristic, conspicuous elements within the arable landscape east of the A12, south and east of Marks Tey*'.

- 5.4.15 We recommend, therefore, the impact of the proposed development on all of the designated heritage assets at Marks Tey Hall as a historic entity should be also assessed by the applicant and the document revised and reissued for examination. This is because the setting makes a positive contribution to the significance of this monument and because the proposed development will result in a significant change to the setting.
- 5.4.16 We consider the ExA would need to be assured the mitigation for the group of designated heritage assets Marks Tey Hall would be sufficient to meet the policy tests given that we have identified harm to the significance of the assets. This is to ensure the balance can be weighed as set out in policy 5.134 NPSNN and 202 of the NPPF.
- 5.4.17 We would recommend that proposals should be put forward by the applicant to mitigate the impact of the offline section of road on the significance of these designated heritage assets.

6. Comments in relation to the Groundwater Assessment

- 6.1 It is stated in Section 7.9.3 and 7.9.12 of Chapter 7 that the construction impacts could adversely affect the preservation of buried archaeological remains through changes to groundwater levels or through the introduction of pollutants, but there is no mention of how this could be mitigated.
- 6.2 We note that Sections 7.9.9 and 7.11.39-41 of Chapter 7 state construction impacts on built heritage could result from changes to groundwater conditions that could cause a potential differential settlement risk to historic buildings. Table 7.11 of chapter 6.1 indicates that four grade I and 20 II* listed buildings (excluding cutting W6, Kelvedon) will be potentially affected by groundwater conditions.
- 6.3 It is stated in Section 7.11.39, this risk to built heritage assets cannot yet be fully quantified. Further assessment is proposed during the detailed design phase based on data from additional ground investigations. Section 14.10.48 of Chapter 14 states, '*a detailed differential settlement risk assessment based on the detailed design and supplementary ground investigation would be undertaken*'.
- 6.4 Section 14.10.49 continues, '*should detailed assessment confirm that buildings are at risk of differential settlement, additional mitigation measures would be undertaken such as condition surveys and asset protection measures prior to the relevant works being undertaken, and subject to landowner consent, to mitigate any adverse impacts from differential settlement associated with the dewatering activities*'.

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- 6.5 We would recommend this further assessment should be carried out as soon as possible, and provided for examination, to establish the buildings potentially affected by this, as well as the likely effects and the proposed mitigation prior to consent.
- 6.6 In addition, we note there is also potential for changes in groundwater levels to affect buried archaeological remains. We would recommend that the zone of influence and area of impact (both within and outside of the Order Limits) is modelled and discussed in more detail within Section 7.11.5 of Chapter 7. This section should be revised and reissued for examination. We would also recommend that proposals for mitigation should be submitted for examination and approved before consent is granted.

7. Comments in relation to the Archaeological Geophysical Survey

- 7.1 We welcome the archaeological evaluation carried out to inform the proposed development. We recognise the geophysical survey is a major piece of work, comprising a magnetometer survey of approximately 635 hectares.
- 7.2 The remit for detailed comment and advice on non-designated archaeological remains lies with the relevant Local Authority Archaeological Advisors and we do not intend to comment in detail on this report. We do have, however, a small number of specific comments.
- 7.3 We note that some parts of the proposed route have not been surveyed. We recommend that the applicant is required to submit a timetable for these areas to be surveyed, to ensure the proposed development is all assessed to the same level or standard, and before the mitigation works are finalised. This timetable should be submitted for approval before consent is granted.
- 7.4 In particular, the area adjacent to the scheduled monument known as 'Neolithic long mortuary enclosure at Appleford Farm, Rivenhall End' (NHLE 1008980) has not been evaluated by geophysical survey, although this area has been trial-trenched evaluation.
- 7.5 We recommend this part of the study area is also surveyed, given the proximity of the scheduled monument. This is to ensure that the setting of the scheduled monument is adequately and appropriately assessed. We recommend that the applicant is required to submit a timetable for this area to be surveyed, to ensure the proposed development is all assessed to the same level or standard. This timetable should be submitted for approval before consent is granted.
- 7.6 The results of this additional geophysical survey should be approved by the relevant planning authority and also approved by Historic England. They should be used to inform the detailed WSIs for mitigation.

8. Comments in relation to the Archaeological Trial-trenching Evaluation

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- 8.1 We broadly welcome the trial-trenching report submitted with the application (Appendix 7.7 of Chapter 7). We recognise the trial-trenching evaluation is a major piece of work, comprising a total of 2,117 linear trenches. This work, along with the other evaluation techniques, helps to ensure that below-ground archaeological deposits are adequately assessed, and to inform the proposed archaeological mitigation strategy (Appendix 7.10, see below).
- 8.2 The remit for detailed comment and advice on non-designated archaeological remains lies with the relevant Local Authority Archaeological Advisors and we do not intend to comment in detail on this report. We do have, however, a small number of comments.
- 8.3 We note the document A12 Archaeological Evaluation (Chelmsford – A120) Final Assessment Report - Volume 2 (CLIENT REF. HE551497-COS-HER-3_SO-RP-X-0008), which is part of Appendix 7.7, is a 'draft for review'. We would request the final version of this document is submitted for examination.
- 8.4 We note there are some gaps in the trial-trenching, and a number of areas of the proposed development have not been investigated by trial-trenching evaluation. We recommend that a separate illustration is produced in the trial-trenching report to show these gaps. We recommend that areas of the route that have not yet been evaluated are also shown on Figure 7.2 of Chapter 7; consequently, this figure should be revised and reissued for examination.
- 8.5 The areas that have not been investigated by trial-trenching evaluation should be also evaluated with trial-trenching. We recommend the applicant is required to submit a timetable for these areas to be surveyed, to ensure the proposed development is all assessed to the same level or standard. This timetable should be submitted for examination and approval before consent is granted.
- 8.6 A report on the results of this additional trial-trenching evaluation should be submitted to and approved by the relevant planning authority and also approved by Historic England. The results should be used to inform the detailed WSIs for mitigation.
- 8.7 We have previously provided comments to Costain (14/04/2022) on a draft of the trial-trenching evaluation report (Appendix 7.7). We have advised that we would expect to see photographs of trenches and selected features, as well as section drawings, to provide more information about the archaeological features encountered during the evaluation. We recommend these are provided in report to allow the results of the evaluation to be fully assessed. The revised document reissued for examination and approval before consent is granted.
- 8.8 We have also previously recommended that illustrations need to be provided in the report for Site 41 onwards (following illustration 19) in Volume 1 of the trial-trenching report (Appendix 7.7). We consider it is important these illustrations are provided for Sites 41 to 86, which are listed in Table 1 of Volume 1, to enable them to be fully assessed – and because no further

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archaeological work is proposed for these areas. We recommend this is added to the evaluation report and the revised document reissued for examination and approval before consent is granted.

- 8.9 We have also previously requested further information about the selection of proposed eight Watching Brief sites, listed in Volume 1 (Appendix 7.7), which all contained archaeological features defined by the trial-trenching evaluation. We recommend further assessment is undertaken to establish the significance of these features.
- 8.10 We have previously advised that radiocarbon dating should be undertaken for charred remains defined by the trial-trenching evaluation, where a watching brief has been proposed in terms of further work. We continue to recommend that this work is undertaken to establish the significance of these features and, consequently, to assess the appropriateness of the proposed mitigation strategy for these areas. We recommend this work should be undertaken and submitted for examination and approval before consent is granted.

9. Comments in relation to the Palaeolithic and Palaeoenvironmental Evaluation

- 9.1 We welcome the Palaeolithic and Palaeoenvironmental Evaluation Report (Appendix 7.8 of the ES). The remit for detailed comment and advice on non-designated archaeological remains lies with the relevant Local Authority Archaeological Advisors and we do not intend to comment in detail on this report. We do have, however, a small number of comments.
- 9.2 We note section 7.6.5 of Chapter 6.3 states that a number of specialist annexes '*are draft and may be updated*'. We recommend any necessary revisions are made and the document submitted for examination and approval before consent is granted.
- 9.3 We note, in particular, the central area lake deposits identified east of Witham proved to be a more complex infilled lake with marginal wetland at its edges. These deposits contained several areas considered to be of high potential for the presence of *in situ* palaeolithic remains (Chapter 6.1 of the ES, Section 7.8.43). Areas of high potential for the presence of Palaeolithic and palaeoenvironmental remains are shown on Illustration 13 of Appendix 7.8.
- 9.4 We note that a programme of archaeological excavation and investigation of Palaeolithic and Quaternary Deposits will be developed and implemented, subject to the outcome of ongoing consultation with the stakeholders (Section 7.6.10 of Chapter 6.1).
- 9.5 It is stated in Section 7.8.40 that specialist geophysical techniques were used to characterise the relationships between deposits, but it is not stated if the approaches were successful. It is clear from Appendix 7.8 that the selected techniques helped to identify patterns that can be targeted at subsequent phases of investigation, but this was not clear in the main Environmental

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Statement document. We recommend this should be clarified by the applicant prior to the examination being concluded.

10. Comments on Appendix 7.8: Palaeolithic Evaluation: Fieldwork Stage 1 (Part 1 report) and Fieldwork Stage 2 (Part 2 report)

- 10.1 The proposed scheme crosses an area of high Palaeolithic potential, with deposits of national significance known to be present, and which would be impacted by the proposed scheme. The Stage 1 and 2 evaluations present the results of the geophysical surveys and the assessment of the test pits and boreholes recovered from across the area of the scheme.
- 10.2 The evaluation reports build on the findings of the desk-based assessment (Appendix 7.3). They confirm what was expected following the DBA, identifying areas of high archaeological and paleoenvironmental potential. The work has also demonstrated the importance of the deposits within this region to refine our currently understanding of landscape and environmental change, allowing the BGS mapping to be questioned and to add complexity and detail to the existing evidence. For example, the work carried out to date suggests that more than one lake could be present in the area of the proposed scheme (Part 2 report, Section 5).
- 10.3 The findings of the reports have been used to outline the next steps in the assessment strategy (Part 1 report, Table 6; Part 2 report, Table 4). An iterative approach will be used to allow the results of each stage of work to guide the mitigation strategy going forward, which is a sensible approach. The work that is proposed post-consent will include additional geophysical surveys, the collection of boreholes, palaeoenvironmental assessments and OSL dating, allowing the deposit model to be updated and refined.
- 10.4 We are pleased that a detailed, area-specific assessment strategy has been put forward, including purposive geoarchaeological interventions (Report Part 2, Section 6.3, Section 6.4 and Table 4). It is noted that different scales of interventions will be implemented based on the potential of a given area: minimal/low potential areas will be assessed using a single phase of test pits spaced 20m apart. This would prove the area was indeed of low potential or to allow areas of higher potential to be identified. Areas of moderate, high or very high potential would be tested through several phases of interventions, each phase increasing in resolution (Part 2 report, Section 6.3). The ability to revise the assessment approach applied to each area in response to new information is positive, as it will allow unexpected but important discoveries to be investigated in an appropriate manner.
- 10.5 It is noted that subsequent WSIs will be prepared for the proposed phases of work, which we look forward to seeing. The outline strategy has been presented in Appendix 5 of the Part 2 report, which looks sensible, but additional detail will need to be presented in the WSI in terms of the approaches that will be used and the resolution of the samples that will be recovered.

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- 10.6 We recommend a timetable for each stage of work is submitted for approval prior to the works commencing. A WSI for each stage of work, prepared by the specialist contractor, should be submitted for approval by the relevant planning authority and also approved by Historic England prior to each stage of these works commencing.
- 10.7 A report on each stage of work should be submitted for approval by the relevant planning authority and also approved by Historic England. The results should be used to inform the detailed WSI for mitigation. We recommend the document is revised to take account of these comments, and reissued for examination and approval before consent is granted.
- 10.8 We agree that a robust chronology will be needed to place the evidence into context (Stage 2 report, Appendix 3, Sections 5 and 6), and that a range of techniques will be considered (OSL/IRSL, palaeomagnetism, Amino Acid Racemisation and other specialist dating techniques).
- 10.9 The Palaeolithic sequences present in the area of the scheme are clearly important, but the geoarchaeological and palaeoenvironmental evidence from the Holocene is also part of the story of the landscape and environmental change. Although a specific section has been included that discusses the Holocene sequence (Part 2 report, Section 4.4), it is noted that the aims and objectives predominantly focus on the Palaeolithic period (Part 2 report, Section 2.1). We would recommend that a specific section, with aims and objectives, is included for the Holocene sequence. We recommend the revised document is reissued for examination, and approved before consent is granted.

11. Comments in relation to the Archaeological Mitigation Strategy

- 11.1 We broadly welcome the proposed Archaeological Mitigation Strategy presented in Appendix 7.10 of Chapter 7, and which is based on the results of the archaeological assessments.
- 11.2 We recommend the areas proposed for mitigation, and the different types of mitigation, are more accurately depicted as polygons on Figure 7.10, to show the extent of the proposed mitigation areas more clearly, and so they can be assessed in relation to the evaluation. We recommend this is added to the Archaeological Mitigation Strategy and the revised document reissued for examination and approval before consent is granted.
- 11.3 We also recommend that a separate illustration is prepared to show the areas of the route where evaluation is outstanding, to assess the extent of the areas that have not currently been assessed, either by geophysical survey and/or trial trenching. We recommend this illustration is added to the Archaeological Mitigation Strategy and the revised document reissued for examination and approval before consent is granted.

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- 11.4 We recommend the areas of the route where evaluation is outstanding are also surveyed as soon as possible, and in advance of the agreement of the detailed archaeological mitigation, as outlined in our comments above. We recommend the applicant is required to submit a timetable for these areas to be surveyed, to ensure the proposed development is all assessed to the same level or standard. This timetable should be submitted for approval before consent is granted.
- 11.5 We note the document sets out the scope, guiding principles and methods for the planning and implementation of the required written scheme of investigation (WSI).
- 11.6 We recommend that, in addition to the excavations aiming to record the nature, depth, extent, character and date of archaeological deposits, the condition of remains is also recorded (Appendix 7.10, Section 2.3.2). We recommend reference to this is added to the Archaeological Mitigation Strategy and the revised document submitted for examination and approval before consent is granted.
- 11.7 We broadly welcome the proposed contents of the WSI presented in Chapter 6 of Appendix 7.10. We are disappointed, however, that the outline WSI has not been presented with the submission documents. We note it is stated the WSI will be produced before the start of construction works (Appendix 7.10, Section 1.3.2). We recommend this is submitted for examination and approved before consent is granted.
- 11.8 Details should be presented about the techniques and approaches that will be used to assess and record the archaeological deposits and remains so that it is clear how this work will proceed, and also to outline what is expected of the contracting unit(s) responsible for excavating the sites.
- 11.9 The overarching themes of the research questions that will be addressed by the Archaeological Mitigation Strategy should include the investigation of Holocene environments (Appendix 7.10, Section 4.3.1), particularly as this is listed as a specific research aim in Section 4.4.2). We recommend this is added to the Archaeological Mitigation Strategy and the revised document reissued for examination and approval before consent is granted.
- 11.10 We recommend the Historic England document 'Curating the Palaeolithic' (2023) is referenced when producing the Outline WSI:
[REDACTED]
[REDACTED]. We recommend this is added to the Archaeological Mitigation Strategy and the revised document reissued for examination and approval before consent is granted.
- 11.11 We are pleased the value of Bayesian modelling has been considered in order to address the research aims of the project (Appendix 7.10, Sections 4.4.5, 4.4.6). We recommend the Historic England document 'Radiocarbon Dating and Chronological Modelling' (2022) is referenced in the Outline WSI:
[REDACTED]

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Also, we recommend that other techniques are considered in addition to radiocarbon dating, such as archaeomagnetism, dendrochronology or OSL dating where appropriate. We recommend these are added to the Archaeological Mitigation Strategy and the revised document reissued for examination and approval before consent is granted.

- 11.12 Questions have been asked about the use of enclosures and field boundaries (e.g. Sections 4.4.5, 4.4.6, and 4.4.8). There is the potential for scientific approaches to complement standard approaches to investigate these sorts of features. For example, techniques such as micromorphology could be used to identify the activities carried out in an area from the microfuse present, while techniques such as soil chemistry/lipid analysis could be used to determine if an area was used as an animal pen through the identification of lipid biomarkers associated with faecal remains. This may help understand the organisation of farmsteads and the activities that may have been carried out in an area. We recommend this is added to the Archaeological Mitigation Strategy and the revised document reissued for examination and approval before consent is granted.
- 11.13 For the proposed archaeological mitigation measures – excavation (Chapter 8 of Appendix 7.10), Strip, map and sample excavation (Chapter 9), watching brief (Chapter 10), Palaeolithic investigation (chapter 11) and geoarchaeological and palaeoenvironmental assessment (Chapter 12) - we note that consultation is ongoing with the curators to agree the need for, scope and scale of the mitigation measures. We recommend this consultation is completed, and the scope and extent of all this work is submitted for examination and approved before consent is granted.
- 11.14 Sections 8.3 and 9.4 outline the scope of the hand excavation work that will be carried out and how different types of features and remains will be investigated. We are pleased to see that in situ burnt features will not be excavated until the potential for archaeomagnetic dating has been considered. We recommend that spatially distinct environmental samples from occupation surfaces should be also considered (Sections 8.3.7 & 9.4.2). We recommend this is added to the Archaeological Mitigation Strategy and the revised document reissued for examination and approval before consent is granted.
- 11.15 We are pleased that a dating specialist with a background in chronological modelling will be consulted before, during and after the fieldwork phase in order to provide advice (Section 8.6.3). We are also pleased to see that environmental samples will be processed and initially assessed while the fieldwork is ongoing. This allows timely feedback to be provided to the field team, and to inform the ongoing strategy (Section 8.6.6). This will also prevent the degradation or damage of archaeological/paleoenvironmental remains and will stabilise the assemblage, in line with the CIFA document *Collection, Documentation, Conservation and Research of Archaeological Materials* (2014, updated 2020):
- We recommend this is added to the Archaeological Mitigation Strategy and the

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revised document reissued for examination and approval before consent is granted.

- 11.16 We note the use of a watching brief has been included in the Archaeological Mitigation Strategy (Section 10 of Appendix 7.10). Ten watching brief mitigation areas are included in the proposed mitigation strategy (Appendix 7.10, Table 5.1); this is two more sites than listed/selected in Volume 1 of the trial-trenching evaluation report (Appendix 7.7). We recommend this is checked and, where appropriate, the Archaeological Mitigation Strategy amended. The revised document should be reissued for examination and approval before consent is granted.
- 11.17 Section 5.4.2 of Appendix 7.10 states that archaeological fieldwork may be required during the Main Works stage. We recommend the completion of all the archaeological fieldwork in advance of the main works stage, and we have previously advised that we would not recommend the use of a watching brief during the main works. There is a high risk this approach could cause delays to the development if archaeological remains, requiring further investigation, are defined during the main works. We recommend, therefore, the proposed approach is reviewed and revised, and the amended document reissued for examination. Alternative mitigation strategies should be proposed to ensure all archaeological fieldwork is completed well in advance of the main works stage.
- 11.18 Section 11.2 outlines how test pits will be used to investigate the areas classed as having moderate, high or very high potential for Palaeolithic archaeology and environmental remains. We note that more information about the proposed strategy is included in Section 6.3 of the Palaeolithic Evaluation report (Appendix 7.8, Part 2), detailing the staged approach that will be used to refine the spacing of test pits from 100m down to 25m where appropriate. The Archaeological Mitigation Strategy should also include this level of detail so that is clear how the work will proceed. We recommend this is added to the Archaeological Mitigation Strategy and the revised document reissued for examination and approval before consent is granted.
- 11.19 It is stated in Section 11.3.2 that a 20mm mesh will be used to sieve deposits and recover small artefacts and remains. It should be noted, the Historic England document '*Curating the Palaeolithic*' (2023) recommends that a 1cm/10mm mesh size is used to recover artefacts and faunal remains. We recommend, therefore, this is amended in accordance with the Historic England guidance and the revised document reissued for examination and approval before consent is granted.
- 11.20 It is stated that, where appropriate, other dating techniques should be considered to investigate the age of deposits sampled in cores (Section 12.3.2), which is welcomed. One of the techniques being considered is archaeomagnetic dating. If this approach is to be applied to deposits sampled by cores, for example, lake deposits, we would recommend this is discussed with a specialist before any cores are collected. The samples will need to be recovered in a specific way to ensure that the relevant information is recorded

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(for example, the orientation of the core). We recommend this is added to the Archaeological Mitigation Strategy and the revised document reissued for examination and approval before consent is granted.

- 11.21 We welcome the proposed archaeological reporting strategy (Chapter 14 of Appendix 7.10). We welcome the proposed post-excavation assessment and publication, and reference to analysis in Section 14.2.5.
- 11.22 We consider further detail is provided in the Archaeological Mitigation Strategy relating to specialist analysis, which is a critical stage of work between post-excavation assessment and publication. Also, we recommend an academic review workshop, with the participation of appropriate period and regional specialists, is scheduled into the project at the end of the post-excavation assessment stage. This is to provide peer review of the archaeological fieldwork results and to inform the research objectives for analysis and publication. We recommend this is added to the Archaeological Mitigation Strategy and the revised document reissued for examination and approval before consent is granted.
- 11.23 We note that discussions are currently ongoing with the curators and receiving museums archive officers for the process for the deposition of the (non-digital) archive to a museum (Appendix 7.10, Section 15.3.2). Reference should also be made in this section to the CifA DigDigital toolkit ([REDACTED]). We recommend this is added to the Archaeological Mitigation Strategy and the revised document reissued for examination and approval before consent is granted.
- 11.24 We have previously advised that attention should be given at an early stage in the project to the archiving and storage, which could be a significant issue due to the likely size of the physical archive (i.e. artefacts and ecofacts). We recommend the intended location of the physical archive is secured with written commitment from an appropriate local museum or archive repository and stated in the submission. This should be approved prior to the granting of consent. This is important because the size of the archaeological archive is likely to be very large and we are aware there are current issues relating to the storage of archaeological archives in this region.
- 11.25 We also note that discussions are currently ongoing with the curators and receiving museums archive officers for the process for the deposition of a digital archive via the Archaeology Data Service (Appendix 7.10, Section 15.3.2). In our view, the digital archive should be deposited with the Archaeology Data Service and this needs to be agreed in writing prior to consent, to ensure it is secured.
- 11.26 We welcome the proposed public engagement aspect of the archaeological work, in section 16 of Appendix 7.10. We note that Section 16.4.6 provides 'a list of activities that could be considered'.
- 11.27 We recommend the Archaeology Mitigation Strategy should make provision for presentation of the discoveries, within local museums and/or other

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appropriate public venues along and/or close to the route. This could, for example, include museum quality display cases, including design and display material (either in a museum and/or in another appropriate community building), as well as the design and installation of interpretation panels. It should also make a commitment for the enhancement of the HERs, and provision of resources to integrate the results of the archaeological investigation into the HERs. We recommend this is added to the Archaeological Mitigation Strategy and the revised document reissued for examination and approval before consent is granted. This work should be clarified in more detail in the scheme-specific strategy.

- 11.28 We note the proposed audience mapping, the targeted audiences and the activities to be undertaken, referred to in Section 16.1.6 of Appendix 7.10. We would recommend that a timetable is submitted for examination and agreed before consent is granted.
- 11.29 While we support the general list of public engagement activities, we would recommend more detailed information, and a clear strategy, is provided in the Archaeological Mitigation Strategy about this important aspect of the project. We recommend the scheme-specific strategy should be clarified in more detail and subject to approval both by the relevant planning authority and also by Historic England prior to the works commencing.
- 11.30 We consider that amendments are required to the proposed Archaeological Mitigation Strategy in Appendix 7.10 of Chapter 7 in line with our recommendations above. The revised document should be reissued for examination and approval before consent is granted.
- 11.31 We would also recommend that a timetable for the archaeological mitigation investigation should be submitted and subject to approval both by the relevant planning authority and also Historic England prior to the works commencing.

12. Conclusion

- 12.1 We have provided detailed advice in our written representation about the scheme, the assessment and comments on the documents that have been submitted for examination.
- 12.2 Historic England are broadly content with the proposed layout and design. We have some concerns, however, in terms of the impact of new offline road sections on the significance of two sites: the scheduled 'Neolithic long mortuary enclosure at Appleford Farm, Rivenhall End' and the group of highly designated heritage assets Marks Tey Hall.
- 12.3 In relation to these two sites, we have concluded that the development would result in harm to these designated heritage assets. We have, however, concluded this would be less than substantial in nature.

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- 12.4 In relation to the Historic Environment matters and in coming to a decision the ExA would therefore need to weigh the harm against the benefits, as set out policy.
- 12.5 We consider the ExA would need to be assured the mitigation for the scheduled 'Neolithic long mortuary enclosure at Appleford Farm, Rivenhall End' and for the group of highly designated heritage assets Marks Tey Hall would be sufficient to meet the policy tests given that we have identified harm to the significance of the assets.
- 12.6 Our advice includes comments on potential groundwater issues that might have an impact on heritage assets, both on built heritage and buried archaeological remains.
- 12.7 Our advice includes comments relating to the archaeological assessments, specifically on the geophysical survey, the trial-trenched evaluation, Palaeolithic and palaeoenvironmental evaluation. Our advice also includes comments about the proposed Archaeological Mitigation Strategy.
- 12.8 We would recommend these comments are addressed, and additional information and clarification provided by the applicant. We would expect revised documents, addressing these comments, to be reissued for examination.
- 12.9 We also have some concerns with regards to the DCO wording and the role of Historic England. We consider these are matters that would need to be addressed before consent is granted.

ENDS