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Our ref: 454166
Your ref: TR010032



Mr Rynd Smith
Lead Member of the Examining Authority
The Planning Inspectorate
National Infrastructure Planning
Temple Quay House
2 The Square
Bristol BS1 6PN

Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

T 0300 060 3900

By email only, no hard copy to follow

Dear Mr Smith

**Application by National Highways for an Order Granting Development Consent for the Lower Thames Crossing
Natural England's response to Deadline 6
Natural England User Code: 20034784**

Natural England is pleased to provide our Deadline 6 response for the Lower Thames Crossing Examination within the annexes appended to this letter.

For ease, we have provided our comments in the following Annexes to this letter:

- Annex 1: Post event submissions, including submission of oral comments made at the hearings during the weeks commencing 16 and 23 October 2023
- Annex 2: Natural England's delayed response to ExQ 11.5.1 from ExQ1 in relation to badgers
- Annex 3: Natural England's delayed advice to the Applicant's response to ExQ 11.4.2 from ExQ1 in relation to the categorisation of bird species
- Annex 4: Responses to the Examination Questions 2 (sent under separate cover)
- Annex 5: Updated Statement of Common Ground
- Annex 6: Updated Principal Areas of Disagreement
- Annex 7: Comments on the Applicant's submissions at Deadline 5
- Annex 8: Natural England's response to the Action Points from Issue Specific Hearing 6
- Annex 9: Any further information requested by the Examining Authority under Rule 17 of the EPR
- Annex 10: Any further information requested by the Examining Authority under Rule 17 of the EPR
- Annex 11: Request to attend November Issue Specific Hearings

Natural England hopes our Deadline 6 comments are helpful and we will continue to work collaboratively with the Applicant to try and resolve the outstanding matters detailed below.

Yours sincerely

James Seymour
Deputy Director, Sussex and Kent Team

John Torlesse
Deputy Director, West Anglia Team

Email ltc@naturalengland.org.uk

1 Annex 1: Natural England's comments following Issue Specific Hearings

Issue Specific Hearing 8 - Construction and Operational Effects (Non traffic)

- 1.1 Natural England has no comments to make on the topics nor the evidence presented by the Applicant and Interested Parties in relation to Issue Specific Hearing 8. We may wish to provide comments once the Applicant has provided their post hearing submissions and responses to the Action Points.

Issue Specific Hearing 9 - Environment and Biodiversity

- 1.2 Natural England's oral and follow-up advice from Issue Specific Hearing 9 is provided in the tables below, which for ease, are based upon the Hearing agenda.

3. Ancient Woodland Impact

a)	Guidance and Methodology
i	<p>What guidance was/should be followed by the Applicant in relation to the location, form, quantity and extent of ancient woodland replacement?</p> <ul style="list-style-type: none">• Is this methodology agreed by Natural England and other relevant IPs? <hr/> <p>For clarity, as mentioned during our oral evidence, given the irreplaceability of ancient woodland, Natural England does not use the term 'replacement' in relation to ancient woodland habitat. Habitat creation for ancient woodland loss should be referred to as compensation.</p> <p>Natural England has advised the Applicant to apply the joint Natural England and Forestry Commission Ancient Woodland Standing Advice (2022), submitted with our Deadline 4 response (Examination Document REP4-336) in designing their compensation for ancient woodland loss (for example, within Section 14.3.8 of our Written Representation, Examination Document REP1-262).</p> <p>We note the Applicant's references to this and other relevant standards in designing their approach to ancient woodland compensation. We are satisfied that the Applicant's landscape scale approach to compensatory planting, which looks to buffer and connect remaining woodland, reflects the relevant advice. The Standing Advice does not recommend a specific ratio of loss to compensation habitat but allows that compensation be developed on a site-specific basis.</p> <p>As set out in Natural England's Deadline 4 response (Examination Document REP4-324 section 2.b.i) we are still expecting the outline Landscape Ecology and Management Plan (oLEMP) to be amended to refer to in perpetuity management of habitat creation areas. This would be in line with the Applicant's commitment in their response (Examination Document REP2-046) to our Written Representation (Examination Document REP1-262) to manage all habitats created as part of the project in perpetuity and to update the oLEMP to reflect this. This is particularly important for ancient woodland compensation which takes many decades (30 years plus) to become ecologically functional.</p> <p>Natural England's understanding of the term 'in perpetuity' from an ecological</p>

	<p>perspective is that the habitat created should be managed in line with its ecological purpose (to achieve and/or maintain its conservation value) for the lifetime of the scheme.</p> <p>Natural England identifies a risk in delivery due to the lack of detail regarding woodland creation. Which is further exacerbated by the lack of detail and ambiguity within the Control Documents (as detailed within Section of our Written Representation, Examination Document REP1-262).</p> <p>We also remain concerned as to how the Project will ensure that the woodland functions ecologically. We consider that that a much broader, indicators of success approach which considers both habitat establishment and how protected and wider species of conservation interest are utilising the created habitats is required. This is detailed within Section 13 of our Written Representation (Examination Document REP1-262). We also discussed this during our Issue Specific Hearing 6 oral evidence, confirmed within our Deadline 5 Response (Examination Document REP5-109). We have also provided further advice on this matter within our response to ExQ2 Q11.1.2 to be submitted at Deadline 6.</p>
ii	<p>Are the criteria used to determine whether a tree or woodland is classed as veteran or ancient employed for the project sufficiently clear and robust?</p> <p>_____</p> <p>Our response is unchanged from our Deadline 4 response (Examination Document REP4-324, Section 3.a.i). Natural England is satisfied with the Applicant's approach to classifying ancient woodland and veteran or ancient trees.</p>
iii	<p>Have physical surveys of woodland been completed to show the full extent of affected habitat and has the level of importance assigned totrees been based on an agreed methodology with Natural England and other stakeholders?</p> <ul style="list-style-type: none"> • Natural England has suggested using CIEEM good practice guidance. Is this approach justified and what additional work mightbe required? <p>_____</p> <p>The Chartered Institute of Ecology and Environmental Management 2021 good practice guidance referred to in our Deadline 4 response (Examination Document REP4-324 Section 3.a.ii) provides a useful list of key references for species and habitat survey, mitigation, management and monitoring in the UK and Ireland. The list signposts the most up-to-date guidance documents as of 2021.</p> <p>Our position remains the same as our Deadline 4 response regarding survey methodology; that is, we have given high level advice on methodology at the EIA scoping stage, and we have no concerns on this. We do not expect the Applicant to undertake further work on their survey methodology.</p>
iv	<p>Possible means to improve the clarity of mapping and documentation on the location and size/ extent of ancient woodland will be discussed.</p> <p>_____</p> <p>Natural England would support greater clarity being provided in relation to the mapping of ancient woodland (and other compensatory planting for ecological</p>

	<p>and landscape impacts). The plans prepared by the Applicant including, for example, those within the Environmental Masterplan (Examination Documents REP4-124-129) are difficult for the user to interpret and interrogate given the number of layers that are displayed and the similarity in shading used for different habitat types. Natural England would welcome the Applicant providing clearer plans for all the habitats impacted and the ecological and landscape compensation areas. This will help with the route map discussed during Issue Specific Hearing 6.</p> <p>Natural England share the concern raised by other Interested Parties during Issue Specific Hearing 9 that habitat created as compensation for habitat losses resulting from the High Speed 1 rail line is now being impacted by the Project. This supports Natural England’s previous request during Issue Specific Hearing 6 and our Deadline 4 response (Examination Document Rep4-324) for a mitigation/compensation tracker. Such an approach would allow a clear means of understanding where impacts from a specific geographic location are being compensated. We continue to recommend that a tracking mechanism detailing the location and extent of habitat being created as compensation for specific impacts such as the loss of ancient woodland, habitat from Sites of Special Scientific Interest and priority habitats is provided by the Applicant.</p> <p>Natural England has expressed concern about the potential impacts resulting from compensatory woodland planting at Park Pale to the landscape character and visual receptors within the Kent Downs Area of Outstanding Natural Beauty (AONB) (for example within Section 6 of our Written Representation, Examination Document REP1-262). Natural England shares the concerns expressed by the Kent Downs AONB Unit during Issue Specific Hearing 9 and recommend that further clarity is provided by the Applicant. Further details are included within Annex 7 to this letter, having reviewed the Applicant’s visualisations from Viewpoint S-03 (Examination Documents REP5-046 and 047).</p>
v	<p>How will lost ancient woodland be replaced, taking the following issues into account:</p> <ul style="list-style-type: none"> • the location(s) of source soil supplies; • the benefits of translocating soils; • how success will be monitored; • how any deficiencies in outcomes will be addressed? <hr/> <p>Natural England welcome the Applicant’s commitment to soils salvage and translocation and the use of deadwood and coppiced stools which will ensure the Project makes best use of these precious materials.</p> <p>We welcome the commitment in the oLEMP (Examination Document REP4-140) that this process will follow accepted good practice guidance referenced by the Applicant within the oLEMP such as Anderson, P and Groutage, P (2003) Habitat translocation – a good practice guide. Ciria.</p> <p>We also welcome the commitment to long term monitoring of this novel method (oLEMP Examination Document REP4-140 section 8.23.10, Register of Environmental Actions and Commitments reference number TB028, Examination Document REP5-048) given the growing, but still limited, literature regarding its longer-term effectiveness. We agree with the Applicant’s oral evidence which</p>

	<p>indicated more frequent (one to two years) monitoring in the five-year establishment phase with a move to five yearly monitoring post-establishment.</p> <p>As per discussion at the Issue Specific Hearing 9, we support the removal of the term ‘where practicable’ in the oLEMP (Examination Document REP4-140 section 8.23) with regard to soils salvage and translocation. This wording could be replaced with ‘where ecologically feasible’ and further detail given in line with oral evidence submitted by Dr Lascelles so that the extent of soils salvage that is ecologically possible is clarified.</p>
vii	<p>How effectively can equivalently biodiverse replacement habitat be provided and in what timescale?</p> <ul style="list-style-type: none"> • Do relevant IPs agree that the measures proposed by the Applicant are appropriate and have a reasonable prospect of success? <hr/> <p>In summary Natural England considers the measures are appropriate and have a reasonable chance of success, whilst noting that ecologically functional woodland takes many decades to establish and compensation for ancient woodland loss will not be equivalent for many tens of decades.</p> <p>As mentioned during Issue Specific Hearings 6 and 9, Natural England considers that a more holistic approach to monitoring the establishment of habitats is secured. This should look at how the habitat functions for key species groups (including, for example breeding birds, invertebrates, mammals and amphibians) to ensure that the habitat is as rich from a biodiversity perspective as possible. We would welcome the Applicant committing to a more robust package of monitoring in addition to their commitment required as part of their Protected Species Licence Applications (as detailed within Examination Document REP4-194).</p>
b)	<p>Removal of Ancient Woodland and Veteran Trees</p>
i	<p>NPSNN para 5.32 requires the Secretary of State to carefully consider loss and damage to ancient woodland and veteran trees.</p> <ul style="list-style-type: none"> • Can the Applicant provide clarification about loss/ harm minimisation at: <ul style="list-style-type: none"> ○ The A2 /M2 /LTC intersection; ○ The M25 /LTC intersection; and ○ Other parts of the proposed alignment, work areas and compounds with woodland loss. • The Applicant will be asked to explain why it was decided to undertake work affecting wooded areas/ veteran trees and not to re-align, re-design, or substitute land use or construction techniques to protect the woodland/ veteran trees? <hr/> <p>Natural England strongly supports further consideration by the Applicant of avoidance/minimisation of harm to ancient woodland and ancient and veteran trees wherever possible. We support the Kent Downs AONB Unit’s advice that it appears that more can be done to reduce the impact of utilities on SSSI and ancient woodland habitat within the AONB and would welcome the Applicant further exploring measures to avoid impacts to these assets.</p>

4. The Wilderness'

a)	'The Wilderness'
i	<p>There is disagreement over whether 'The Wilderness' (woodland located near The Grove, North Road, North Ockenden) should be regarded as ancient woodland subject to the policy set out in NNNPS paragraph 5.32.</p> <ul style="list-style-type: none"> • What is Natural England's current position? • The Applicant and relevant IPs will be asked to confirm their position and highlight evidence to support their assessment. <hr/> <p>Natural England's position remains the same as that set out in our Deadline 4 response (Examination Document REP4-324, Section 3.b.i). In summary, our advice is that on the basis of evidence submitted to date, the Ancient Woodland Inventory (AWI) update project has concluded that the Wilderness woodland is long-established but not ancient woodland. However further evidence has recently been submitted and is being assessed.</p> <p>As requested by the Examining Authority, we have requested that the assessment of the additional evidence provided to Natural England's Ancient Woodland Inventory Unit be prioritised so that a conclusion can be confirmed by Deadline 7.</p> <p>If the Wilderness southern section were to be confirmed as ancient woodland, we would expect additional effort from the Applicant to seek to avoid impacting this site, and further compensation to be identified for any loss.</p> <p>Regardless of whether the site is confirmed as ancient woodland, we support further work now and at detailed design to seek to minimise losses in this area.</p>
ii	<p>A retaining wall is proposed to the south of this area, apparently to limit the extent of woodland loss.</p> <ul style="list-style-type: none"> • Will this meaningfully limit effects on the woodland during construction and operation? <hr/> <p>Natural England has no comments to make in relation to this matter.</p>
iii	<p>At Accompanied Site Inspection 2 (ASI2) on 13 September 2023, the ExA was shown two watercourses within the area that also serviced ponds.</p> <ul style="list-style-type: none"> • What measures are expected to be required to prevent the loss of the waterside and water-based habitat during works in 'The Wilderness'? • Are those measures in place and are they adequate? <hr/> <p>Natural England has no comments to make in relation to this matter.</p>

5. Shorne Woods SSSI Impact

a)	Shorne Woods SSSI
i.	<p>Concerns have been raised that recreational facilities proposed at the Shorne Woods Country Park could have a negative effect on the SSSI.</p> <ul style="list-style-type: none"> • Have the effects of the proposed facilities been assessed within the submitted documentation? • Are the effects considered appropriate and to have been appropriately mitigated? <hr/> <p>Following our review of the Environmental Statement addendum submitted by the Applicant at Deadline 1 (Examination Document REP1-181); Natural England's comments in relation to the assessment of impacts and any required mitigation detailed within our Deadline 2 response (Examination Document REP2-090) are still applicable.</p> <p>Natural England's advice remains that a low-key car park only facility (that is a car park only, without the enhanced facilities such as the kiosk, cycle hub and changing facility) may be acceptable as part of an integrated access management strategy. Such a low-key car park, has the potential to provide a resource for people to recreate in the various publicly accessible sites and wider recreational public rights of way network.</p> <p>We have provided our detailed response to the Applicant's updated recreational impacts assessment in the Environmental Statement Addendum within our Deadline 2 response (Examination Document REP2-090) and consider that further detail is still required to understand the nature and scale of the impacts. In summary, this is:</p> <ul style="list-style-type: none"> • Details of the likely number of vehicles using the car park each day; • Clarity on the number of additional visitors likely to be using the car park and recreating within the SSSI facilitated by the additional parking provision; • An indication of the breakdown of activity users will be undertaking (walking, cycling, horse riding); and • Details of the mitigation measures required for any impacts resulting from the users of the car park. <p>We are continuing to work collaboratively with the Applicant to inform their further consideration of potential impacts from the car park and associated facilities and have held two meetings to explore our concerns more fully. Natural England is awaiting the updated impact assessment for both the car park and the upgraded surface to public rights of way within the Ashenbank Woods part of the SSSI from the Applicant.</p> <p>We welcome the confirmation provided by the Applicant during Issue Specific Hearing 9 that they will be providing the updated assessment; once we have received this, we will be able to provide further advice on the impacts and the need for and effectiveness of any mitigation measures.</p> <p>The Applicant has confirmed to Natural England that the Development Consent Order application will facilitate the car park</p>

	<p>only and that a subsequent Town and Country Planning Act application will be required for the associated facilities (including the kiosk, cycle hub and associated facilities). We have sought clarity from the Applicant on how the current application will fully assess these combined impacts if it facilitates a subsequent application and would also expect this to be provided as part of their updated assessment.</p>
<p>ii.</p>	<p>Can Natural England and the Applicant confirm that the disputed boundary of the SSSI has been resolved and that all data relevant to an assessment in this location have also been provided in documents available to the Examination?</p> <hr/> <p>Natural England welcomes the collaborative approach that the Applicant has taken since the SSSI boundary mapping error was identified during our review of the Environmental Statement.</p> <p>As detailed within Section 5.1.2 of Natural England's Written Representation (Examination Document REP1-262), we acknowledge that much of the area covered by the boundary discrepancy has previously been impacted by works associated with the Channel Tunnel Rail Link/High Speed 1 rail line. However, the land remains notified as a Site of Special Scientific Interest and was subject to compensation works implemented as part of these schemes. As such, it is appropriate for the Applicant to include these additional areas of habitat loss within the SSSI assessment and demonstrate, should consent be granted, which areas of habitat creation are specifically being created to compensate for SSSI impacts.</p> <p>Given the removal of habitat compensation previously implemented by the High Speed 1 rail line, as detailed in our Issue Specific 6 oral evidence (and subsequent written advice at Deadline 4, Examination Document REP4-324) Natural England considers that it is important for a clear, ecological route map tracking which habitat compensation areas are compensating for what impacts.</p> <p>Notwithstanding our in-principle objection to the loss of SSSI habitat, Natural England welcomes the approach from the Applicant with their updated detailing which areas of habitat are compensating for the loss of habitat from within the Shorne and Ashenbank Woods SSSI. The Applicant has updated this plan following the additional areas impacted as a result of the boundary mapping error which was submitted within Annex C.16 of our updated Statement of Common Ground at Deadline 5 (Examination Document REP5-038).</p> <p>As explained in our oral evidence, given the need for the SSSI compensation areas to be both managed and secured against future development proposal in perpetuity, we consider that Figure 1.1 - Shorne and Ashenbank Woods SSSI Compensation Area (Drawing Number HE540039-CJV-EBD-SZP_EGNE00000000-DR-LE-60113) should be submitted as a formal application document and secured through the Control Documents. Natural England welcomes the Examining Authority's support for this request during the Hearing and look forward to receiving the Applicant's confirmation as to how this plan will be included within the control documents or securing</p>

	mechanisms.
iii	<p>Does the Applicant or any other relevant stakeholder/ land manager anticipate any further refinement of the use of SSSI during the detailed design stage?</p> <p>_____</p> <p>Whilst Natural England does not expect any additional use of the SSSI during the detailed design stage, we would expect any scheme refinements post consent to ensure that there is no worsening of the impacts and assessment within the submitted application.</p> <p>We would also expect the Applicant and their contractors to take measures at the detailed design stage to further refine and reduce the nature and scale of the impacts to the Shorne and Ashenbank Woods SSSI and all environmental assets where technological and design advances and opportunities make this feasible. This should consider both the Lower Thames Crossing project itself and the associated works, including alternative routes for the utility diversions.</p>

6. Coalhouse Fort

a)	Habitat Provision
i	<p>As part of the mitigation for the loss of land used by species associated with the Thames Estuary and Marshes Special Protection Area (SPA) and Ramsar site, it is proposed to provide alternative land at Coalhouse Fort.</p> <ul style="list-style-type: none"> • What measures are proposed to reduce the potential effect to the existing species that utilise the existing non-designated habitat in the area? <hr/> <p>Natural England notes that Action Point 21 arising from Issue Specific Hearing 9 requests that 'Natural England (in the circumstances where the relevant witness was unavailable) and Thurrock Council to provide their final position in respect of the Applicant's proposed environmental mitigation at Coalhouse Fort.' Our position is set out below.</p> <p>We also note Action Point 22 regarding the proposed weir structure to 'separate a salt water drainage system on Tilbury Marshes from the retained freshwater drainage system via Bowaters Creek'. On this point, Natural England understands that as the hydrological system in this area is fed from the Coalhouse Fort moats, which themselves are fed from the river Thames, the proposed water salinity either side of the proposed weir structure is not expected to change significantly. The weir structure would therefore not provide a water salinity separation role, but rather will serve primarily to control water levels.</p> <p>On the matter of whether the works will have effects on existing species in the area, we comment as follows. The work to create wetland habitat at Coalhouse Fort as mitigation for loss of, and disturbance to, land functionally linked with the Thames Estuary and Marshes Special Protection Area (SPA) and the bird species this supports, has the potential to disturb those same (designated) features. This is particularly the case for work to install the tidal gate in the seawall, because non-breeding birds are known to use the inter-tidal habitat in close proximity (Natural England is not aware of any significant usage of the field itself by SPA birds).</p> <p>Natural England's Thames Estuary and Marshes Conservation Objectives Supplementary Advice on Seasonality¹ (included at Appendix A) indicates that SPA birds are variably present between July-April in suitable habitats.</p> <p>Natural England understands from the Applicant that it is not possible to wholly avoid this period, however the only seasonal avoidance measure that is secured in the Register of Environmental Actions and Commitments (Examination Document REP5-048) is commitment HR003 'Response to extreme weather' which we have reproduced below:</p> <p style="padding-left: 40px;">HR003 Response to extreme weather. To avoid impacts to wintering birds during prolonged periods of sub-zero temperatures,</p>

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<https://designatedsites.naturalengland.org.uk/Marine/Seasonality.aspx?SiteCode=UK9012021&SiteName=thames&SiteNameDisplay=Thames+Estuary+and+Marshes+SPA&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&NumMarineSeasonality=8>

activities potentially causing disturbance to wintering bird qualifying interests of the Thames Estuary and Marshes Special Protection Area (SPA)/Ramsar the Joint Nature Conservation Committee's 'Scheme to reduce disturbance to waterfowl during severe winter weather' [<https://jncc.gov.uk/our-work/severe-weather-scheme/>] will be adopted.'

Whilst Natural England supports this general commitment, it should be considered as a minimum. Good practice directs that further efforts should be made to avoid a greater proportion of the non-breeding season (which includes both passage and wintering months).

The Applicant and Natural England have been discussing the wetland creation at Coalhouse Point, and the Applicant has shared with us a draft Technical Note which contains some further details relating to the proposed timing of certain works. The Technical Note indicates that potentially disturbing activities, including excavation of scrapes and ditch network, and construction of the water inlet, are specified for the 'Summer' of year 1. Although 'Summer' is not defined and we would expect it to include July and August (i.e. overlapping with the of the SPA species seasonality advice), Natural England would welcome this further timing mitigation as the least disturbing option and therefore consistent with best practice. Natural England expects to provide our comments on the draft Technical Note to the Applicant shortly, before any final version is submitted to the Examining Authority.

Natural England is therefore seeking that an additional REAC commitment (and/or amendment to existing REAC commitment HR011 'Constraints to works to form the water inlet with self-regulating valve') should secure the timing of such works, and we would be happy to work with the Applicant on an appropriate form of words.

For avoidance of doubt, Natural England is not aware of any other existing notable non-designated species within the field itself that would not otherwise benefit from the wetland creation works.

- Wetland habitat creation is proposed in an area that currently appears to be rough grassland. Is it possible that one 'important' habitat is being replaced by another?

Natural England understands that the land parcel west of Coalhouse Point intended for wetland habitat creation is divided by a central north-south oriented ditch. The eastern portion we understand is under arable cultivation, and the western portion was noted to be rough grassland when viewed by Natural England staff in 2021. We note that the Applicant's Phase 1 habitat survey (undertaken sometime between April 2017 to March 2020 according to ES Appendix 8.2 Plants & Habitats, Examination Document ref. App-391) has mapped the whole field as 'arable' on the plans viewed at the ISH9 hearing. It is possible that crop rotation may explain this difference in habitat description, and we suggest the landowner will be able to confirm the recent land management of this field.

We regard the field west of Coalhouse Point to be both suitable and feasible for wetland habitat creation. We consider it to have a sufficiently low baseline

	<p>(both generally and specifically as noted above for SPA species) that it should not be regarded as currently so 'important' that it cannot deliver the required uplift for target species.</p> <p>This is not to say that it does not have at least some value for other (non-SPA) wildlife. Natural England's surveys in 2022² (included in Appendix B) identified some limited value, including for breeding birds associated generally with boundary habitats (the relevant field is referred to as parcel 'i8' in the report). We are also aware of some transitional brackish habitat within this field, specifically a localised area of saline-influenced grassland in the south-western corner of the field, considered to be the result of seepage under (or through) the seawall or over-topping during storm events. Some aquatic invertebrates were also found in the central ditch as part of the Applicant's freshwater ecology survey.</p> <p>Natural England advises that the proposed wetland habitat creation is expected to significantly increase the value of this field for wildlife generally, and target species specifically, by offering a greater diversity and extent of habitats (including via enhanced topography, hydrology, and salinity). We therefore do not regard the enhanced wetland habitats proposed by the Applicant to be considered as equivalent in 'importance' (or close to it) to the point where it might be appropriate to retain significant areas of the current habitat present in this area.</p>
ii	<p>Are there locations where the loss of one valued habitat to facilitate the creation or replacement of another are suggested to arise? (Note in this context, the loss of cultivated agricultural land is not under consideration.)</p> <p>_____</p> <p>With the exception of the localised habitats described above, Natural England does not believe that there are other locations at Coalhouse Fort where this 'habitat substitution' is expected to occur.</p>

² <https://nepubprod.appspot.com/publication/6365200043999232>

7. Hole Farm Community Woodland

a)	Habitat Creation
i	<p>Extensive open space and habitat creation is proposed at Hole Farm ¹.</p> <ul style="list-style-type: none"> • Which elements are required as mitigation or compensation for the Lower Thames Crossing and which elements are to meet the needs of the National Highways more general Environment Strategy? <hr/> <p>Natural England would defer to the Applicant on which elements of the Hole Farm scheme are required as mitigation and which elements are proposed for broader National Highways environmental outcomes.</p> <ul style="list-style-type: none"> • What is the current status of the planning application for the Hole Farm project? <hr/> <p>Natural England understands that the application is limited to works associated with visitor infrastructure (including, for example, the visitor centre, offices, car park.) rather than the woodland planting itself.</p> <p>Whilst Natural England has engaged with Forestry England and the Applicant on the woodland planting, we have no comments to make on the visitor infrastructure, other than to note that this will enhance the appeal of the site for visitors and may serve to draw existing recreational pressure away from nearby Sites of Special Scientific Interest (SSSI), which we regard to be an indirect beneficial outcome.</p> <ul style="list-style-type: none"> • How will the expected programme of works at Hole Farm tie into the Lower Thames Crossing proposals? <hr/> <p>Natural England has no comments to make in relation to this matter.</p> <ul style="list-style-type: none"> • Is the Hole Farm project contingent on the granting of development consent for the Lower Thames Crossing. <p>Natural England understands that the Hole Farm woodland planting will proceed irrespective of any Lower Thames Crossing consent.</p> <ul style="list-style-type: none"> • Are community woodland creation (including recreational public access) and habitat creation objectives at Hole Farm compatible? How can compatibility be maximised? <hr/> <p>Natural England considers that community woodland and habitat creation are mutually compatible objectives. Natural England supports public access to nature as a general principle. We anticipate that one added indirect benefit of community engagement is that Hole Farm woodland is anticipated to draw recreational pressure away from other, more sensitive (I.e. SSSIs), woodlands in the area.</p>

8. Water Framework Directive

a)	Culverting and Water Framework Directive (WFD)
i	<p>Culverts are proposed. The ExA wishes to explore the degree to which the length and design of these will adequately respond to the maintained or improved natural systems and biodiversity function of the affected watercourses ³.</p> <ul style="list-style-type: none"> • The Environment Agency (EA) has stated that it has “a formal policy against culverting of any watercourse because of the adverse ecological, flood risk, geomorphological, human safety and aesthetic impacts”. [REP1-255] • EA has suggested that the proposed culverting could damage the prospect of some water bodies obtaining the appropriate status under the WFD and be contrary to Thames River Basin Management Plan (RBMP) objectives. <p>The ExA seeks confirmation from the EA that this continues to be their position and seeks input to inform a recommendation on this point to the Secretary of State, should it remain in dispute between the Applicant and the EA.</p> <ul style="list-style-type: none"> • What specific WFD and RBMP objectives and progress would be impeded by the culvert designs that are currently proposed? • Whether any design amendments to culverting can be developed to address these concerns and; if not • What justification does that Applicant advance for the retention of its current design approach to culverting? <hr/> <p>Natural England has no comments to make in relation to this matter and would defer to the Environment Agency.</p>

Issue Specific Hearing 10 - Traffic and Transportation

- 1.3 Natural England has no comments to make in relation to the matters discussed at Issue Specific Hearing 10 at present. We may provide comments following the submission of information relating to the Action Points once these are available.

2 Annex 2: Natural England's delayed response to Examiner's Question 1

2.1 Natural England was not previously able to provide our advice replying to the Applicant response to ExQ 1 11.5.1. We are pleased to provide our response below which we trust is still helpful.

ExQ1	Question to:	Question:
Q.11.5.1	Applicant	<p>Badgers</p> <p>It has been suggested by IPs that habitat connectivity and fragmentation need to be considered, particularly through the construction period where loss of foraging area has been suggested. What is the expectation to be placed on any design team or contractor to address this concern, and how is it intended to be secured and measured? Is there a potential for significant effects to occur which has not been captured by the EIA?</p>
A11.5.1		<p>Natural England's advice is that appropriate consideration has been given to potential fragmentation impacts for badgers by the Applicant.</p> <p>Following recommendations from Natural England the proposals have been modified slightly reducing the number of main setts to be lost from 5 down to 3. We consider that appropriate compensation has been provided in the form of artificial setts either within the existing territory of the impacted sett or in adjacent unoccupied land.</p> <p>Whilst there may be some minor short-term fragmentation during the construction period, the proposed footprint for the scheme should not leave any setts in isolated areas without sufficient foraging habitat.</p> <p>Post-construction, green bridges and route alignment on a viaduct or overbridge will mitigate for habitat fragmentation, in particular the Hoford Road bridge and viaduct. Badger fencing will also be used to guide badgers towards the crossing.</p>

3 Annex 3: Natural England's delayed advice to the Applicant's response to ExQ 11.4.2 from ExQ1 in relation to the categorisation of bird species

- 3.1 Natural England notes and welcomes the Applicant's response in relation to the categorisation and valuation of bird species associated with the South Thames Estuary and Marshes Site of Special Scientific Interest and the Thames Estuary and Marshes Special Protection Area and Ramsar site (ExQ1, ExQ 11.4.2) within Examination Document REP4-194.
- 3.2 Natural England raised concerns within Section 5.2 of our Written Representation (Examination Document REP1-262) regarding the Applicant's apparent categorisation of populations of species, including birds, associated with the national and internationally important designated sites as being of 'county' importance.
- 3.3 Natural England is satisfied that the classification of individual designated sites has been undertaken appropriately (that is, European designated sites are classed as being of international importance, and Sites of Special Scientific Interest as nationally important). We also acknowledge the classification of irreplaceable habitats as being of national importance too. Our concern emanates from the way ecological features (associated with a designated site) appear to have been classified, rather than the designated site itself. We do however welcome the clarification from the applicant as to which methodologies and guidance documents have been adopted in classifying ecological features within the study area.
- 3.4 It is noted and acknowledged that, in some situations, habitat types and/or species that form part of a designated site's qualifying features, will also be found outside of, and not necessarily functionally linked to or directly associated with, the designated sites. In such situations where there is no functional linkage, it is accepted these habitats and species will be valued separately and may not have the same level of ecological value afforded to them where they do form part of a designated site. Where such habitat types and/or species do not form part of a statutory designated site, Natural England is satisfied that the methodology for assigning ecological value/importance (based upon the factors outlined by the applicant within their response) is appropriate.
- 3.5 Nonetheless, it remains unclear how the Applicant has made a clear distinction between features that form part of a designated site, and those that do not; and how the impacts to both groups of features (taking into account their designated status, or therein lack of designated status) has been assessed. In outlining the baseline ecological conditions for features south of the River Thames, Table 8.16 (Environmental Statement Chapter 8 – Terrestrial Biodiversity, Examination Document APP-146) makes no distinction between designated and non-designated ornithological features, and instead lists the 'Ornithology – general assemblage' as being of County importance.
- 3.6 Similarly, 'freshwater species – macro-invertebrates' are also listed in Table 8.16 as being of county importance, with the supporting commentary indicating that 'the Thames Estuary and Marshes Ramsar site is known to support freshwater invertebrate species of conservation interest' and that surveys identified *Stratiomys longicornis* (which is listed with the Ramsar site citation) as being present within surveys undertaken within the Ramsar site.
- 3.7 In order to ensure that the scale of impact on key receptors and ecological features is accurately captured, Natural England would recommend that a clear distinction should be made between features that form part of a designated site's notified interest, and

those that are not associated with a designated site. Where features of a designated site are being assigned an importance level, we would reiterate that this classification should also be reflective of the importance of the site itself (given their contribution to the importance of the site as a whole). Currently, it is unclear as to how this distinction has clearly been made by the Applicant within their Environmental Statement, and as such, how a robust assessment of the scale of impact due to the Project can be undertaken accurately.

4 Annex 4: Natural England's response to Examiner's Question 2 (ExQ2).

- 4.1 Our response to the second round of Examiner's questions (ExQ2) are sent under separate cover for ease using the table supplied by the Case Team.

5 Annex 5: Updated Statement of Common Ground

- 5.1 Natural England continues to work with the Applicant to update our Statement of Common Ground which we hope to be able to agree for an updated submission by Deadline 7 at the latest.

6 Annex 6: Updated Principal Areas of Disagreement

- 6.1 Natural England considers that our Statement of Common Ground continues to reflect our areas of agreement, ongoing discussion and disagreement and do not wish to submit a Principal Areas of Disagreement document.

7 Annex 7: Comments on the Applicant's submissions at Deadline 5

Environmental Statement Figure 7.19 - Photomontages Winter Year 1 and Summer Year 15 (1 of 4)

- 7.1 Natural England welcomes the submission by the Applicant of the additional visualisations recommended in Section 6.1.20 of our Written Representation (Examination Document REP1-262) for Viewpoint S-03 within their updated Environmental Statement Figure 7.19 Photomontages submitted at Deadline 5 (Examination Document REP5-046 and 047).
- 7.2 Given the panoramic view of the wooded landscape in the Kent Downs Area of Outstanding Natural Beauty (AONB) to the south of the A2 from Viewpoint S-03, Natural England advise that a single frame visualisation would have been helpful. We consider that a 180° visualisation (rather than the two separate visualisations provided at Deadline 5 with a narrower field of view) would be more representative of the expansive and attractive views experienced by recreational users of this public right of way within the AONB.
- 7.3 In addition, Natural England is concerned that the existing, substantial, well-established hedgerow/scrub planting immediately running the entire length of the northern perimeter fence around the industrial units at Park Pale appears to be absent or reduced in the Applicant's two baseline visualisations. This applies to Viewpoint S-03 at Winter Year 1 (Drawing Number HE540039-CJV-ELS-SZP_ZZ000000_Z-DR-LV-00325A) and Summer Year 15 (Drawing Number HE540039-CJV-ELS-SZP_ZZ000000_Z-DR-LV-00327A). The full extent of the vegetation also appears to be omitted from the Winter Visualisation Year 1, post scheme (Drawing Number HE540039-CJV-ELS-SZP_ZZ000000_Z-DR-LV-00325).
- 7.4 Having undertaken a site visit to Viewpoint S-03 on the 23 October 2023, Natural England is concerned that the visualisations provided by the Applicant at Deadline 5 do not appear to show the scale of the vegetation currently screening the industrial units. We have included in, Appendix C, an illustrative photograph, taken by Natural England on the 23 October 2023, from approximately the same location as Viewpoint S-03. Whilst our photograph is not intended to be considered as a formal baseline visualisation (and does not follow the good practice guidance for visualisations), we feel it may be helpful in illustrating the nature of the existing hedgerow/scrub habitat along the length of the boundary fence to the north of the buildings along with the wider, expansive views over the existing A2 and High Speed 1 corridor.
- 7.5 Whilst it is not known when this vegetation was planted, the Landscape and Visual Impact Assessment submitted in support of the redevelopment of the former Park Pale Farm (planning application reference 20140025, Gravesham Borough Council, included within Appendix D)³ in 2014 shows that the hedgerow/scrub planting to the north of the perimeter fence was present at the time the application was submitted (as detailed from Viewpoint 7 of the supporting Landscape and Visual Impact Assessment).

³ Planning Application Reference 20140025 Mixed use of the site for B2 and B8 purposes, including the manufacture, preparation and storage of specialist lighting and pyrotechnic displays. Harlex Haulage Services Ltd, Park Pale Farm Park Pale Rochester Kent ME2 3UD
https://docs.gravesham.gov.uk/PublicAccess_Live/Document/ViewDocument?id=F621B4797DF611E3B55D180373E3D9C5

- 7.6 Given these concerns, Natural England recommend that further clarity is sought from the Applicant regarding the baseline visualisation provided for Viewpoint S-03.
- 7.7 As detailed within Natural England's Written Representation (Examination Document REP1-262), we have expressed concerns that the proposed ancient woodland compensatory planting at Park Pale could significantly alter the views and landscape character of this area to the detriment of the AONB (for example Sections 5.1.17, 5.1.20, 6.1.16, 6.1.18, 6.1.150 and 6.1.51 of Examination Document REP1-262). This character of this area is currently more of an open, parkland with scattered specimen trees. The proposed woodland planting is likely to negatively impact the landscape character along with the views and experience of users of the right of way assessed from Viewpoint S-03 within and to the wider AONB in the foreground.
- 7.8 The visualisation supplied at Deadline 5 (Examination Document REP5-046 and 047) for Summer Year 15, orientated in an approximately south-easterly direction, post development (Drawing Number HE540039-CJV-ELS-SZP_ZZ000000_Z-DR-LV-00327) shows that views to the wider AONB south of the widened A2 corridor will be limited by the extensive woodland planting proposed. Similarly, the visualisation supplied for Summer Year 15 orientated in an approximately south-westerly direction, post development (Drawing Number H E540039-CJV-ELS-SZP_ZZ000000_Z-DR-LV-00328) suggests that a much narrower view of the wider AONB landscape to the south of the A2 for recreational users will result.
- 7.9 From the information provided by the Applicant at Deadline 5, these visualisations appear to suggest the Project will result in detrimental visual impacts and to the landscape character of the Park Pale area, supporting the concerns detailed within our Written Representation. Given this, as previously mentioned within Section 6.1.20 of our Written Representation (Examination Document REP1-262), to understand the Applicant's previous conclusion of a 'moderate beneficial effect' for visual receptors at Viewpoint S-03, Natural England would recommend that the Applicant provides an update to their Landscape and Visual Impact Assessment considering these additional visualisations. It would appear appropriate for an updated assessment to be provided, perhaps as an addendum to the Environmental Statement, reflecting the two new visualisations with differing orientations from Viewpoint S-03 alongside the recommended single visualisation detailed in Section 7.2 above. Once this information is available, then Natural England will be pleased to provide further advice to the Examining Authority on the implications of the proposed woodland planting at Park Pale for the Kent Downs AONB.

Environmental Statement Appendix 2.2 - Code of Construction Practice, First iteration of Environmental Management Plan v5.0 (Tracked Changes)

- 7.10 Natural England notes the updated Code of Construction Practice, First iteration of the Environmental Management Plan version 5.0 (Examination Document REP5-049) submitted by the Applicant.
- 7.11 Natural England welcomes the amendment to Noise and Vibration Road Surfacing NV013. We support the additional commitment from the Applicant at point (d) to the same (or better) noise emission surfacing for the lifetime of the project through the addition of the following wording:

'd) Surface renewal will be undertaken using replacement road pavement on the strategic road network that has a no worse noise emission performance (Highway Authority Product Approval

Scheme certification values) than that laid for the Project's opening'.

- 7.12 This is particularly important within the Kent Downs Area of Outstanding Natural Beauty as raised in Section 6.1.46 of Natural England's Written Representation (Examination Document REP1-262).
- 7.13 Natural England notes the updated text provided in relation to Terrestrial Biodiversity TB029 which details:

'Bowater sluice scrub clearance Any scrub clearance required to facilitate the upgrade of Footpath 200 at Bowater sluice would be minimised as far as reasonably practicable and would only be taken from south of the existing footpath route rather than from the scrub habitat to the north of the route. This would ensure the extent of continuous habitat north of the footpath remained intact. Implementation of commitment actions Contractor Construction EMP2 – Requirement 4.'

- 7.14 Natural England continues to engage with the Applicant in relation to the upgrade of the Public Right of Way at this location and will aim to provide further advice at Deadline 7.
- 7.15 Natural England, in our Deadline 4 response (Examination Document REP4-324) welcomes the Applicant's commitment, following the advice within Sections 3.1.19 and 3.1.24 of our Written Representation (Examination Document REP1-262). The Applicant confirmed their 'commitment to management of mitigation and compensation measures in perpetuity will be added to the outline Landscape and Ecology Management Plan (oLEMP) [REP1-173] at its next revision' (Examination Document REP2-046, Page 10).
- 7.16 The Applicant also confirmed during Issue Specific Hearing 9 that they would provide clarity on this matter. The most recent oLEMP submitted at Deadline 5 (Examination Document REP5-049) does not appear to have been updated to reflect this change and we look forward to the document being updated to confirm that all landscape and ecological mitigation and compensation will be secured and managed by the Applicant in-perpetuity (that is for the lifetime of the road).

Draft Development Consent Order v7.0

- 7.17 Natural England notes the inclusion, within the draft Development Consent Order v7.0 (Examination Document REP5-025) of a new paragraph 17 titled 'Passive provision for Tilbury link road'. This text 'facilitates and accommodates a connection to the proposed Tilbury link road to the extent the route and design of proposed Tilbury link road is available prior to and up to the date of the submission of the detailed design of the tunnel area north of the river Thames'. Natural England will respond to this new text at Deadline 7.

8 Annex 8: Comments on any information requested by the Examining Authority and received by Deadline 5

- 8.1 Natural England has no comments to make in relation to any additional information requested by the Examining Authority at Deadline 3 that is not covered elsewhere in this response.

9 Annex 9: Natural England's response to the Action Points from Issue Specific Hearing 9

Action Point 11 The Wilderness – Status (Ancient Woodland)

Please provide an update on status of 'The Wilderness', in particular whether it is ancient woodland, taking into account any submissions already provided by Thames Crossing Action Group and any other stakeholders.

- 9.1 As requested by the Examining Authority during the Issue Specific Hearing 9, Natural England has sought clarity from our Ancient Woodland Inventory colleagues. We have requested that the assessment of the additional evidence provided to Natural England's Ancient Woodland Inventory Unit be prioritised so that a conclusion can be confirmed by Deadline 7.

Action Point 21 Coalhouse Fort

Natural England (in the circumstances where the relevant witness was unavailable) and Thurrock Council to provide their final position in respect of the Applicant's proposed environmental mitigation at Coalhouse Fort.

- 9.2 Natural England has provided our response to Action Point 21 as part of our oral and follow-up advice from Issue Specific Hearing 9, in Annex 1 above, under Agenda Item 6. The Examining Authority is referred to that section. For avoidance of doubt, and having reviewed the ISH9 recording, we understand the question relates to whether any baseline importance or value is to be attached to existing habitats at the wetland creation area at Coalhouse Fort, rather than matters related more strictly to the Habitats Regulations Assessment. On the latter point, Natural England is in receipt of a draft Technical Note from the Applicant, which we will respond to in due course (expected by Deadline 7).

10 Annex 10: Any further information requested by the Examining Authority under Rule 17 of the EPR

- 10.1 Natural England has no comments to make in relation to any further information requested by the Examining Authority under Rule 17 of the EPR that is not covered elsewhere in this response.

11 Annex 11: Request to attend November Issue Specific Hearings

- 11.1 Natural England welcomes the notification from the Examining Authority regarding the November round of Issue Specific Hearings published on the 23 October 2023 (Examination Document PD-042).
- 11.2 Whilst we appreciate that the detailed agendas will be shared in the near future, based upon the headline topics, Natural England would like to register our interest to attend the following Issue Specific Hearings:
- Issue Specific Hearing 11 (Environmental Matters) Wednesday 22 November 2023;
 - Issue Specific Hearing 12 (Social, Economic and/or Project Delivery Matters (including Control Documents and Agreements) Thursday 23 November; and
 - Issue Specific Hearing 14 (The draft DCO) Tuesday 28 November.
- 11.3 We may also wish to attend Issue Specific Hearing 13 (Traffic and Transportation) on Monday 27 November depending on the agenda items to be discussed.
- 11.4 Natural England will confirm once the detailed agenda are available whether we will attend in person or virtually for the hybrid Hearings. We will also be pleased to provide the details of those attending on behalf of Natural England ahead of the individual Hearings.

Thames Estuary and Marshes SPA

Last updated: 15th September 2017

Advice on Seasonality

In the table below, the months highlighted in green in each row indicate the months in which significant numbers of each mobile designated feature* are most likely to be present at the site during a typical calendar year. Where count data was available, highlighted months with significant numbers were defined on the basis of one or both of the following criteria being met in more than three-fifths (60%) of the years within the six years period 2007-2012. The two criteria used were: i) monthly maxima exceed 10% of the highest mean of monthly maxima over the six-year period; ii) monthly maxima exceed the 2012/2013 national significance threshold. These criteria were predominantly used for non-breeding bird features (based on WebS data). Where insufficient count data were available to use these criteria, months with significant numbers were highlighted on the basis of generic information on seasonal patterns of occurrence in published sources.

Applicants considering plans or projects scheduled in the periods highlighted in green would benefit from early consultation with Natural England given the greater scope for there to be likely significant effects that require consideration. The months which are not highlighted in green are not ones in which the features are necessarily absent, rather that features may be present in less significant numbers in typical years, but there may still be a significant effect. Please note that this period can vary between years and that in any one year considerable numbers of a species may be present (throughout the year or) outside of the months indicated below. Any assessment of potential impacts on the features must be based on up-to-date count data and take account of population trends evident from these data and any other available information. Additional surveys may be required.

*Please note: we do not provide Advice on Seasonality for assemblage features

Feature name	Life Stage	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avocet, Non-breeding	Non-breeding	Green	Green	Green	Grey	Grey	Grey	Green	Green	Green	Green	Green	Green
Black-tailed godwit, Non-breeding	Non-breeding	Green	Green	Green	Grey	Grey	Grey	Green	Green	Green	Green	Green	Green
Dunlin, Non-breeding	Non-breeding	Green	Green	Green	Grey	Grey	Grey	Green	Green	Green	Green	Green	Green
Grey plover, Non-breeding	Non-breeding	Green	Green	Green	Grey	Grey	Grey	Green	Green	Green	Green	Green	Green
Hen harrier, Non-breeding	Non-breeding	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Knot, Non-breeding	Non-breeding	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Redshank, Non-breeding	Non-breeding	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Ringed plover, Non-breeding	Non-breeding	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green

Appendix A: Thames Estuary and Marshes Advice on Seasonality (downloaded 31 October 2023)



Appendix C: Photograph taken by Natural England from the approximate location of Viewpoint S-03 on the 22 October 2023, 15:51hours