Lower Thames Crossing

9.152 Responses to the Examining Authority's ExQ2 Appendix H – 12. Physical Effects of Development & Operation

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1 Introduction

1.1 Introduction

1.1.1 This document has been prepared by the Applicant to set out its responses to the ExQ2 - Examining Authority's (ExA's) written questions and requests for information (ExQ2) [**PD-040**].

1.1.2 These can be found in Tables set out under the following headings:

a. Climate Change and carbon emissions (Found in Appendix A)

b. Traffic and transportation (Found in Appendix B)

c. Air quality (Found in Appendix C)

d. Geology and soils (Found in Appendix D)

e. Tunnelling considerations (Found in Appendix D)

f. Waste and materials (Found in Appendix D)

g. Noise and vibration (Found in Appendix E)

h. Road Drainage, water environment and flooding (Found in Appendix F)

i. Biodiversity (Found in Appendix G)

j. Physical effects of development and operation (Found in Appendix H)

k. Social, economic and land-use considerations (Found in Appendix I)

l. The acquisition and temporary possession of land and rights (Found in Appendix J)

m. General overarching questions (Found in Appendix J)

2 Responses to the Examining Authority's ExQ2 12

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ExQ2_Q12.1.1	Applicant	**Follow up to ExQ1 Q12.1.6 – Methodology: Significance of Effects to Heritage Assets** In response to the ExA on ExQ1 Q12.1.6, the Applicant stated that "the significance category and typical descriptions in Table 4.4 of ES Chapter 4: EIA Methodology, do not apply." However, if Table 4.4 is no longer relevant, what replaces it to inform the Significance Matrix in Table 4.3 for the purposes of the EIA heritage assessment? The position is not clear to the ExA because Paragraph 4.5.21 of Chapter 4: EIA Methodology [**APP-142**] states that descriptions of the significance categories in the matrix in Table 4.3 are provided in Table 4.4. In addition, Paragraph 6.3.74 of ES Chapter 6 – Cultural Heritage v.3 [**REP4-116**] still states that "the significance of effect is determined in accordance with Table 4.3 of Chapter 4: EIA Methodology. An effect of moderate adverse significance or higher is considered to constitute a significant effect (Table 4.4 of Chapter 4: EIA Methodology)." This leaves a question mark over the description of significance categories for heritage assets and so the Applicant needs to provide clarity if the detail within Table 4.4 is not being applied to Table 4.3.
		Response: Where there is an adverse effect predicted on a designated heritage asset (or non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to Scheduled Monuments) this is, in policy terms, categorised as either "substantial harm" or "less than substantial harm". Even a slight effect represents "less than substantial harm" which needs to be considered by the Examining Authority. Therefore, the line in Table 4.4 of Environmental Statement (ES) Chapter 4: EIA Methodology [**APP-142**], providing a typical description of a slight effect is not applicable to designated heritage assets (or equivalent) insofar as a slight effect *will* be material in decision making. Table 4.3 of ES Chapter 4: EIA Methodology [**APP-142**] sets out the matrix used to identify significance of effect taking into account the value of each asset and the magnitude of impact. This is the significance matrix used in the cultural heritage assessment. Table 4.4 of ES Chapter 4 [**APP-142**] provides '*a typical description*' of the effects identified in Table 4.3. The descriptions reflect what levels of significance are generally considered material in decision making. This provides a consistent basis for categorising significance across different environmental topics (with, in accordance with

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		Design Manual for Roads and Bridges (DMRB) LA 104[1], effects of moderate or higher significance to be considered 'significant'). When applied to the specific policy context relating to designated heritage assets (or equivalent), the typical description for the 'slight' significance category is not appropriate. This is because any degree of effect on designated heritage assets (or equivalent) is material in decision making, because a slight effect would fall within the definition of 'less than substantial harm' (with reference to paragraph 5.134 of the National Policy Statement for National Networks[2]) and need to be considered by the Examining Authority. The effects of the Project on designated heritage assets (or equivalent), whatever the significance of effect, are therefore presented in Section 6.6 of ES Chapter 6: Cultural Heritage [**REP4-116**]. The reference to Table 4.4 in ES Chapter 6 [**REP4-116**] quoted within the question is a drafting error by the Applicant. The reference should instead be to paragraph 4.5.22 of ES Chapter 4 [**APP-142**] which states the following: '*As noted in DMRB LA 104, effects considered significant in the context of the EIA Regulations are typically those of moderate or higher significance.*'
ExQ2_Q12.1.2	Applicant	**Waterlogged organic deposits** In response to ExQ1 Q12.1.10 the Applicant agreed to amend Paragraphs 7.1.14 and 7.3.127 of Appendix 6.9: Draft Archaeological Mitigation Strategy and Outline Written Scheme of Investigation [**APP-367**] to include the words "a minimum of 10m, where unexpected waterlogged archaeological finds are present". The ExA notes that the words "a minimum of" have been added into Paragraphs 7.1.14 and 7.3.127 in the amended Appendix 6.9 submitted at Deadline 5 [**REP5-053**], but the tailpiece words are absent. In addition, the Applicant advised it would also signpost the reader in Paragraphs 7.1.14 and 7.3.127 to Paragraph 7.3.36, which sets out the process for dealing with waterlogged material, and that Paragraph 7.3.36 would be amended to make clear the process set out would also apply to unexpected waterlogged finds. That revision has inadvertently not been made in the amended Appendix 6.9 submitted at Deadline 5. The ExA appreciates that not including the tailpiece into Paragraphs 7.1.14 and 7.3.127 means that the stand-off distance applies to all unexpected finds, which is acceptable, however, the suggested adjustment to Paragraph 7.3.36 remains relevant. Several local authorities have also requested additional words and commitments be

[1] Highways England (2020). Design Manual for Roads and Bridges, LA 104 Environmental Impact Assessment and Monitoring. Accessed April 2020. https://www.standardsforhighways.co.uk/dmrb/
[2] Department for Transport (2014). National Policy Statement for National Networks.

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		added to these sections of Appendix 6.9 making it explicit that a stand-off distance greater than 10m may be required, subject to consultation with and advice from the relevant planning authority archaeologist on the appropriate stand-off specific to the find, its location, and the nature of the adjacent work. The Applicant is requested to amend Paragraph 7.3.36 and incorporate the suggestion of the local authorities into Paragraphs 7.1.14 and 7.3.127. The revised document should be submitted at Deadline 6, or a response provided to advise why it does not consider the suggested amendments are necessary.
		Response: The Applicant notes the Examining Authority's comments and proposes the following revisions to paragraph 7.1.14 and paragraph 7.3.127 of Environmental Statement Appendix 6.9: Draft Archaeological Mitigation Strategy and Outline Written Scheme of Investigation (dAMS-OWSI) [**REP5-052**]. *'The site consultation meeting will consider the specific nature of any unexpected archaeological remains and the potential impacts of any construction activity on the unexpected archaeological remains. The outcomes of this meeting will inform any further archaeological work and the extent of any stand-off beyond 10m that may be required.'* These, along with the changes to paragraph 7.3.36 of the dAMS-OWSI, will be submitted at Deadline 6 [**Document Reference 6.3 Appendix 6.9 (3)**].
ExQ2_Q12.2.1	Applicant	**Landscape character: regrading of sensitivity and effects (sub area Cobham)** The Applicant's response to ExQ1 Q12.2.6 states that "Since the Development Consent Order (DCO) application made in October 2020 was withdrawn, a thorough review of the landscape impact assessment in Environmental Statement (ES) Chapter 7: Landscape and Visual [**APP-145**] has been undertaken in conjunction with further refinement of the Project design… The assessment of high sensitivity for the West Kent Downs (sub area Cobham) Local Landscape Character Area (LLCA) has regard to the updated assessment of susceptibility to change set out in Table 1.3 of ES Appendix 7.9: Schedule of Landscape Effects [**APP-384**], which explains that '… due to the presence of the existing A2 corridor and HS1 along the northern boundary of this LLCA, the receptor has some ability to accommodate the Project without substantial loss of its overall integrity.' The ExA is unclear in respect of the reasoning behind this explanation for the regrading of sensitivity, noting that the A2 corridor and HS1 were adjacent to the northern boundary of this LLCA when the October 2020 application assigned the Cobham sub-area a 'very high' sensitivity. The Applicant's response does not provide a meaningful justification for the changes in definition of baseline conditions between the two submissions (2020 and 2022) when the landscape baseline has

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		not changed in the intervening period. While visual baseline data may require updating to reflect modifications to the design (ref. GLVIA3), the Applicant does not explain the specific design changes that have resulted in changes to the visual baseline in this location. The ExA requires the reasons for the review and update of baseline conditions by the Applicant to be made clear.
		Response: Following withdrawal of the October 2020 Development Consent Order (DCO) application, a thorough review of the Environmental Statement (ES) as a whole was undertaken in conjunction with the revised Project design. This included the landscape impact assessment in ES Appendix 7.9: Schedule of Landscape Effects [**APP-384**]. The reason for the change in the assessment of sensitivity since 2020 relates to the Applicant's post 2020 re-evaluation of the ability of the West Kent Downs (sub area Cobham) LLCA to accommodate the nature of the proposed change (susceptibility). It does not relate to a change in baseline. The Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3)[3] state in paragraph 5.42 that: *'… Since landscape effects in LVIA [Landscape and Visual Impact Assessment] are particular to both the specific landscape in question and the specific nature of the proposed development, the assessment of susceptibility must be tailored to the project. It should not be recorded as part of the baseline but should be considered as part of the assessment of effects.'* To further explain the rationale for the Applicant's assessment of the sensitivity of the West Kent Downs (sub area Cobham) Local Landscape Character Area (LLCA) in ES Appendix 7.9: Schedule of Landscape Effects [**APP-384**], the main steps to the assessment taken by the Applicant are set out below: • In accordance with GLVIA3, the assessment of landscape sensitivity has been derived by *'combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor'* (GLVIA3 Glossary definition). • Table 7.3 of ES Chapter 7: Landscape and Visual [**APP-145**] sets out the landscape criteria (typical descriptors and examples) used to define landscape sensitivity. These are taken from Table 3.22 of Design Manual for

[3] Landscape Institute and Institute of Environmental Management and Assessment (2013). Guidelines for Landscape and Visual Impact Assessment, Third Edition.

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		Roads and Bridges (DMRB) LA 107 Landscape and Visual Effects[4], which combines the assessment of landscape sensitivity (landscape value and susceptibility to change) into one set of criteria. • Regarding landscape value, Area of Outstanding Natural Beauty designations are of national importance in planning policy terms. • The typical descriptor for 'very high sensitivity' in Table 3.22 of LA 107 Landscape and Visual Effects is landscapes of *'very high international/national importance and rarity or value with no or very limited ability to accommodate change without substantial loss/gain'*. • For the reasons outlined below, the West Kent Downs (sub area Cobham) LLCA is considered to have some ability to accommodate the Project without substantial loss of its overall integrity, which is consistent with the LA 107 descriptor for 'high sensitivity', that is, landscapes of *'high national importance containing distinctive features/elements with limited ability to accommodate change without incurring substantial loss/gain'*. The Applicant has explained in its response to ExQ1 12.2.6 [**REP4-200**] that '*Retention of existing vegetation south of the HS1 corridor would ensure that an effective landscape buffer is maintained between the Project and the West Kent Downs (sub area Cobham) LLCA*.' For this reason, the Applicant considers there to be some ability of the sub-area Cobham LLCA '*to accommodate the Project without substantial loss of its overall integrity*'. The same conclusion was not drawn for the sensitivity of the West Kent Downs (sub area Shorne) LLCA because of the constrained nature of the existing M2/A2 corridor, including the central reservation woodland belt and enclosing woodland to the north and south, key landscape features that are considered respectively to have '*no or very limited ability to accommodate change without substantial loss/gain*'. In summary, the West Kent Downs (sub area Cobham) LLCA is considered to be less sensitive than the adjoining sub area Shorne LLCA due to its landscape context and the greater buffer from the Project afforded by retained woodland. The LVIA submitted with the October 2020 DCO application represented a snapshot in time. Since withdrawal of the October 2020 DCO application, numerous design changes have been made. Some of these changes are only minor but, considered together, have resulted in changes to the assessment. Design changes include changes to proposed utility works, which together with greater definition of the proposals has facilitated a reduction in the required working area along the M2/A2 corridor with a consequent reduction in the extent of assumed vegetation

[4] Highways England (2020). Design Manual for Roads and Bridges LA 107 Landscape and Visual Effects. https://www.standardsforhighways.co.uk/search/bc8a371f-2443-4761-af5d-f37d632c5734

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		removal. The Applicant's response to Q12.3.2 provides further information on the reason for changes to the visual impact assessment since 2020. The Applicant's approach to the assessment of landscape sensitivity is consistent with the relevant good practice guidance in the overarching GLVIA3 and LA 107 Landscape and Visual Effects. The Applicant notes that were the sensitivity of the West Kent Downs (sub area Cobham) LLCA to have been assessed as 'very high' rather than the current assessment of 'high', it would not have changed the Applicant's 2022 assessment of a moderate adverse significance of effect during construction or a slight adverse significance of effect during operation, based on the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[5]. This is because the LA 104 significance matrix allows a choice of two significance categories when high or very high sensitivity are combined with a minor magnitude of effect. Of the two options in the matrix for receptors of both high and very high sensitivity, the Applicant considers a moderate adverse significance of effect during construction to be appropriate given the effects of the Project on this LLCA set out in ES Appendix 7.9: Schedule of Landscape Effects [**APP-384**]. At the opening year and design year, the LA 104 significance matrix only allows one significance category when high or very high sensitivity are combined with a negligible magnitude of effect and there would therefore be no difference in the Applicant's assessment of the overall significance of effect level if very high sensitivity was assessed rather than high sensitivity.
ExQ2_Q12.3.1	Applicant	**Photomontages** The ExA requests winter (year 1) and summer (year 15) photomontages of the A2/A122 junction as viewed from Thong Lane South Green Bridge. It is noted that the Applicant has previously provided two cross sections of this junction area [**REP2-069** and **REP2-070**] and Photomontage S22 taken from Henhurst Road Bridge; however, it was noted on the Accompanied Site Inspection that the maximum height of the LTC southbound to A2 westbound viaduct is approximately 17m above the existing ground level (in the vicinity of the former petrol filling station site), which seems quite significant. The visualisation of the impact of this would be aided by photomontages from Thong Lane South Bridge, which are a missing piece of the jigsaw in the visual impact assessment in this location. The photomontages should be submitted by D7 at the latest.

[5] Highways England (2020). Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring. https://www.standardsforhighways.co.uk/search/0f6e0b6a-d08e-4673-8691-cab564d4a60a

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		Response: It would not be practicable to provide a photomontage from the proposed Thong Lane green bridge south. This is because the proposed green bridge is on a different alignment to that of the existing Thong Lane bridge over the A2 and it is not therefore practicable to obtain the existing baseline photography required for preparation of photomontage views. However, the Applicant will prepare two computer-generated images from the proposed shared pedestrian/ cycle route across the new green bridge, to provide illustrative views west towards the proposed M2/A2/A122 Lower Thames Crossing junction, including the A122 Lower Thames Crossing southbound to A2 westbound viaduct. Illustrative views will be prepared for the opening year (winter) and the design year (summer) 15 years after opening to allow for establishment of proposed planting mitigation. The Applicant will aim to provide the illustrative computer-generated images by Deadline 7.
ExQ2_Q12.3.2	Applicant	**Representative viewpoints: regrading of sensitivity and effects** In response to ExQ1 Q12.3.2 regarding the downgrading of several representative viewpoints from the highest degree of sensitivity (Very High) with a knock-on downgrading of magnitude and significance of effect, the Applicant advises that the regrading is as a result of a "thorough review of the visual impact assessment in the ES, including a review of sensitivity and further refinement of the Project design." The ExA notes, however, that no details are provided on what refinements to the Project design have contributed to the change in assessed impacts, either in the Applicant's written response to ExQ1 Q12.3.2 or the associated 'Comparison of visual impact assessments from 2020 and 2022' table provided at Annex B of its response to ExQ1. The Kent Downs AONB Unit have also highlighted that, in respect of the regrading of the sensitivity, they note that the 2020 Assessment used the same criteria as that used in the 2022 version to define visual sensitivities (i.e. DMRB LA 107 Table 3.41). It is therefore still unclear to the ExA and IPs how the visual sensitivity and magnitude of effect has changed for many of the visual receptors in the intervening period. The ExA requires the reasons for the changed conditions from 2020 to 2022 to be made explicitly clear for each affected visual receptor included in Annex B.
		Response: Following withdrawal of the October 2020 Development Consent Order (DCO) application, a thorough review for the Environmental Statement (ES) as a whole was undertaken in conjunction with the revised Project design. This included the visual impact assessment in ES Appendix 7.10: Schedule of Visual Effects [**APP-385**].

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		The reasons for the changes to the visual impact assessment since withdrawal of the October 2020 DCO application are varied and relate to a re-evaluation of either visual sensitivity, magnitude of effect or significance of effect, or to a combination of two or more of these assessment steps. Further explanation of the re-evaluation undertaken for the current visual impact assessment presented in ES Appendix 7.10 is set out below. **Visual sensitivity** The Applicant confirms that the same criteria for the assessment of visual sensitivity were used for both the superseded 2020 ES submitted with the withdrawn DCO application and the current visual impact assessment in ES Appendix 7.10. However, the application of the sensitivity criteria has been reviewed and adjusted as explained below. The Applicant's response to Gravesham Borough Council's Local Impact Report [**REP2-058**] and Kent Downs Area of Outstanding Natural Beauty (AONB) Unit's Written Representation [**REP2-046**] explained that a change from very high sensitivity to high sensitivity in ES Appendix 7.10 was '*due to the prominence of existing highway and/or rail infrastructure in the existing view, which reduces the sensitivity of visual receptors to the nature of the proposed change*'. To further explain the Applicant's assessment of the sensitivity of visual receptors presented in ES Appendix 7.10, the main steps to the assessment are set out below, noting that the Guidelines for Landscape and Visual Impact Assessment, Third Edition[6] (GLVIA3) state that the assessment of visual sensitivity should be derived by *'combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor'* (GLVIA3 Glossary definition): • Table 7.4 of ES Chapter 7: Landscape and Visual [**APP-145**] sets out the visual criteria (typical descriptors and examples) used to define visual sensitivity. These are taken from Table 3.41 of Design Manual for Roads and Bridges (DMRB) LA 107 Landscape and Visual Effects[7], which combines the assessment of visual sensitivity (value of the view and susceptibility of the viewer to change) into one set of criteria. • In addition to the typical descriptors in LA 107 Landscape and Visual Effects, the Applicant also notes that paragraph 3.4.1 of LA 107 Landscape and Visual Effects states that '*the assessment of susceptibility to change should be tailored to the project*' and provides the following example:

[6] Landscape Institute and Institute of Environmental Management and Assessment (2013). Guidelines for Landscape and Visual Impact Assessment, Third Edition
[7] Highways England (2020). Design Manual for Roads and Bridges LA 107 Landscape and Visual Effects. https://www.standardsforhighways.co.uk/tses/attachments/bc8a371f-2443-4761-af5d-f37d632c5734?inline=true

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		• '… *A possible example could be where receptors with prominent views towards the highway infrastructure are more likely to have a low susceptibility to change of a project, than receptors with no existing views towards the highway infrastructure which are more likely to have a high susceptibility to change*.' • Table 3.41 of LA 107 Landscape and Visual Effects assigns 'very high sensitivity' to '*Views from and of very important national/international landscapes, cultural/historical sites (e.g. National Parks, UNESCO World Heritage sites)*.' This was used as a desk-based starting point for the assessment of visual sensitivity. • AONB designations are of national importance in planning policy terms, however, the actual nature of existing views was also considered in the assessment. From Representative Viewpoints where existing views are already affected by the A2 corridor, the assessment of sensitivity is considered to be high rather than very high, due to the reduced quality of the existing view and therefore the reduced sensitivity of viewers to change. This remains consistent with the typical descriptor in Table 3.41 of LA 107 Landscape and Visual Effects, which assigns high sensitivity to *'Views from and of rare designated landscapes of national importance'*. **Magnitude of Effect** In addition, several Project design changes have been made since withdrawal of the October 2020 DCO application. Some of these changes are only minor but considered together have resulted in changes to the assessment. Design changes include numerous modifications to proposed utility works, which together with greater definition of the Project proposals has facilitated a reduction in the required working area along the M2/A2 corridor with a consequent reduction in the extent of assumed vegetation removal. A full re-evaluation of the assessment of magnitude of visual effect since withdrawal of the October 2020 DCO application has therefore been undertaken. Reasons for the differences in magnitude of effect levels are set out in Annex A of this Appendix and relate to: • Changes to Project design • Greater definition of Project proposals enabling a slightly less precautionary approach to assessment, while at the same timing assuming a realistic worst case • General re-evaluation of the 2020 ES assessment in accordance with the typical descriptors for magnitude of effect set out in Table 3.43 of LA 107 Landscape and Visual Effects. **Significance of Effect** Changes to the assessment of sensitivity and magnitude of effect since withdrawal of the October 2020 DCO application were then combined to determine the resulting significance of effect. The Significance Matrix in Table

PINS ID	Question to:	Question / Response
		3.8.1 of DMRB LA 104 Environmental Assessment and Monitoring[8] gives two significance category options for some combinations of sensitivity and magnitude of impact (effect). In such instances, paragraph 3.8.1 of LA 104 requires one of the two options to be selected and evidence to be provided '*to support the reporting of a single significance category*'. As stated in paragraph 4.5.1 of ES Appendix 7.2: Landscape and Visual Assessment Methodology [**APP-377**], '*Professional judgement has been applied to determine the appropriate significance of effect where the significance could be one of two options in the matrix* [Significance Matrix in Table 3.8.1 of LA 104]. *Justification for the reporting of a single significance category is provided in the assessment commentary in Appendix 7.10: Schedule of Visual Effects*.' This evidence was added to the commentaries in ES Appendix 7.10 [**APP-385**] since withdrawal of the October 2020 DCO application and in some instances, the review process has resulted in the reporting of a different significance of effect level in the current visual impact assessment. Where applicable, this type of change has been noted in Annex A. **Summary of Changes Since Withdrawal of October 2020 DCO Application** Several changes have been made to either the sensitivity of visual receptors, the magnitude of effect or the significance of effect in ES Appendix 7.10, since withdrawal of the October 2020 DCO application. The reasons for these changes are set out in tabular format in Annex A. For some Representative Viewpoints, reduced significance levels have been reported in some assessment periods but effects are still considered to be significant, for example, from Representative Viewpoint S-04, a view from the Kent Downs AONB on Park Pale, part of the National Cycle Network Route 177 and Darnley Trail recreational route. From other Representative Viewpoints, a visual effect considered to be significant in the 2020 version of ES Appendix 7.10 is no longer considered to be significant in the 2022 version, for example, in the design year from Representative Viewpoint S-08, a view from the Kent Downs AONB on footpath NS179, within Cobham Hall Grade II* Registered Park and Garden. In other examples, such as from Representative Viewpoint S-11, a view from the Kent Downs AONB on footpath NS179 within Cobham Hall Grade II* Registered Park and Garden, increased significance levels have been reported, with new significant effects identified.

[8] Highways England (2020). Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring. https://www.standardsforhighways.co.uk/tses/attachments/0f6e0b6a-d08e-4673-8691-cab564d4a60a?inline=true

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		For several Representative Viewpoints, there have either been no changes to significance levels or no significant effects have been reported in either the 2020 or 2022 versions of ES Appendix 7.10 despite changes to either sensitivity or magnitude, for example, Representative Viewpoint S-31, a view from footpath NG8 located within Southern Valley Golf Club at the urban edge of Gravesend. **Corrections** Visual Sensitivity – Tilbury and Coalhouse Forts In the Applicant's response to Gravesham Borough Council's Local Impact Report [**REP2-058**] and Kent Downs AONB Unit's Written Representation [**REP2-046**], the reasoning provided for the change in sensitivity from very high to high at Tilbury Fort (Representative Viewpoint N-01) and Coalhouse Fort (Representative Viewpoint N-05) was given as being, '*High sensitivity takes account of the cultural/historic significance of the site. It is not considered to be a 'very important national/ international…cultural/historic site' that would align with very high sensitivity under LA 107 Landscape and Visual Effects*'. On further investigation, the Applicant no longer considers this to be correct and that receptors at both Representative Viewpoints would be of very high sensitivity in accordance with the descriptor stated in Table 3.41 of LA 107 Landscape and Visual Effects, '*Views from and of very important national/international landscapes, cultural/historical sites (e.g. National Parks, UNESCO World Heritage sites)*.' This is due to the forts being very important cultural/historic sites. The change in visual impact assessment as a result of this change in sensitivity, is presented below. Representative Viewpoints N-01 and N-05 have not been considered further in Annex A. Significance of Effect at Tilbury Fort (With Increased Sensitivity) (Representative Viewpoint N-01) During construction, for very high sensitivity receptors at Tilbury Fort, the significance matrix in Table 3.8.1 LA 104 Environmental Assessment and Monitoring allows a choice of two significance categories when very high sensitivity is combined with a minor magnitude of effect (the 2022 magnitude of effect assessment). Of the two options in the matrix, this review has concluded that a moderate adverse significance of effect would be more appropriate than a large adverse significance of effect due to construction works being viewed in the context of existing industrial buildings north of the River Thames. The 2022 Landscape and Visual Impact Assessment (LVIA) in ES Appendix 7.10 assessed a slight adverse significance of effect at Tilbury Fort during construction, therefore, an additional significant effect has now been identified during construction of the Project. During operation, for very high sensitivity receptors at Tilbury Fort, the significance matrix allows one significance category when very high sensitivity is combined with a negligible magnitude of effect (the 2022 magnitude of effect assessments at opening year and design year). This review has concluded that a slight adverse significance of

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		effect (as stated in LA 104) is appropriate, as the sculptural landscape mounding at Tilbury Fields would be visible from Tilbury Fort, albeit in the context of Tilbury Sewage Treatment Works and existing OHL. There would therefore be no change in the significance of effect levels presented in the 2022 LVIA at opening year and design year. Significance of Effect at Coalhouse Fort (With Increased Sensitivity) (Representative Viewpoint N-05) During construction, for very high sensitivity receptors at Coalhouse Fort, the significance matrix allows a choice of two significance categories when very high sensitivity is combined with a moderate magnitude of effect (the 2022 magnitude of effect assessment). Of the two options in the matrix, this review has concluded that a large adverse significance of effect would be more appropriate than a very large adverse significance of effect due to the screening provided by intervening vegetation. The 2022 LVIA assessed a moderate adverse significance of effect at Coalhouse Fort during construction, therefore, effects during construction of the Project are still considered to be significant. During operation, for very high sensitivity receptors at Coalhouse Fort, the significance matrix allows one significance category when very high sensitivity is combined with a negligible magnitude of effect. This review has concluded that a slight adverse significance of effect (as stated in LA 104) is appropriate, due to the screening provided by sculptural landscape mounding at Tilbury Fields. There would therefore be no change in the significance of effect levels presented in the 2022 LVIA at opening year and design year.

Annex A Reasons for change between visual impact assessments from 2020 and 2022 (ExQ2_Q12.3.2)

Table A.1 Reasons for change between visual impact assessments from 2020 and 2022

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	**Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)**	**2022 LVIA review (general re-evaluation) – magnitude of effect**	**Magnitude of effect levels**	**2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])**
South of the River Thames							
S-02	View from footpath NS160 located on the south-western edge of Great Crabbles Wood (LLCA Shorne Wooded Slopes). View centred south-west for recreational receptors.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer Slight beneficial (2020) to slight adverse (2022)	N/A	N/A	The review for the 2022 Landscape and Visual Impact Assessment (LVIA) considered that the Project would be barely noticeable during construction and at opening year due to distance and the presence of intervening features.	Construction Minor (2020) to negligible (2022) Opening year winter Minor (2020) to negligible (2022) Design year summer No change from 2020	Design year summer The review for the 2022 LVIA concluded that foreshortening of views by proposed ancient woodland compensation planting would be adverse rather than beneficial at design year. A slight adverse effect was therefore reported rather than slight beneficial effect. **No change to significant effects reported in either 2020 or 2022.**
S-04	View from the Kent Downs AONB on Park Pale, part of the National Cycle Network (NCN) Route 177 and Darnley Trail recreational route adjacent to Park Pale overbridge. Also represents views from the end of footpath NS161 (LLCA West Kent Downs (sub area Shorne)). View centred south-east for recreational receptors.	Construction No change from 2020 Opening year winter Large adverse (2020) to moderate adverse (2022) Design year summer Large adverse (2020) to moderate adverse (2022)	Very high sensitivity (2020) to high sensitivity (2022) (reasoning provided in Q12.3.2 response above)	N/A	N/A	Construction No change from 2020 Opening year winter No change from 2020 Design year summer No change from 2020	Opening year winter and design year summer The significance matrix allows a choice of two significance categories when high sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a moderate adverse significance of effect would be more appropriate than a large adverse significance of effect due to the extent of Project change being viewed in the context of the existing A2 corridor and due to the effect of established mitigation planting at design year. **Reduced significance levels in opening year and design year but effects still considered to be significant**.
S-05	View from the Kent Downs AONB on Park Pale overbridge, part of the NCN Route 177 and Darnley Trail recreational route (LLCA West Kent Downs (sub area	Construction No change from 2020 Opening year winter Very large adverse (2020) to large adverse (2022)	Very high sensitivity (2020) to high sensitivity (2022) (reasoning provided in Q12.3.2 response above)	Additional vegetation retained north of the A2 to the north-east of Brewers Road green bridge and along Park Pale would maintain slightly greater	The review for the 2022 LVIA concluded that established mitigation planting north and south of the A2 would provide some visual containment of the highway corridor at	Construction No change from 2020 Opening year winter No change from 2020 Design year summer	Opening year winter The significance matrix allows a choice of two significance categories when high sensitivity is combined with a major magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a

[9] Highways England (2020). Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	**Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)**	**2022 LVIA review (general re-evaluation) – magnitude of effect**	**Magnitude of effect levels**	**2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])**
	Shorne)). View centred north-north-west for recreational receptors.	Design year summer Very large adverse (2020) to moderate adverse (2022)		enclosure of the highway corridor. Additional planting proposed along Park Pale would provide slightly greater containment of highway corridor at design year.	design year, thereby reducing the magnitude of effect compared with the opening year.	Major (2020) to moderate (2022)	large adverse significance of effect would be more appropriate than a very large adverse significance of effect due to the extent of Project change being viewed in the context of the existing A2 corridor. Design year summer The significance matrix allows a choice of two significance categories when high sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a moderate adverse significance of effect would be more appropriate than a large adverse significance of effect due to the extent of Project change being viewed in the context of the existing A2 corridor and due to the effect of established mitigation planting. **Reduced significance levels in opening year and design year but effects still considered to be significant**.
S-05a	View from the Kent Downs AONB on Park Pale overbridge, part of the NCN Route 177 and Darnley Trail recreational route (LLCA West Kent Downs (sub area Shorne)). View centred west for recreational receptors.	Construction No change from 2020 Opening year winter Very large adverse (2020) to large adverse (2022) Design year summer Very large adverse (2020) to moderate adverse (2022)	Very high sensitivity (2020) to high sensitivity (2022) (reasoning provided in Q12.3.2 response above)	Additional vegetation retained north of the A2 to the north-east of Brewers Road green bridge and along Park Pale would maintain slightly greater enclosure of the highway corridor. Additional planting proposed along Park Pale would provide slightly greater containment of highway corridor at design year.	The review for the 2022 LVIA concluded that established mitigation planting north and south of the A2 would provide some visual containment of the highway corridor at design year, thereby reducing the magnitude of effect compared with the opening year.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer Major (2020) to moderate (2022)	Opening year winter The significance matrix allows a choice of two significance categories when high sensitivity is combined with a major magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a large adverse significance of effect would be more appropriate than a very large adverse significance of effect due to the extent of Project change being viewed in the context of the existing A2 corridor. Design year summer The significance matrix allows a choice of two significance categories when high sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a moderate adverse significance of effect would be more appropriate than a large adverse significance of effect due to the extent of

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	**Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)**	**2022 LVIA review (general re-evaluation) – magnitude of effect**	**Magnitude of effect levels**	**2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])**
							Project change being viewed in the context of the existing A2 corridor and due to the effect of established mitigation planting. **Reduced significance levels in opening year and design year but effects still considered to be significant**.
S-08	View from the Kent Downs AONB on footpath NS179, within Cobham Hall Grade II* Registered Park and Garden (LLCA West Kent Downs (sub area Cobham)). View centred west-north-west for recreational receptors.	<u>Construction</u> Very large adverse (2020) to large adverse (2022) <u>Opening year winter</u> Very large adverse (2020) to moderate adverse (2022) <u>Design year summer</u> Very large adverse (2020) to slight adverse (2022)	Very high sensitivity (2020) to high sensitivity (2022) (reasoning provided in Q12.3.2 response above)	Additional vegetation retained north of the A2 to the north-east of Brewers Road green bridge and along Park Pale would slightly reduce the amount of vegetation loss apparent in the view and help to maintain a wooded backdrop. Additional planting proposed along Park Pale would provide slightly greater containment of highway corridor on northern side of A2 at design year.	The review for the 2022 LVIA has taken account of the HS1 and A2 corridors that detract from existing views and the partial screening that would be provided by the embanked HS1 corridor during construction and on completion of construction. The review for the 2022 LVIA has also taken into account the screening effect of proposed planting along the A2 corridor, which would filter views of highway infrastructure and vehicles at design year.	<u>Construction</u> Major (2020) to moderate (2022) <u>Opening year winter</u> Major (2020) to moderate (2022) <u>Design year summer</u> Major (2020) to minor (2022)	<u>Construction</u> The significance matrix allows a choice of two significance categories when high sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a large adverse significance of effect would be more appropriate than a moderate adverse significance of effect due to the open nature of views towards construction works and the existing A2 corridor following vegetation removal between HS1 and the A2. <u>Opening year winter</u> The significance matrix allows a choice of two significance categories when high sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a moderate adverse significance of effect would be more appropriate than a large adverse significance of effect due to the extent of Project change being viewed in the context of the existing HS1 corridor. <u>Design year summer</u> The significance matrix allows a choice of two significance categories when high sensitivity is combined with a minor magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a slight adverse significance of effect would be more appropriate than a moderate adverse significance of effect due to the extent of Project change being viewed in the context of

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	**Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)**	**2022 LVIA review (general re-evaluation) – magnitude of effect**	**Magnitude of effect levels**	**2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])**
							the existing HS1 corridor and due to the effect of established mitigation planting. **Reduced significance levels in all assessment periods but effects still considered to be significant during construction and in opening year**.
S-09	View from the Kent Downs AONB on Park Pale/Darnley Trail/NCN Route 177, adjacent to Brewers Wood, part of Shorne Woods Country Park (LLCA West Kent Downs (sub area Shorne)). View centred south for recreational receptors.	Construction Very large adverse (2020) to moderate adverse (2022) Opening year winter Very large adverse (2020) to moderate adverse (2022) Design year summer Large adverse (2020) to slight adverse (2022)	Very high sensitivity (2020) to high sensitivity (2022) (reasoning provided in Q12.3.2 response above)	Removal of the proposed acoustic barrier along Park Pale from the design and retention of additional vegetation between Park Pale and the existing A2 corridor would reduce the level of change in the view. Additional planting proposed along Park Pale would increase the filtering of views towards the modified A2 corridor at design year.	N/A	Construction Major (2020) to moderate (2022) Opening year winter No change from 2020 Design year summer Moderate (2020) to minor (2022)	Construction The significance matrix allows a choice of two significance categories when high sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a moderate adverse significance of effect would be more appropriate than a large adverse significance of effect due to construction works being viewed in the context of the existing A2 corridor. Opening year winter The significance matrix allows a choice of two significance categories when high sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a moderate adverse significance of effect would be more appropriate than a large adverse significance of effect due to the extent of Project change being viewed in the context of the existing A2 corridor. Design year summer The significance matrix allows a choice of two significance categories when high sensitivity is combined with a minor magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a slight adverse significance of effect would be more appropriate than a moderate adverse significance of effect due to the extent of Project change being viewed in the context of the existing A2 corridor and due to the effect of established mitigation planting.

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	**Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)**	**2022 LVIA review (general re-evaluation) – magnitude of effect**	**Magnitude of effect levels**	**2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])**
							Reduced significance levels in all assessment periods but effects still considered to be significant during construction and in opening year.
S-10	View from the Kent Downs AONB on a path within the Pleasure Grounds at Cobham Hall part of the Cobham Hall Grade II* Registered Park and Garden (LLCA West Kent Downs (sub area Cobham)). View centred north-north-west for recreational receptors.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer Slight adverse (2020) to neutral (2022)	N/A	N/A	The review for the 2022 LVIA concluded that the combination of existing and proposed planting in leaf would result in the Project being not discernible at design year.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer Negligible (2020) to no change (2022)	Design year summer The significance matrix allows one significance category when very high sensitivity is combined with no change in magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a neutral significance of effect (as stated in LA 104) is appropriate, given that the Project would not be discernible. **No change to significant effects reported in either 2020 or 2022.**
S-11	View from the Kent Downs AONB on footpath NS179 within Cobham Hall Grade II* Registered Park and Garden (LLCA West Kent Downs (sub area Cobham)). View centred north-north-west for recreational receptors.	Construction No change from 2020 Opening year winter Moderate adverse (2020) to large adverse (2022) Design year summer Slight adverse (2020) to moderate adverse (2022)	N/A	N/A	The review for the 2022 LVIA concluded that the combination of vegetation loss and removal of the false cutting between HS1 and the A2 corridor would result in a moderate magnitude of effect rather than a minor magnitude of effect at opening year. The review for the 2022 LVIA concluded that increased visibility of the A2 corridor and Brewers Road green bridge would remain, resulting in a minor magnitude of effect rather than a negligible magnitude of effect at design year.	Construction No change from 2020 Opening year winter Minor (2020) to moderate (2022) Design year summer Negligible (2020) to minor (2022)	Opening year winter The significance matrix allows a choice of two significance categories when very high sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a large adverse significance of effect would be more appropriate than a very large adverse significance of effect due to the extent of Project change being viewed in the context of existing highway infrastructure along the A2 corridor. Design year summer The significance matrix allows a choice of two significance categories when very high sensitivity is combined with a minor magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a moderate adverse significance of effect would be more appropriate than a large adverse significance of effect due to the extent of Project change being viewed in the context of existing highway infrastructure along the A2

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	**Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)**	**2022 LVIA review (general re-evaluation) – magnitude of effect**	**Magnitude of effect levels**	**2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])**
							corridor and due to the effect of established mitigation planting. **Increased significance levels in the opening year and design year, with a new significant effect identified in the design year**.
S-12	View from the Kent Downs AONB on Brewers Road/Luddesdown Trek/NCN Route 177, adjacent to Brewers Wood/Shorne Wood (part of Shorne Woods Country Park) (LLCA West Kent Downs (sub area Shorne)). View centred south-south-west for recreational receptors.	<u>Construction</u> Very large adverse (2020) to large adverse (2022) <u>Opening year winter</u> Very large adverse (2020) to moderate adverse (2022) <u>Design year summer</u> Large adverse (2020) to slight beneficial (2022)	Very high sensitivity (2020) to high sensitivity (2022) (reasoning provided in Q12.3.2 response above)	Additional vegetation retained north of the A2 to the west and north-east of Brewers Road green bridge and at The Nook Pet Hotel would reduce the amount of vegetation loss apparent in the view and therefore reduce visibility of construction works and new and replacement highway infrastructure at opening year.	The review for the 2022 LVIA has taken into account the beneficial screening effect of proposed planting along Brewers Road green bridge, which would soften the appearance of the bridge in views at design year.	<u>Construction</u> Major (2020) to moderate (2022) <u>Opening year winter</u> Major (2020) to moderate (2022) <u>Design year summer</u> Moderate (2020) to minor (2022)	<u>Construction</u> The significance matrix allows a choice of two significance categories when high sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a large adverse significance of effect would be more appropriate than a moderate adverse significance of effect due to views of construction activity associated with new and replacement highway infrastructure above the existing road cutting. <u>Opening year winter</u> The significance matrix allows a choice of two significance categories when high sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a moderate adverse significance of effect would be more appropriate than a large adverse significance of effect due to the extent of Project change being viewed in the context of the existing A2 corridor. <u>Design year summer</u> The significance matrix allows a choice of two significance categories when high sensitivity is combined with a minor magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a slight beneficial significance of effect would be more appropriate than a moderate beneficial significance of effect due to the beneficial effects of the Brewers Road green bridge being slightly offset by the presence of new/

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	**Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)**	**2022 LVIA review (general re-evaluation) – magnitude of effect**	**Magnitude of effect levels**	**2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])**
							replacement highway infrastructure along the modified A2 corridor. **Reduced significance levels in all assessment periods but effects still considered to be significant during construction and in opening year.**
S-13	View from the Kent Downs AONB on Brewers Road overbridge and the Luddesdown Trek above the A2 eastbound carriageway (LLCA West Kent Downs (sub area Shorne)). View centred south for recreational receptors.	Construction No change from 2020 Opening year winter Very large adverse (2020) to large adverse (2022) Design year summer Large adverse (2020) to slight beneficial (2022)	Very high sensitivity (2020) to high sensitivity (2022) (reasoning provided in Q12.3.2 response above)	Additional vegetation retained north of the A2 to the west and north-east of Brewers Road green bridge and at The Nook Pet Hotel would reduce the amount of vegetation loss apparent in the view.	The review for the 2022 LVIA has taken into account the beneficial screening effect of proposed planting along Brewers Road green bridge, which would densely filter or screen views of the A2 corridor at design year.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer Moderate (2020) to minor (2022)	Opening year winter The significance matrix allows a choice of two significance categories when high sensitivity is combined with a major magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a large adverse significance of effect would be more appropriate than a very large adverse significance of effect due to the extent of Project change being viewed in the context of the existing A2 corridor. Design year summer The significance matrix allows a choice of two significance categories when high sensitivity is combined with a minor magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a slight beneficial effect would be more appropriate than a moderate beneficial significance of effect due to the beneficial effects of the Brewers Road green bridge being slightly offset by the presence of new/ replacement highway infrastructure along the modified A2 corridor. **Reduced significance levels in the opening year and design year but effects still considered to be significant in the opening year.**
S-14	View from the Kent Downs AONB on Brewers Road overbridge and the Luddesdown Trek above A2 westbound carriageway/HS1 (LLCA	Construction No change from 2020 Opening year winter Very large adverse (2020) to large adverse (2022)	Very high sensitivity (2020) to high sensitivity (2022) (reasoning provided in Q12.3.2 response above)	Additional vegetation retained north of the A2 to the west and north-east of Brewers Road green bridge and at The Nook Pet Hotel would reduce	The review for the 2022 LVIA has taken into account the beneficial screening effect of proposed planting along Brewers Road green bridge, which would	Construction No change from 2020 Opening year winter No change from 2020 Design year summer	Opening year winter The significance matrix allows a choice of two significance categories when high sensitivity is combined with a major magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix,

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	**Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)**	**2022 LVIA review (general re-evaluation) – magnitude of effect**	**Magnitude of effect levels**	**2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])**
	West Kent Downs (sub area Shorne)). View centred north-east for recreational receptors.	Design year summer Large adverse (2020) to slight beneficial (2022)		the amount of vegetation loss apparent in the view.	densely filter or screen views of the A2 corridor at design year.	Moderate (2020) to minor (2022)	the review for the 2022 LVIA concluded that a large adverse significance of effect would be more appropriate than a very large adverse significance of effect due to the extent of Project change being viewed in the context of the existing A2 corridor. Design year summer The significance matrix allows a choice of two significance categories when high sensitivity is combined with a minor magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a slight beneficial effect would be more appropriate than a moderate beneficial significance of effect due to the beneficial effects of the Brewers Road green bridge being slightly offset by the presence of new/ replacement highway infrastructure along the modified A2 corridor. **Reduced significance levels in the opening year and design year but effects still considered to be significant in the opening year.**
S-15	View from the Kent Downs AONB on footpath NS178 located adjacent to the Halfpence Lane roundabout (LLCA West Kent Downs (sub area Cobham)). View centred north for recreational receptors.	Construction Very large adverse (2020) to moderate adverse (2022) Opening year winter Very large adverse (2020) to slight adverse (2022) Design year summer Moderate adverse (2020) to neutral (2022)	Very high sensitivity (2020) to high sensitivity (2022) (reasoning provided in Q12.3.2 response above)	Additional vegetation retained along the north of the A2 corridor to the west of Brewers Road green bridge would slightly reduce the amount of vegetation loss apparent in the view and help to maintain a wooded backdrop.	The review for the 2022 LVIA has taken into account the overall prominence of the Brewers Road, Halfpence Lane and Thong Lane roundabout and connector roads that detract from existing views; and that existing vegetation retained along the HS1 corridor would partially screen views during construction and on completion of construction. The review for the 2022 LVIA concluded that the	Construction Major (2020) to moderate (2022) Opening year winter Major (2020) to minor (2022) Design year summer Minor (2020) to no change (2022)	Construction The significance matrix allows a choice of two significance categories when high sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a moderate adverse significance of effect would be more appropriate than a large adverse significance of effect due to construction works being viewed in the context of the existing road corridor and roundabout. Opening year winter The significance matrix allows a choice of two significance categories when high sensitivity is combined with a minor magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	**Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)**	**2022 LVIA review (general re-evaluation) – magnitude of effect**	**Magnitude of effect levels**	**2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])**
					combination of existing and proposed planting in leaf would result in the Project being not discernible at design year, as views of the Brewers Road, Halfpence Lane and Thong Lane roundabout and the modified A2 corridor would not appear notably different to existing.		slight adverse significance of effect would be more appropriate than a moderate adverse significance of effect due to the extent of Project change being viewed in the context of the existing road corridor and roundabout. Design year summer The significance matrix allows one significance category when high sensitivity is combined with no change in magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a neutral significance of effect (as stated in LA 104) is appropriate, given that the Project would not be discernible. **Reduced significance levels in all assessment periods but effects still considered to be significant during construction.**
S-16	View from the Kent Downs AONB and Randall Heath Woods, on a permissive path within Shorne Woods Country Park (LLCA West Kent Downs (sub area Shorne)). View centred south-south-west for recreational receptors.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer Neutral (2020) to slight adverse (2022)	N/A	N/A	The review for the 2022 LVIA concluded that the presence of the M2/A2/A122 Lower Thames Crossing junction would result in an overall slight adverse rather than neutral significance of effect at design year.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer No change (2020) to negligible (2022)	Design year summer The significance matrix allows one significance category when very high sensitivity is combined with a negligible magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a slight adverse significance of effect (as stated in LA 104) is appropriate, due to parts of the M2/A2/A122 Lower Thames Crossing junction remaining apparent in views. **No change to significant effects reported in either 2020 or 2022.**
S-17	View from the Kent Downs AONB on the NCN Route 177/Timeball and Telegraph Trail Long Distance Path, on Thong Lane adjacent to the Inn on the Lake Hotel (LLCA West Kent Downs (sub area Shorne)). View centred	Construction No change from 2020 Opening year winter Very large adverse (2020) to large adverse (2022) Design year summer Very large adverse (2020) to moderate adverse (2022)	Very high sensitivity (2020) to high sensitivity (2022) (reasoning provided in Q12.3.2 response above)	N/A	The review for the 2022 LVIA has taken into account the screening effect of proposed planting along the north of the A2 corridor and Thong Lane green bridge south at design year, which would densely filter views of the A2 corridor and soften the appearance of vehicles along Thong	Construction No change from 2020 Opening year winter No change from 2020 Design year summer Major (2020) to moderate (2022)	Opening year winter The significance matrix allows a choice of two significance categories when high sensitivity is combined with a major magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a large adverse significance of effect would be more appropriate than a very large adverse significance of effect due to the extent of Project change being viewed in the context of the existing A2 corridor.

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	**Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)**	**2022 LVIA review (general re-evaluation) – magnitude of effect**	**Magnitude of effect levels**	**2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])**
	south for recreational receptors.				Lane green bridge south.		<u>Design year summer</u> The significance matrix allows a choice of two significance categories when high sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a moderate adverse significance of effect would be more appropriate than a large adverse significance of effect due to the extent of Project change being viewed in the context of the existing A2 corridor and due to the effect of established mitigation planting. **Reduced significance levels in the opening year and design year but effects still considered to be significant.**
S-18	View from the Kent Downs AONB on the HS1 green bridge and Timeball and Telegraph Trail Long Distance Path (LLCA West Kent Downs (sub area Cobham)). View centred north-west for recreational receptors.	<u>Construction</u> No change from 2020 <u>Opening year winter</u> No change from 2020 <u>Design year summer</u> Very large adverse (2020) to large adverse (2022)	N/A	Increased width of planting strip along Thong Lane green bridge south and consequent screening of views of highway infrastructure beyond to the north-west.	The review for the 2022 LVIA has taken into account the screening effect of proposed planting along the south of the A2 corridor and Thong Lane green bridge south at design year, which would filter views of highway infrastructure along the A2 corridor and soften the appearance of Thong Lane green bridge south and vehicles using it.	<u>Construction</u> No change from 2020 <u>Opening year winter</u> No change from 2020 <u>Design year summer</u> Major (2020) to moderate (2022)	<u>Design year summer</u> The significance matrix allows a choice of two significance categories when very high sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a large adverse significance of effect would be more appropriate than a very large adverse significance of effect due to the extent of Project change being viewed in the context of highway infrastructure along the existing A2 corridor and due to the effect of established mitigation planting. **Reduced significance level in the design year but effects still considered to be significant.**
S-19	View from footpath NS177, located within Jeskyns Community Woodland. Also represents views from footpath NS177A (LLCA Istead Arable Farmlands). View	<u>Construction</u> No change from 2020 <u>Opening year winter</u> No change from 2020 <u>Design year summer</u> No change from 2020	N/A	N/A	The review for the 2022 LVIA considered that the M2/A2/A122 Lower Thames Crossing junction would be apparent in views above existing vegetation, resulting in a higher	<u>Construction</u> Minor (2020) to moderate (2022) <u>Opening year winter</u> Minor (2020) to moderate (2022)	**No change to significance levels.**

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)	2022 LVIA review (general re-evaluation) – magnitude of effect	Magnitude of effect levels	2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])
	centred north-west for recreational receptors.				magnitude of effect at each assessment period.	Design year summer Negligible (2020) to minor (2022)	
S-20a	View from Jeskyns Community Woodland. Also represents views from northern end of footpath NS177 (LLCA Istead Arable Farmlands). View centred north-east for recreational receptors.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer Moderate adverse (2020) to slight adverse (2022)	N/A	N/A	N/A	Construction No change from 2020 Opening year winter No change from 2020 Design year summer No change from 2020	Design year summer Change in significance level is as a result of a different choice of significance category from the significance matrix compared to the 2020 LVIA, with the reasoning provided below. The significance matrix allows a choice of two significance categories when high sensitivity is combined with a minor magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a slight adverse significance of effect would be more appropriate than a moderate adverse significance of effect due to the screening effect of proposed planting along the A2 corridor and Thong Lane green bridge south, which would filter views of vehicles, highway infrastructure and retaining walls along the A2 corridor and soften the appearance of vehicles along Thong Lane green bridge south. **Reduced significance level in the design year, no longer considered to be significant.**
S-22	View from Watling Street on the A2 overbridge (LLCA Gravesend Southern Fringe). View centred east-south-east for users of the main road.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer Slight adverse (2020) to neutral (2022)	N/A	N/A	The review for the 2022 LVIA has taken into account the overall prominence of the A2 corridor that detracts from existing views at all assessment periods. The review for the 2022 LVIA concluded that the Project would be barely noticeable once mitigation planting has established at design year, as views of the modified A2 corridor would not appear	Construction Major (2020) to moderate (2022) Opening year winter Moderate (2020) to minor (2022) Design year summer Moderate (2020) to negligible (2022)	Design year summer The significance matrix allows a choice of two significance categories when low sensitivity is combined with a negligible magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a neutral significance of effect would be more appropriate than a slight adverse significance of effect due to the limited overall effect on the view and due to the effect of established mitigation planting. **No change to significant effects reported in either 2020 or 2022.**

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	**Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)**	**2022 LVIA review (general re-evaluation) – magnitude of effect**	**Magnitude of effect levels**	**2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])**
					notably different to existing.		
S-24	View from footpath NS167 adjacent to Claylane Wood. Also represents views from bridleway NS174 (LLCA Higham Arable Farmland (sub area Thong)) looking towards the Kent Downs AONB. View centred east for recreational receptors.	Construction Very large adverse (2020) to not assessed (2022) (Due to temporary closure of footpath during construction) Opening year winter Very large adverse (2020) to large adverse (2022) Design year summer Very large adverse (2020) to large adverse (2022)	Very high sensitivity (2020) to moderate sensitivity (2022) (Recreational receptors using local routes as opposed to long distance routes, have been assessed as moderate sensitivity, as indicated by LA 107 Landscape and Visual Effects)	N/A	N/A	Construction Major (2020) to not assessed (2022) (Due to temporary closure of footpath during construction) Opening year winter No change from 2020 Design year summer No change from 2020	Opening year winter and design year summer The significance matrix allows a choice of two significance categories when moderate sensitivity is combined with a major magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a large adverse significance of effect would be more appropriate than a moderate adverse significance of effect due to the Project appearing across a large proportion of the view. **Reduced significance level in the opening year and design year but effects still considered to be significant.**
S-25	View from footpath NS167 at the western edge of Thong village and Thong Conservation Area (LLCA Higham Arable Farmland (sub area Thong)). View centred south-west for recreational receptors.	Construction Large adverse (2020) to not assessed (2022) (Due to temporary closure of footpath during construction) Opening year winter Moderate adverse (2020) to large adverse (2022) Design year summer No change from 2020	N/A	N/A	The review for the 2022 LVIA concluded that the new false cutting earthworks at the M2/A2/A122 Lower Thames Crossing junction would result in a major magnitude of effect rather than a moderate magnitude of effect at opening year.	Construction Major (2020) to not assessed (2022) (Due to temporary closure of footpath during construction) Opening year winter Moderate (2020) to major (2022) Design year summer No change from 2020	Opening year winter The significance matrix allows a choice of two significance categories when moderate sensitivity is combined with a major magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a large adverse significance of effect would be more appropriate than a moderate adverse significance of effect due to the Project appearing across a large proportion of the view. **Increased significance level in the opening year but effects still considered to be significant.**
S-27	View from footpath NS169, looking towards Shorne Woods and the Kent Downs AONB (LLCA Higham Arable Farmland (sub area Thong)). View centred east-south-east for recreational receptors.	Construction Very large adverse (2020) to not assessed (2022) (Due to temporary closure of footpath during construction) Opening year winter	Very high sensitivity (2020) to moderate sensitivity (2022) (Recreational receptors using local routes, as opposed to long distance routes have been assessed as moderate sensitivity, as	N/A	N/A	Construction Major (2020) to not assessed (2022) (Due to temporary closure of footpath during construction) Opening year winter No change from 2020 Design year summer	Opening year winter The significance matrix allows a choice of two significance categories when moderate sensitivity is combined with a major magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a large adverse significance of effect would be more appropriate than a moderate

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	**Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)**	**2022 LVIA review (general re-evaluation) – magnitude of effect**	**Magnitude of effect levels**	**2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])**
		Very large adverse (2020) to large adverse (2022) Design year summer Large adverse (2020) to moderate adverse (2022)	indicated by LA 107 Landscape and Visual Effects)			No change from 2020	adverse significance of effect due to the Project appearing across a large proportion of the view. Design year summer The significance matrix allows one significance category when moderate sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a moderate adverse significance of effect (as stated in LA 104) is appropriate, due to the screening effect of established mitigation planting resulting in a reduced level of visual effect compared to the opening year, albeit with the Project remaining prominent in the midground. **Reduced significance levels in the opening year and design year but effects still considered to be significant.**
S-28 & S-(CH)01	View from footpath NS169 adjacent to Gravesend urban edge, looking towards Shorne Woods within the Kent Downs AONB, and St Mary Magdalene Church, Cobham (LLCA Higham Arable Farmland (sub area Thong)). View centred east-south-east for recreational receptors.	Construction Very large adverse (2020) to not assessed (2022) (Due to temporary closure of footpath during construction) Opening year winter Large adverse (2020) to moderate adverse (2022) Design year summer Large adverse (2020) to moderate adverse (2022)	Very high sensitivity (2020) to moderate sensitivity (2022) (Recreational receptors using local routes, as opposed to long distance routes have been assessed as moderate sensitivity, as indicated by LA 107 Landscape and Visual Effects)	N/A	N/A	Construction Major (2020) to not assessed (2022) (Due to temporary closure of footpath during construction) Opening year winter No change from 2020 Design year summer No change from 2020	Opening year winter and design year summer The significance matrix allows one significance category when moderate sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a moderate adverse significance of effect (as stated in LA 104) is appropriate, due to the Project being prominent in mid-range views. **Reduced significance level in the opening year and design year but effects still considered to be significant.**
S-29	View from edge of the Kent Downs AONB on Shorne Ifield Road located to the north of Shorne Woods Country Park (LLCA Higham Arable Farmland (sub area Chalk)). View	Construction No change from 2020 Opening year winter Moderate adverse (2020) to slight adverse (2022) Design year summer	Very high sensitivity (2020) to high sensitivity (2022) (Transient views from local/regional routes are considered to be of moderate sensitivity in LA 107 Landscape	N/A	The review for the 2022 LVIA concluded that foreshortening of views by proposed ancient woodland compensation planting would result in a higher magnitude of effect at design year.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer Negligible (2020) to minor (2022)	Opening year winter The significance matrix allows a choice of two significance categories when high sensitivity is combined with a minor magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a slight adverse significance of effect would be

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	**Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)**	**2022 LVIA review (general re-evaluation) – magnitude of effect**	**Magnitude of effect levels**	**2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])**
	centred north-west for users of the local road.	No change from 2020	and Visual Effects. However, in recognition of the location of this Representative Viewpoint adjoining the northern edge of the Kent Downs AONB, the sensitivity has been assessed as high, rather than very high)				more appropriate than a moderate adverse significance of effect due to the limited overall effect in the long-range view. **Reduced significance level in the opening year, no longer considered to be significant.**
S-31	View from footpath NG8 located within Southern Valley Golf Club at the urban edge of Gravesend (Riverview Park) (LLCA Higham Arable Farmland (sub area Chalk)). View centred east-north-east for recreational receptors.	<u>Construction</u> Large adverse (2020) to not assessed (2022) (Due to temporary closure of footpath during construction) <u>Opening year winter</u> No change from 2020 <u>Design year summer</u> No change from 2020	High sensitivity (2020) to moderate sensitivity (2022) (Recreational receptors using local routes opposed to long distance routes have been assessed as moderate sensitivity, as indicated by LA 107 Landscape and Visual Effects)	N/A	N/A	<u>Construction</u> Major (2020) to not assessed (2022) (Due to temporary closure of footpath during construction) <u>Opening year winter</u> No change from 2020 <u>Design year summer</u> No change from 2020	**No change to significance levels.**
S-32	View from elevated location along footpath NS316 located immediately west of Shorne Hill, with views to the Kent Downs AONB. Also represents views from footpath NS163 (LLCA Higham Arable Farmland (sub area Chalk)). View centred west for recreational receptors.	<u>Construction</u> Very large adverse (2020) to large adverse (2022) <u>Opening year winter</u> Large adverse (2020) to slight adverse (2022) <u>Design year summer</u> Moderate adverse (2020) to slight adverse (2022)	Very high sensitivity (2020) to moderate sensitivity (2022) (Recreational receptors using local routes opposed to long distance routes have been assessed as moderate sensitivity, as indicated by LA 107 Landscape and Visual Effects)	N/A	The review for the 2022 LVIA has taken into account the distance of the Project from the footpath during operation and the fact that the Project carriageway and the majority of vehicles and highway infrastructure would be screened within cutting.	<u>Construction</u> No change from 2020 <u>Opening year winter</u> Moderate (2020) to minor (2022) <u>Design year summer</u> No change from 2020	<u>Construction</u> The significance matrix allows a choice of two significance categories when moderate sensitivity is combined with a major magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a large adverse significance of effect would be more appropriate than a moderate adverse significance of effect due to the elevated nature of views and the wide extent of construction and utility works visible. <u>Opening year winter and design year summer</u> The significance matrix allows one significance category when moderate sensitivity is combined with a minor magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a slight adverse significance of effect (as stated in LA 104) is appropriate, due

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)	2022 LVIA review (general re-evaluation) – magnitude of effect	Magnitude of effect levels	2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])
							to the limited overall effect in the long-range view. **Reduced significance levels in all assessment periods but effects still considered to be significant during construction.**
S-33	View taken at intersection of footpaths NG7, NG8, NG9, on northern edge of Southern Valley Golf Club (LLCA Higham Arable Farmland (sub area Chalk)). View centred north-west for recreational receptors.	Construction Large adverse (2020) to not assessed (2022) (Due to temporary closure of footpath during construction) Opening year winter Slight adverse (2020) to moderate adverse (2022) Design year summer No change from 2020	N/A	N/A	The review for the 2022 LVIA concluded that the upper slopes of the South Portal approach road cutting would be prominent at opening year, resulting in a moderate magnitude of effect rather than a minor magnitude of effect.	Construction Major (2020) to not assessed (2022) (Due to temporary closure of footpath during construction) Opening year winter Minor (2020) to moderate (2022) Design year summer No change from 2020	Opening year winter The significance matrix allows one significance category when moderate sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a moderate adverse significance of effect (as stated in LA 104) is appropriate, due to the upper slopes of the South Portal approach road cutting being prominent in views. **Increased significance level in the opening year, with a new significant effect identified.**
S-34	View from footpath NS163A located adjacent to residential properties fronting the A226 Gravesend Road (LLCA Higham Arable Farmland (sub area Chalk)). View centred south-west for recreational receptors.	Construction Large adverse (2020) to not assessed (2022) (Due to temporary closure of footpath during construction) Opening year winter Moderate adverse (2020) to slight adverse (2022) Design year summer No change from 2020	Very high sensitivity (2020) to moderate sensitivity (2022) (Recreational receptors using local routes opposed to long distance routes have been assessed as moderate sensitivity, as indicated by LA 107 Landscape and Visual Effects)	Infiltration basins would be located further south, reducing their impact on views from the footpath	N/A	Construction Moderate (2020) to not assessed (2022) (Due to temporary closure of footpath during construction) Opening year winter No change from 2020 Design year summer No change from 2020	Opening year winter The significance matrix allows one significance category when moderate sensitivity is combined with a minor magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a slight adverse significance of effect (as stated in LA 104) is appropriate, due to the limited overall effect in the mid-range to long-range view. **Reduced significance level in the opening year, no longer considered to be significant.**
S-35 & S-(CH)03 a	View from A226 Gravesend Road near Chalk (LLCA Higham Arable Farmland (sub area Chalk)). View centred south-south-east for users of the main road.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer Slight adverse (2020) to neutral (2022)	N/A	N/A	The review for the 2022 LVIA considered that the proposed access road to the South Portal and the proposed substation would result in a moderate magnitude of effect rather than a minor	Construction No change from 2020 Opening year winter Minor (2020) to moderate (2022) Design year summer Minor (2020) to negligible (2022)	Design year summer The significance matrix allows a choice of two significance categories when low sensitivity is combined with a negligible magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a neutral significance of effect would be more appropriate than a slight adverse significance

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)	2022 LVIA review (general re-evaluation) – magnitude of effect	Magnitude of effect levels	2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])
					magnitude of effect at opening year. The review for the 2022 LVIA concluded that the Project would be barely noticeable once mitigation planting has established at design year, as views of the A226 would not appear notably different to existing and the access road off the A226 would be integrated by hedgerow planting.		of effect due to the limited overall effect on the view. **No change to significant effects reported in either 2020 or 2022.**
S-38a	View from Saxon Shore Way Long Distance Path/footpath NS138 at intersection with bridleway NS318 adjacent to Shornemead Fort. Also represents views from footpath NG1 (LLCA Shorne and Higham Marshes). View centred north-west for recreational receptors.	Construction Moderate adverse (2020) to slight adverse (2022) Opening year winter No change from 2020 Design year summer No change from 2020	N/A	N/A	The review for the 2022 LVIA has taken into account the distance of the Project construction works north of the River Thames from the footpath during construction, and the existing context of Tilbury Docks.	Construction Moderate (2020) to minor (2022) Opening year winter No change from 2020 Design year summer No change from 2020	Construction The significance matrix allows a choice of two significance categories when high sensitivity is combined with a minor magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a slight adverse significance of effect would be more appropriate than a moderate adverse significance of effect due to the limited overall effect on the wide panoramic view. **Reduced significance level during construction, no longer considered to be significant.**
S-39 & S-(CH)04	View from local recreational ground on area of elevated ground at Windmill Hill, within residential area of Gravesend (LLCA Gravesend Urban Area). View centred north-north-east for residential receptors.	Construction Moderate adverse (2020) to slight adverse (2022) Opening year winter No change from 2020 Design year summer No change from 2020	N/A	N/A	The review for the 2022 LVIA has taken into account the distance of the Project north of the River Thames from Windmill Hill at all assessment periods, and the existing context of Tilbury Docks.	Construction Moderate (2020) to minor (2022) Opening year winter Minor (2020) to negligible (2022) Design year summer Minor (2020) to negligible (2022)	Construction The significance matrix allows a choice of two significance categories when high sensitivity is combined with a minor magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a slight adverse significance of effect would be more appropriate than a moderate adverse significance of effect due to the limited overall effect on the view.

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	**Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)**	**2022 LVIA review (general re-evaluation) – magnitude of effect**	**Magnitude of effect levels**	**2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])**
							Reduced significance level during construction, no longer considered to be significant.
North of the River Thames							
N-06	View from footpath 200 adjacent to Bowaters Farm (LLCA Tilbury Marshes). View centred south-south-east for recreational receptors.	Construction No change from 2020 Opening year winter Slight adverse (2020) to moderate adverse (2022) Design year summer No change from 2020	N/A	Change in the design of Tilbury Fields sculptural landscape mounding, resulting in visibility from the footpath.	The review for the 2022 LVIA has taken into account the embankments at the North Portal operational access bridge being visible from the footpath during operation.	Construction No change from 2020 Opening year winter Minor (2020) to moderate (2022) Design year summer Negligible (2020) to minor (2022)	Opening year winter The significance matrix allows one significance category when moderate sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a moderate adverse significance of effect (as stated in LA 104) is appropriate, as the embankments at the North Portal operational access bridge would be prominent in views. **Increased significance level in the opening year, with a new significant effect identified.**
N-07	View from bridleway 58 (off Love Lane) (LLCA West Tilbury Urban Fringe). View centred west-south-west for recreational receptors.	Construction No change from 2020 Opening year winter Large adverse (2020) to moderate adverse (2022) Design year summer Moderate adverse (2020) to slight adverse (2022)	N/A	Reduction in the size of the flood compensation area beneath Tilbury Viaduct, reducing the impact on views.	The review for the 2022 LVIA concluded that intervening buildings at Readmans Industrial Estate and retained vegetation would obscure parts of the Project during operation.	Construction No change from 2020 Opening year winter Major (2020) to moderate (2022) Design year summer Moderate (2020) to minor (2022)	Opening year winter The significance matrix allows one significance category when moderate sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a moderate adverse significance of effect (as stated in LA 104) is appropriate, due to parts of the Project being prominent in views in between intervening features. Design year summer The significance matrix allows one significance category when moderate sensitivity is combined with a minor magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a slight adverse significance of effect (as stated in LA 104) is appropriate, due to the effect of established mitigation planting. **Reduced significance levels at opening year and design year but effects still considered to be significant at opening year.**

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	**Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)**	**2022 LVIA review (general re-evaluation) – magnitude of effect**	**Magnitude of effect levels**	**2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])**
N-08	View from Low Street Lane adjacent to cluster of rural residential properties (LLCA West Tilbury Urban Fringe). View centred east for residential receptors.	Construction Very large adverse (2020) to large adverse (2022) Opening year winter No change from 2020 Design year summer No change from 2020	High sensitivity (2020) to moderate sensitivity (2022) '*Static views from less populated residential areas*', such as this small group of properties along Low Street Lane are considered to be of moderate sensitivity in LA 107 Landscape and Visual Effects)	N/A	N/A	Construction No change from 2020 Opening year winter No change from 2020 Design year summer No change from 2020	Construction The significance matrix allows a choice of two significance categories when moderate sensitivity is combined with a major magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a large adverse significance of effect would be more appropriate than a moderate adverse significance of effect due to the proximity of the Project to the residential properties. **Reduced significance level during construction but effects still considered to be significant.**
N-09	View from footpath 67 (off Blue Anchor Lane) adjacent to Holford Farm (LLCA West Tilbury Urban Fringe). View centred east-north-east for recreational receptors.	Construction No change from 2020 Opening year winter Large adverse (2020) to moderate adverse (2022) Design year summer No change from 2020	High sensitivity (2020) to moderate sensitivity (2022) (Recreational receptors using local routes opposed to long distance routes have been assessed as moderate sensitivity, as indicated by LA 107 Landscape and Visual Effects)	N/A	N/A	Construction No change from 2020 Opening year winter No change from 2020 Design year summer No change from 2020	Opening year winter The significance matrix allows one significance category when moderate sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a moderate adverse significance of effect (as stated in LA 104) is appropriate, due to the prominence of the Project in the midground. **Reduced significance level at the opening year but effects still considered to be significant.**
N-12	View from residential properties in East Tilbury (off Beechcroft Avenue) (LLCA West Tilbury Urban Fringe). View centred south-west for residential receptors.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer No change from 2020	N/A	N/A	The review for the 2022 LVIA concluded that Muckingford Road green bridge and the false cutting earthworks along the Project route would remain prominent in views at design year.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer Minor (2020) to moderate (2022)	**No change to significance levels.**
N-13	View from edge of public open space between Linford and East Tilbury (off Muckingford Road) (LLCA	Construction No change from 2020 Opening year winter No change from 2020 Design year summer	N/A	N/A	The review for the 2022 LVIA concluded that Muckingford Road green bridge and the false cutting earthworks along the Project route	Construction No change from 2020 Opening year winter No change from 2020 Design year summer	Design year summer The significance matrix allows one significance category when moderate sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)	2022 LVIA review (general re-evaluation) – magnitude of effect	Magnitude of effect levels	2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])
	Linford/Buckingham Hill Urban Fringe). View centred south-west for users of the public open space.	Slight adverse (2020) to moderate adverse (2022)			would remain prominent in views at design year.	Minor (2020) to moderate (2022)	concluded that a moderate adverse significance of effect (as stated in LA 104) is appropriate, due to the prominence of Muckingford Road green bridge. **Increased significance level in the design year, with a new significant effect identified.**
N-16	View from footpath 41/access track near Butts Lane (LLCA Linford/Buckingham Hill Urban Fringe). View centred south-south-west for recreational receptors.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer No change from 2020	N/A	N/A	The review for the 2022 LVIA has taken into account the distance of the Project from the footpath at all assessment periods, and the limited overall change in views.	Construction Minor (2020) to negligible (2022) Opening year winter Negligible (2020) to no change (2022) Design year summer No change from 2020	**No change to significance levels.**
N-17	View from footpath 45 located within Orsett Golf Club (LLCA Linford/Buckingham Hill Urban Fringe). View centred south-south-east for recreational receptors.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer Slight adverse (2020) to moderate beneficial (2022)	N/A	Inclusion of a nitrogen deposition compensation site adjacent to the footpath would screen views of detractors such as overhead lines and mineral workings, as well as providing additional screening of the Project.	The review for the 2022 LVIA has taken into account the addition of nitrogen deposition compensation planting, which would result in a noticeable improvement to views at design year.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer Minor (2020) to moderate (2022)	Design year summer The significance matrix allows one significance category when moderate sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a moderate beneficial significance of effect (as stated in LA 104) is appropriate, due to the noticeable improvement in views as a result of established mitigation planting. **Increased significance level in the design year, with a new significant beneficial effect identified.**
N-18	View from footpath 78 on the north-east edge of Chadwell St Mary (LLCA White Croft/Orsett Heath Urban Fringe). View centred north-north-east for recreational receptors.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer No change from 2020	High sensitivity (2020) to moderate sensitivity (2022) (Recreational receptors using local routes opposed to long distance routes have been assessed as moderate sensitivity, as indicated by LA 107 Landscape and Visual Effects)	N/A	N/A	Construction No change from 2020 Opening year winter No change from 2020 Design year summer No change from 2020	**No change to significance levels.**

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)	2022 LVIA review (general re-evaluation) – magnitude of effect	Magnitude of effect levels	2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])
N-20	View from Hornsby Lane adjacent to Heath Place (Grade II listed building) (LLCA White Croft/Orsett Heath Urban Fringe). View centred west-south-west for users of the local road.	Construction Moderate adverse (2020) to large adverse (2022) Opening year winter Moderate adverse (2020) to large adverse (2022) Design year summer No change from 2020	N/A	Inclusion of the Orsett Cock to A1089 slip road and associated steep earthworks would be notable in views. Location of Representative Viewpoint altered to better represent views of the Project.	The review for the 2022 LVIA concluded that the Project would be prominent in wide views from Hornsby Lane at opening year, in particular new earthworks associated with slip roads at the A13/A1089/A122 Lower Thames Crossing junction.	Construction No change from 2020 Opening year winter Moderate (2020) to major (2022) Design year summer No change from 2020	Construction Change in significance level is as a result of a different choice of significance category from the significance matrix compared to the 2020 LVIA, with the reasoning provided below. The significance matrix allows a choice of two significance categories when moderate sensitivity is combined with a major magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a large adverse significance of effect would be more appropriate than a moderate adverse significance of effect due to construction works for the Project being prominent in wide views from Hornsby Lane. Opening year winter The significance matrix allows a choice of two significance categories when moderate sensitivity is combined with a major magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a large adverse significance of effect would be more appropriate than a moderate adverse significance of effect due to the Project appearing across a large proportion of the view. **Increased significance levels during construction and in the opening year but effects still considered to be significant.**
N-23	View from Grays urban edge (off Long Lane) (LLCA White Croft/Orsett Heath Urban Fringe). View centred east-north-east for residential receptors.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer Moderate adverse (2020) to slight adverse (2022)	N/A	Inclusion of landscape mounds and associated planting at the A13/A1089/A122 Lower Thames Crossing junction would help to integrate the junction into the landscape and screen views of traffic and highway infrastructure.	N/A	Construction No change from 2020 Opening year winter No change from 2020 Design year summer No change from 2020	Design year summer Change in significance level is as a result of a different choice of significance category from the significance matrix compared to the 2020 LVIA, with the reasoning provided below. The significance matrix allows a choice of two significance categories when high sensitivity is combined with a minor magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	**Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)**	**2022 LVIA review (general re-evaluation) – magnitude of effect**	**Magnitude of effect levels**	**2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])**
							slight adverse significance of effect would be more appropriate than a moderate adverse significance of effect due to the screening effect of proposed planting at the A13/A1089/A122 Lower Thames Crossing junction, including at the landscape mounds, which would densely filter views of highway infrastructure and vehicles. **Reduced significance level at the design year, no longer considered to be significant.**
N-24	View from residential properties on B188 Baker Street (LLCA Orsett Lowland Farmland). View looking south-south-east for residential receptors.	<u>Construction</u> No change from 2020 <u>Opening year winter</u> Moderate adverse (2020) to large adverse (2022) <u>Design year summer</u> Slight adverse (2020) to moderate adverse (2022)	N/A	N/A	The review for the 2022 LVIA concluded that the Project would be prominent in close-range views from residential properties along Baker Street, resulting in a major magnitude of effect rather than moderate magnitude of effect in opening year. The review for the 2022 LVIA concluded that established mitigation planting would reduce effects on views, however, the Project would remain noticeable in close-range views from residential properties along Baker Street at design year.	<u>Construction</u> No change from 2020 <u>Opening year winter</u> Moderate (2020) to major (2022) <u>Design year summer</u> Minor (2020) to moderate (2022)	<u>Opening year winter</u> The significance matrix allows a choice of two significance categories when high sensitivity is combined with a major magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a large adverse significance of effect would be more appropriate than a very large adverse significance of effect due to the extent of Project change being viewed in the context of the existing A13 overbridge and B188 Baker Street. <u>Design year summer</u> The significance matrix allows a choice of two significance categories when high sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a moderate adverse significance of effect would be more appropriate than a large adverse significance of effect due to the extent of Project change being viewed in the context of the existing A13 overbridge and B188 Baker Street and due to the effect of established mitigation planting. **Increased significance levels in the opening year and design year, with a new significant effect identified at design year.**
N-26	View from Stifford Clays Road (LLCA Orsett	<u>Construction</u>	High sensitivity (2020) to moderate sensitivity	N/A	N/A	<u>Construction</u>	**No change to significance levels.**

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	**Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)**	**2022 LVIA review (general re-evaluation) – magnitude of effect**	**Magnitude of effect levels**	**2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])**
	Lowland Farmland). View centred north-west for users of the local road.	No change from 2020 Opening year winter No change from 2020 Design year summer No change from 2020	(2022) (Transient views from local/regional routes are considered to be of moderate sensitivity in LA 107 Landscape and Visual Effects.)			No change from 2020 Opening year winter No change from 2020 Design year summer No change from 2020	
N-27	View from bridleway 161 adjacent to junction of Green Lane/Stifford Clays Road (LLCA Orsett Lowland Farmland). View centred north-north-east for recreational receptors.	Construction Large adverse (2020) to moderate adverse (2022) Opening year winter No change from 2020 Design year summer No change from 2020	N/A	N/A	The review for the 2022 LVIA has taken into account the mid-range to long-range nature of views towards construction works and the existing context of OHL, resulting in a moderate magnitude of effect rather than a major magnitude of effect during construction.	Construction Major (2020) to moderate (2022) Opening year winter No change from 2020 Design year summer No change from 2020	Construction The significance matrix allows one significance category when moderate sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a moderate adverse significance of effect (as stated in LA 104) is appropriate, due to the prominence of construction works, albeit in the midground and distance. **Reduced significance level during construction but effects still considered to be significant.**
N-28	View from footpath 90 at the junction of Green Lane/Fen Lane (LLCA Thurrock Reclaimed Fen (sub area Mardyke)). View centred south-west for recreational receptors.	Construction Moderate adverse (2020) to large adverse (2022) Opening year winter Slight adverse (2020) to moderate adverse (2022) Design year summer Slight adverse (2020) to moderate adverse (2022)	N/A	Inclusion of landscape mound and associated planting north of Stifford Clays Road would help to screen part of the Project route.	The review for the 2022 LVIA concluded that construction works for the Project would be prominent in wide views from the footpath, resulting in a major magnitude of effect rather than a moderate magnitude of effect during construction. The review for the 2022 LVIA concluded that Green Lane green bridge would remain prominent in views from the footpath during operation.	Construction Moderate (2020) to major (2022) Opening year winter Minor (2020) to moderate (2022) Design year summer Minor (2020) to moderate (2022)	Construction The significance matrix allows a choice of two significance categories when moderate sensitivity is combined with a major magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a large adverse significance of effect would be more appropriate than a moderate adverse significance of effect due to construction works being apparent across a large proportion of the view. Opening year winter and design year summer The significance matrix allows one significance category when moderate sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a moderate adverse significance of effect (as stated in LA 104) is

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)	2022 LVIA review (general re-evaluation) – magnitude of effect	Magnitude of effect levels	2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])
							appropriate, due to the prominence of Green Lane green bridge in views. **Increased significance levels at all assessment periods, with new significant effects identified in the opening year and design year.**
N-29	View from bridleway 219 located on the Mardyke Way, east of Grangewaters Outdoor Education Centre (LLCA Thurrock Reclaimed Fen (sub area Mardyke)). View centred east-north-east for recreational receptors.	Construction No change from 2020 Opening year winter Moderate adverse (2020) to slight adverse (2022) Design year summer No change from 2020	N/A	N/A	The review for the 2022 LVIA has taken into account the long-range and filtered nature of views towards the Project and the existing context of OHL, resulting in a minor magnitude of effect rather than a moderate magnitude of effect at opening year.	Construction No change from 2020 Opening year winter Moderate (2020) to minor (2022) Design year summer No change from 2020	Opening year winter The significance matrix allows a choice of two significance categories when high sensitivity is combined with a minor magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). Of the two options in the matrix, the review for the 2022 LVIA concluded that a slight adverse significance of effect would be more appropriate than a moderate adverse significance of effect due to the extent of Project change being viewed in the context of existing OHL. **Reduced significance level at the opening year, no longer considered to be significant.**
N-30	View from footpath 132 near South Ockendon Urban Fringe (off Mollands Lane) (LLCA Belhus Lowland Quarry Farmland). View centred north-north-east for recreational receptors.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer No change from 2020	N/A	N/A	The review for the 2022 LVIA has taken into account the distance of the Project from the footpath and the limited overall change in views at opening year.	Construction No change from 2020 Opening year winter Negligible (2020) to no change (2022) Design year summer No change from 2020	**No change to significance levels.**
N-31	View from footpath 90 on Orsett Fen (east of Hobletts residential property) (LLCA Thurrock Reclaimed Fen (sub area Mardyke)). View centred west for recreational receptors.	Construction Large adverse (2020) to moderate adverse (2022) Opening year winter Large adverse (2020) to moderate adverse (2022) Design year summer No change from 2020	N/A	Relocation of flood compensation area at Orsett Fen, reducing the impact on views.	The review for the 2022 LVIA has taken into account the mid-range nature of views towards the Project, the relocation of the flood compensation area, and the existing OHL in the context of the wide panoramic view at all assessment periods.	Construction Major (2020) to moderate (2022) Opening year winter Major (2020) to moderate (2022) Design year summer No change from 2020	Construction and opening year winter The significance matrix allows one significance category when moderate sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a moderate adverse significance of effect (as stated in LA 104) is appropriate, due to the prominence of construction works and proposed embankments and viaducts, albeit in the midground.

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	**Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)**	**2022 LVIA review (general re-evaluation) – magnitude of effect**	**Magnitude of effect levels**	**2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])**
							Reduced significance level during construction and at the opening year but effects still considered to be significant.
N-33	View from intersection of footpaths 89 and 90 at Bulphan Fen (off Harrow Lane). Also represents views from footpath 159 (LLCA Thurrock Reclaimed Fen (sub area Mardyke)). View centred south-west for recreational receptors.	Construction No change from 2020 Opening year winter Moderate adverse (2020) to slight adverse (2022) Design year summer No change from 2020	N/A	N/A	The review for the 2022 LVIA has taken into account the long-range and densely filtered nature of views towards the Project during operation.	Construction No change from 2020 Opening year winter Moderate (2020) to minor (2022) Design year summer Minor (2020) to negligible (2022)	Opening year winter The significance matrix allows one significance category when moderate sensitivity is combined with a minor magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a slight adverse significance of effect (as stated in LA 104) is appropriate, due to the limited overall effect in the long-range view. **Reduced significance level at the opening year, no longer considered to be significant.**
N-35	View from footpath 136 located on Hall Lane, west of South Ockendon Hall (LLCA Belhus Lowland Quarry Farmland). View centred north-north-east for recreational receptors.	Construction No change from 2020 Opening year winter Moderate adverse (2020) to slight adverse (2022) Design year summer No change from 2020	N/A	N/A	The review for the 2022 LVIA has taken into account the mid-range nature of views towards North Road green bridge and that the Project carriageway, vehicles and highway infrastructure would be screened within cutting, resulting in a minor magnitude of effect rather than a moderate magnitude of effect at opening year.	Construction No change from 2020 Opening year winter Moderate (2020) to minor (2022) Design year summer No change from 2020	Opening year winter The significance matrix allows one significance category when moderate sensitivity is combined with a minor magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a slight adverse significance of effect (as stated in LA 104) is appropriate, due to the limited overall effect in the mid-range view. **Reduced significance level at the opening year, no longer considered to be significant.**
N-36	View from footpath 135 off B186 North Road (LLCA Belhus Lowland Quarry Farmland). View centred south-south-east for recreational receptors.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer No change from 2020	N/A	N/A	The review for the 2022 LVIA has taken into account that the Project carriageway, vehicles and highway infrastructure would be screened within cutting, resulting in a moderate magnitude of effect rather than a major magnitude of effect at opening year.	Construction No change from 2020 Opening year winter Major (2020) to moderate (2022) Design year summer No change from 2020	**No change to significance levels.**

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)	2022 LVIA review (general re-evaluation) – magnitude of effect	Magnitude of effect levels	2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])
N-38	View from intersection of footpaths 253 and 254 in North Ockendon Conservation Area. Also represents views from footpath 252 (LLCA Belhus Lowland Quarry Farmland). View centred south-south-west for recreational receptors.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer Neutral (2020) to slight adverse (2022)	N/A	N/A	N/A	Construction No change from 2020 Opening year winter No change from 2020 Design year summer No change from 2020	Design year summer Change in significance level is as a result of a different choice of significance category from the significance matrix compared to the 2020 LVIA, with the reasoning provided below. The significance matrix allows one significance category when moderate sensitivity is combined with a minor magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a slight adverse significance of effect (as stated in LA 104) is appropriate, as the FP252 WCH Bridges East and West and highway infrastructure along the Project route would remain apparent in views, even after the establishment of mitigation planting (**Note**: The 2020 LVIA assessed a neutral significance of effect at design year, however, this significance category is not provided as an option for moderate sensitivity combined with a minor magnitude of effect). **No change to significant effects reported in either 2020 or 2022.**
N-39	View from footpath 231 near St Mary Magdalene Church, in North Ockendon Conservation Area (LLCA Belhus Lowland Quarry Farmland). View centred west for recreational receptors.	Construction Large adverse (2020) to moderate adverse (2022) Opening year winter No change from 2020 Design year summer No change from 2020	High sensitivity (2020) to moderate sensitivity (2022) (Recreational receptors using local routes, as opposed to long distance routes have been assessed as moderate sensitivity, as indicated by LA 107 Landscape and Visual Effects)	N/A	The review for the 2022 LVIA concluded that vegetation loss and highway infrastructure would be noticeable in views from the footpath, resulting in a moderate magnitude of effect rather than a minor magnitude of effect at opening year. The review for the 2022 LVIA concluded that increased views of highway infrastructure would remain at design year, resulting in a minor magnitude of effect rather than a	Construction No change from 2020 Opening year winter Minor (2020) to moderate (2022) Design year summer Negligible (2020) to minor (2022)	Construction The significance matrix allows one significance category when moderate sensitivity is combined with a moderate magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a moderate adverse significance of effect (as stated in LA 104) is appropriate, due to the prominence of construction works in the midground. **Reduced significance level during construction but effects still considered to be significant.**

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	**Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)**	**2022 LVIA review (general re-evaluation) – magnitude of effect**	**Magnitude of effect levels**	**2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])**
					negligible magnitude of effect.		
N-40	View from intersection of B186 Ockendon Road and B1421 Ockendon Road, east of North Ockendon (LLCA Belhus Lowland Quarry Farmland). View centred south-west for users of local road.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer No change from 2020	Low sensitivity (2020) to moderate sensitivity (2022) (Transient views from local/regional routes are considered to be of moderate sensitivity in LA 107 Landscape and Visual Effects)	N/A	N/A	Construction No change from 2020 Opening year winter No change from 2020 Design year summer No change from 2020	**No change to significance levels.**
N-43	View from Cranham Brickfields public open space and footpath 193 on the eastern edge of Upminster (LLCA Thurrock Reclaimed Fen (sub area Thames Chase)). View centred east for recreational receptors.	Construction Moderate adverse (2020) to slight adverse (2022) Opening year winter Slight adverse (2020) to neutral (2022) Design year summer Slight adverse (2020) to neutral (2022)	High sensitivity (2020) to moderate sensitivity (2022) (There are glimpses of traffic and highway infrastructure along the existing M25 corridor in existing views from this location. The sensitivity has therefore been reduced to take account of the visibility of the existing M25 corridor)	N/A	The review for the 2022 LVIA has taken into account the mid-range and limited nature of views towards construction works. The review for the 2022 LVIA concluded that the modified M25 corridor would not appear notably different to existing during operation, as views of highway infrastructure would be similar.	Construction Moderate (2020) to minor (2022) Opening year winter Minor (2020) to no change (2022) Design year summer Minor (2020) to no change (2022)	Construction The significance matrix allows one significance category when moderate sensitivity is combined with a minor magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a slight adverse significance of effect (as stated in LA 104) is appropriate, due to intervening features obscuring views of construction works. Opening year winter and design year summer The significance matrix allows one significance category when moderate sensitivity is combined with no change in magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a neutral significance of effect (as stated in LA 104) is appropriate, given that the modified M25 corridor would not appear notably different to existing. **Reduced significance level at all assessment periods, no longer considered to be significant.**
N-44	View from Public Right of Way (PRoW) 272_110 within Thames Chase (Brentwood) (LLCA Brentwood Wooded Hills). View centred south-east for recreational receptors.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer Neutral (2020) to slight adverse (2022)	N/A	N/A	The review for the 2022 LVIA concluded that changes in the modified M25 corridor would be barely noticeable in opening year, as views of vehicles and highway	Construction No change from 2020 Opening year winter Minor (2020) to negligible (2022) Design year summer	Design year summer The significance matrix allows one significance category when moderate sensitivity is combined with a minor magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a slight adverse significance of effect (as stated in LA 104) is appropriate, due

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	**Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)**	**2022 LVIA review (general re-evaluation) – magnitude of effect**	**Magnitude of effect levels**	**2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])**
					infrastructure would be similar. The review for the 2022 LVIA concluded that foreshortening of views by proposed ancient woodland compensation planting would result in an overall adverse effect at design year.	Negligible (2020) to minor (2022)	to the beneficial screening effect of established mitigation planting being slightly offset by the foreshortening of views. **No change to significant effects reported in either 2020 or 2022.**
N-45	View from Bird Lane to the west of Little Warley (LLCA Brentwood Wooded Hills). View centred south-west for users of the local road.	Construction No change from 2020 Opening year winter Slight adverse (2020) to neutral (2022) Design year summer No change from 2020	N/A	N/A	The review for the 2022 LVIA concluded that the modified M25 corridor would not appear notably different to existing at opening year due to distance and the presence of intervening features.	Construction No change from 2020 Opening year winter Negligible (2020) to no change (2022) Design year summer No change from 2020	Opening year winter The significance matrix allows one significance category when moderate sensitivity is combined with no change in magnitude of effect (the 2022 sensitivity and magnitude of effect assessments). The review for the 2022 LVIA concluded that a neutral significance of effect (as stated in LA 104) is appropriate, given that the modified M25 corridor would not appear notably different to existing. **No change to significant effects reported in either 2020 or 2022.**
N-46	View from southern edge of Thorndon Country Park (LLCA Brentwood Wooded Hills) and PRoW 272_130. View looking south-west for recreational receptors.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer No change from 2020	N/A	N/A	The review for the 2022 LVIA concluded that the Project would be barely noticeable during operation due to distance and the presence of intervening features.	Construction No change from 2020 Opening year winter Minor (2020) to negligible (2022) Design year summer Minor (2020) to negligible (2022)	**No change to significance levels.**
N-47	View from South Hill, within the Langdon Hills Country Park (LLCA Langdon Hills and Farmland). View looking south-west for recreational receptors.	Construction No change from 2020 Opening year winter No change from 2020 Design year summer No change from 2020	Moderate sensitivity (2020) to high sensitivity (2022) ('*Views by users of public open spaces for enjoyment of the countryside (e.g. country parks)*' are considered to be of high sensitivity in LA	N/A	The review for the 2022 LVIA concluded that the Project would be barely noticeable during operation due to distance and the presence of intervening features.	Construction No change from 2020 Opening year winter Minor (2020) to negligible (2022) Design year summer Minor (2020) to negligible (2022)	**No change to significance levels.**

Visual receptor		Change in significance since 2020	Reasons for change between visual impact assessments from 2020 and 2022				
			Sensitivity levels	Project change – magnitude of effect (considered through a comparison of the 2020 and 2022 Environmental Masterplan Figure 2.4)	2022 LVIA review (general re-evaluation) – magnitude of effect	Magnitude of effect levels	2022 Conclusion on change in significance of effect (considered using the significance matrix in Table 3.8.1 of Design Manual for Roads and Bridges LA 104 Environmental Assessment and Monitoring (LA 104)[9])
			107 Landscape and Visual Effects)				

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