



# The Sizewell C Project

## 6.14 Environmental Statement Addendum Volume 1: Environmental Statement Addendum Chapters Chapter 5 Two Village Bypass

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## 5 TWO VILLAGE BYPASS

### 5.1 Introduction

5.1.1 This chapter of the **ES Addendum** provides an update to **Volume 5** of the **ES** (Doc Ref. 6.6) [APP-409 to APP-443]. The chapter presents the Additional Information prepared and the proposed changes to the proposed two village bypass since the submission of the application for development consent (May 2020), referred to hereafter as the ‘Application’.

5.1.2 The Additional Information of relevance to **Volume 5** of the **ES** (Doc Ref. 6.6) [APP-409 to APP-443] includes:

- The provision of a second indicative area for a temporary contractor compound at the western end of the bypass (refer to **section 5.2** below);
- Updates to noise modelling to account for refinements to the strategic traffic model (refer to the **Transport Assessment Addendum** (Doc Ref. 8.5(A) Ad) for further information);
- Refinements to the air quality modelling to account for new information published by Defra and updated traffic estimates from the strategic traffic model (refer to the **Transport Assessment Addendum** (Doc Ref. 8.5(A) Ad) for further information);
- Updates to ecological baseline information following consultation with statutory stakeholders;
- Development of an **Outline Landscape and Ecological Mitigation Plan** (OLEMP) for the two village bypass site (Doc Ref. 8.3A);
- Updated archaeological evaluation;
- Corrections to the **Access and Rights of Way plans**, submitted in November 2020 (as part of Doc Ref. 2.4(A) [[AS-013](#)]); and
- Updates to the **Two Village Bypass Flood Risk Assessment**, which includes a Flood Risk Emergency Plan (Doc Ref. 5.5 Ad).

5.1.3 The proposed changes of relevance to **Volume 5** of the **ES** (Doc Ref. 6.6) [APP-409 to APP-443] comprise an extension to the site boundary (and thereby extension of the Order Limits) for works on the two village bypass site (part of **Change 12**). This additional land is required to accommodate changes to highway works and to the alignment of PRow E-243/011/0. In

addition, enhancement of floodplain grazing marsh and provision of additional floodplain habitat mitigation is proposed. These are further described in **section 5.2**.

- 5.1.4 Furthermore, the revised assessment for noise and vibration and air quality has considered the proposed changes to the Heavy Goods Vehicles (HGV) movements, associated with **Change 1** (potential to increase in the frequency of freight train movements to facilitate bulk material imports by rail) and **Change 2** (an enhancement of the permanent beach landing facility and construction of a new, temporary beach landing facility) described further in **Chapter 2** of this **ES Addendum**.
- 5.1.5 A review of any Additional Information and the proposed changes has been undertaken by EIA specialists across all technical assessments presented in **Volume 5** of the **ES** (Doc Ref. 6.6) [APP-415 to APP-443].
- 5.1.6 Updates to the assessments of noise and vibration, air quality, landscape and visual, terrestrial ecology and ornithology, amenity and recreation, terrestrial historic environment, soils and agriculture, and groundwater and surface water presented in **Chapters 4 – 10** and **12** of **Volume 5** of the **ES** (Doc Ref. 6.6) [APP-415 to APP-437, APP-441 to APP-443] are considered within **sections 5.3** to **5.10** of this chapter.
- 5.1.7 The review concluded that the Additional Information and proposed changes do not affect the technical assessment presented in **Chapter 11 Geology and Land Quality** of **Volume 5** of the **ES** (Doc Ref. 6.6) [APP-438 to APP-440].
- 5.2 **Update to the description of development**
- 5.2.1 This section presents details on the Additional Information and the proposed changes made to the proposed development at the two village bypass site, since the preparation of **Volume 5, Chapter 2** of the **ES** (Doc Ref. 6.6) [APP-411 to APP-413]. An updated version of **Chapter 2** in tracked changes, to include these changes, is provided within **Volume 3, Appendix 5.2.A** of this **ES Addendum**.
- 5.2.2 Additional Information on the proposed two village bypass comprises information on the indicative location of a secondary temporary contractor compound at the western end of the proposed bypass and minor corrections to the **Access and Rights of Way Plans** (Doc Ref. 2.4(A) [[AS-013](#)]).

- 5.2.3 The proposed changes include a change in the Order Limits to extend the site boundary for highway works on the two village bypass, a change to the public rights of way around Walk Barn Farm, provision of additional habitat mitigation. Changes to the two village bypass site boundary are illustrated on **Figure 5.2.1** of **Volume 2** of this **ES Addendum**.
- 5.2.4 Refer to **Figures 5.2.2** to **5.2.5** of **Volume 2** of this **ES Addendum** for the updated illustrative masterplans for the proposed two village bypass.
- a) Additional Information
- a) i) Additional Information on the location of the additional temporary contractor compound
- 5.2.5 In the Application, and as set out in **Volume 5, Chapter 2** of the **ES** (Doc Ref. 6.6) [APP-411], it was envisaged that all construction works would be managed from a temporary contractor compound proposed at the eastern end of the bypass, west of the A12 / A1094 (Friday Street) roundabout. The proposed location for this temporary contractor compound was shown on **Figure 2.1** in **Volume 5, Chapter 2** of the **ES** (Doc Ref. 6.6) [APP-411] and is now shown on **Volume 2, Figures 5.2.2** and **5.2.5** of this **ES Addendum**.
- 5.2.6 This eastern temporary contractor compound would be used as the base to manage works on the site and the compound would support 100 construction workers and up to 90 parking spaces.
- 5.2.7 Since the submission of the Application, further details on the construction assumptions have been developed and further information relating to the construction methodology has identified the need for a second temporary contractor compound at the western end of the bypass, east of the proposed roundabout with the A12. The indicative location of this temporary contractor compound is shown on **Volume 2, Figures 5.2.2** and **5.2.3** of this **ES Addendum**.
- 5.2.8 The compound would primarily be used for materials storage in connection with the construction of the River Alde overbridge, in closer proximity to the proposed bridge. It would also allow for construction of the overbridge to commence from both sides of the River Alde.
- 5.2.9 The new compound would be approximately 100m x 50m in area and would be located outside of the worst-case flood scenario. It would include satellite welfare facilities, with the main welfare facilities being provided at the main compound at the eastern end of the proposed bypass.
- 5.2.10 Any haul route to the compound would be sited to avoid the existing trees on the eastern margin of the field which would house the compound.

a) ii) Corrections to Access and Rights of Way Plans

- 5.2.11 In November 2020 corrections to the **Access and Rights of Way Plans** [AS-013] were submitted to the Examining Authority. For the two village bypass site, these comprised:
- Label PSA11/7 changed to PSA11/1 and Label PSA11/8 changed to PSA11/2 on Two Village Bypass Rights of Way Plans - Sheet 17 of 27. On Two Village Bypass Rights of Way Plans - Sheet 18 of 27:
    - Line from TCF11/1 to TCF11/2 colour error corrected to “Indicative Route of New Temporary Footpath”.
    - Line from TCF11/3 to TCF11/4 colour error corrected to “Indicative Route of New Temporary Footpath”.
    - Alignment of footpath E-243/011/0 corrected.
    - “Existing Private Means of Access to be Retained” added to the key.
    - “New Permanent Highway” between PCH11/8 and PCH11/13 removed. This is because the submitted plans showed new highway over existing highway and no stopping up of the existing alignment. This has been corrected so the stopping up starts where the new highway commences on the southern side of the dual carriageway.

b) Proposed changes

b) i) Proposed development in the Application

- 5.2.12 The two village bypass would be constructed in the early years and would form a new permanent section of the A12. The existing section of the A12 through the villages would be retained.
- 5.2.13 The two village bypass would run from a proposed four-arm roundabout on the existing A12, pass to the south of Stratford St Andrew and then rejoin the existing A12 to north-east via a new four-arm roundabout.
- 5.2.14 A multi-span overbridge for all traffic is proposed to cross over the River Alde. The land north and south of the proposed bridge in this location consists of floodplain grassland, and areas of land to the north of the bridge are proposed for indicative flood compensation areas on both sides of the river.

- 5.2.15 To the north-east of the proposed bridge, a staggered junction is proposed to maintain access to an existing access road between Nuttery Belt and Pond Wood. This junction is referred to as the 'north-west staggered junction'.
- 5.2.16 On either side of the proposed two village bypass there are various PRoW which are proposed to be retained, upgraded and diverted as required to maintain connectivity on the PRoW network.

b) ii) Description of the proposed changes

- 5.2.17 The proposed route for the two village bypass remains largely unchanged from the Application. However, changes are proposed to extend the site boundary to accommodate changes to highway works and to the alignment of PRoW E-243/011/0 (as part of **Change 12**), as well as provide an enhancement of floodplain grazing marsh and the provision of additional floodplain habitat mitigation, as a result of more detailed design work and feedback from stakeholders.

b) i) Changes to the Application site boundary

- 5.2.18 The permanent land take for the two village bypass site resulting from the proposed changes is approximately 43.2 ha with a temporary land take of approximately 11.9 ha. This is an increase of approximately 0.1 ha of permanent land take and approximately 0.2 ha of temporary land take compared to the Application.
- 5.2.19 The reasons for the changes to the site boundary are described in the sections below.

b) i) a) Highway changes

- 5.2.20 It is proposed to expand the site boundary to the west of the existing access road which will join the route of the two village bypass at the proposed 'north-west staggered junction' shown in **Volume 2, Figures 5.2.2, 5.2.3 and 5.2.4 of this ES Addendum**. The additional land would be to the north of the bypass, on the eastern side of Nuttery Belt woodland, requiring the removal of approximately 245m<sup>2</sup> of existing woodland (refer to **Volume 2, Figures 5.2.6 and 5.2.7 of this ES Addendum** for the site clearance plans).
- 5.2.21 It is also proposed to widen the verge along the two village bypass itself, to the west of the 'north-west staggered junction' on the approach to the junction. However, this change falls within the existing Application site boundary.



- 5.2.22 The highway changes to the two village bypass are proposed to meet highway design visibility requirements for road junctions where the design speed is 60 mph, as agreed in consultation with SCC.
- 5.2.23 Further speed survey work has been undertaken on the access road that would join the two village bypass at this junction. The surveys showed that the speeds on the road are substantially lower than 60 mph and thus, visibility splays of 215m are unlikely to be required. However, until SCC and SZC Co. agree on shorter visibility distances, the change is proposed as a worst-case scenario. This worst-case requires an expansion to the site boundary, further encroaching on Nuttery Belt and the adjacent land.
- 5.2.24 Should shorter visibility splays be agreed with SCC, then these changes may not be required.

b) i) b) Public Rights of Way changes

- 5.2.25 The alignment of the existing PRoW E-243/011/0 continues west in a straight line between the two properties at Walk Barn Farm, as shown in **Volume 2, Figures 5.2.2, 5.2.4 and 5.2.5** of this **ES Addendum**. However, following feedback from consultation on the Application, the PRoW as it is used in practice by the public curves to the south, away from the northern property's front garden. The Application site boundary as originally submitted presented the PRoW path as it is used, rather than its official alignment. Therefore, a change is required to formalise the PRoW route in this area and correct the site boundary.
- 5.2.26 Following consultation with SCC and the relevant landowners, it is now proposed to formally divert PRoW E-243/011/0 to the north, around Walk Barn Farm, where it would re-join the existing PRoW network at PRoW E-243/003/0, and stop up the existing PRoW between the properties.

b) i) c) Additional floodplain habitat mitigation

- 5.2.27 **Volume 2, Figures 5.2.2 and 5.2.3** of this **ES Addendum** show the land around the River Alde crossing. Following discussions with Natural England and both East Suffolk and Suffolk County Councils, additional floodplain habitat mitigation is proposed to address concerns expressed by stakeholders over the land take of existing floodplain grassland around the River Alde, associated with the construction of the road embankment in the river valley.
- 5.2.28 In the Application it was reported that the two village bypass would result in the permanent loss of 2.91ha of floodplain grassland and that this is agriculturally improved grassland of relatively low ecological value (refer to the terrestrial ecology and ornithology assessment presented in **Volume 5, Chapter 7** of the **ES** (Doc Ref. 6.6) [APP-425]). Whilst the

effect on the floodplain grasslands, as reported in the terrestrial ecology and ornithology assessment, was minor adverse and thus not significant, SZC Co. recognises that the site provides a linkage to the wider, higher quality floodplain grazing marsh habitats on the River Alde network. Therefore, the creation of new and enhanced habitats to mitigate the loss of the floodplain grazing marsh habitat is proposed.

- 5.2.29 It is proposed that the indicative floodplain grassland mitigation area shown on **Volume 2, Figure 5.2.3** of this **ES Addendum**, of approximately 2.77ha, would be used to create these mitigation habitats. There would be no change to the site boundary to accommodate the creation of this habitat. The existing floodplain grassland within this area is of low ecological value, comprising predominantly a sown agricultural ley of perennial ryegrass and the focus would be on the creation of higher quality habitats, through enhancing the diversity of the grassland sward and the habitats within existing ditches close to the River Alde. In addition, new wetland channels would be created in this area to mitigate the loss of approximately 143m of ditches associated with the land take from the bypass, which form the most valuable element of the existing floodplain grassland in this location.
- 5.2.30 Both the improvements to the floodplain grassland and the ditches are included as measures to be adopted in the OLEMP for the two village bypass (Doc Ref. 8.3A). The OLEMP includes details of their ongoing management and monitoring once the two village bypass is constructed.
- 5.2.31 The improvement in quality of the floodplain grassland in this area will make a positive contribution to the wider network of floodplain grazing marsh habitats along the River Alde, ensuring the linkage between these habitats on the river network is maintained and enhanced.

## 5.3 Noise and vibration

### a) Introduction

- 5.3.1 This section provides an addendum to the noise and vibration assessment at the two village bypass site with reference to the following documents submitted with the Application:
- **Volume 5, Chapter 4** of the **ES** (Doc Ref. 6.6) [[APP-415](#)];
  - **Volume 5, Chapter 4 Appendix 4B** of the **ES** (Doc Ref 6.6) [[APP-416](#)]; and
  - **Volume 2, Chapter 11 Appendix 11G** of the **ES** (Doc Ref. 6.3) [[APP-210](#)].

5.3.2 This section presents Additional Information that has been gathered since the Application was made, and an assessment of the potential noise and vibration effects from the proposed changes, in particular the potential reduction in HGV movements as a result of the proposed increase in rail movements (**Change 1**) and the additional temporary BLF (**Change 2**).

5.3.3 This section is supported by the following appendices provided in **Volume 3** of this **ES Addendum**:

- **Volume 3, Appendix 5.3.A** Two Village Bypass – Corrections to Road Traffic Noise Level Predictions;
- **Volume 3, Appendix 5.3.B** Road Traffic Noise Levels, Updated for Changes in Strategic Traffic Model; and
- **Volume 3, Appendix 5.3.C** New Road Traffic Noise Level Predictions Resulting from Update to Freight Management Strategy.

b) **Relevant Additional Information**

5.3.4 An assessment of noise and vibration arising from the construction and operation of two village bypass was submitted as part of the Application in **Volume 5 Chapter 4** of the **ES** (Doc Ref. 6.6) [APP-415]. Additional Information presented in this chapter on further noise modelling that has been undertaken includes the following:

- an assessment of construction noise effects as a result of the additional temporary contractor compound located at the western end of the proposed bypass;
- a correction to the road traffic noise calculations presented in **Volume 5, Chapter 4** of the **ES** (Doc Ref. 6.6) [APP-415]; and
- a refinement to the strategic traffic flow model, (refer to Transport Assessment Addendum (Doc Ref. 8.5(A) Ad) for further information) and subsequent updates to the road traffic noise calculations.

c) **Relevant changes**

5.3.5 Relevant changes for the assessment of effects on noise and vibration at the two village bypass site include reduced HGV movements during construction of Sizewell C with the proposed changes to increase rail movements (**Change 1**) and the additional temporary BLF (**Change 2**), as described within **Chapter 2** of the **ES Addendum**.

5.3.6 The proposed changes to the two village bypass, as referenced within **section 5.2** of this chapter, do not change the assessment of noise and vibration effects and, therefore, have not been considered further.

d) Updated assessment - Additional Information

d) i) Addition of indicative temporary contractor compound area

5.3.7 Further details of construction assumptions identified the need for an additional contractor compound area to the western end of the site. The addition of an indicative area for a temporary contractor compound would not result in any change to noise and vibration effects once operational during the construction phase of the proposed two village bypass. However, during the set-up of the compound, noise from plant used for this construction activity would result in a change to the assessment outcomes for five nearby noise sensitive receptors. Sound levels predicted in **Volume 5, Chapter 4** of the **ES** (Doc Ref. 6.6) [APP-415] are reported in **Table 5.1**, along with revised noise levels which would occur during preparatory works during the construction of the additional temporary contractors compound. The assumed noise source levels and on-times are the same as those reported in **Volume 5, Chapter 4 Appendix 4B** of the **ES** (Doc Ref. 6.6) [APP-416] for the construction of the temporary contractors compounds. The noise effects predicted are also shown, for comparison.

**Table 5.1: Predicted noise levels from construction activities during the construction of the additional temporary contractors compound - free field values**

Receptor		As submitted in ES Volume 5 Chapter 4 (Doc Ref 6.6) [APP-415]			Effect with additional construction compound		
		Representative predicted levels, $L_{Aeq, T}$ dB	Mon-Fri 07:00 to 19:00 hours and Sat 07:00 to 13:00 hours	Saturday 13:00 to 19:00 hours	Representative predicted levels, $L_{Aeq, T}$ dB	Mon-Fri 07:00 to 19:00 hours and Sat 07:00 to 13:00 hours	Saturday 13:00 to 19:00 hours
1	Chapel Cottages	33	Negligible	Negligible	58	Minor adverse, not significant	Moderate adverse, significant



Receptor		As submitted in ES Volume 5 Chapter 4 (Doc Ref 6.6) [APP-415]			Effect with additional construction compound		
		Representative predicted levels, $L_{Aeq, T}$ , dB	Mon-Fri 07:00 to 19:00 hours and Sat 07:00 to 13:00 hours	Saturday 13:00 to 19:00 hours	Representative predicted levels, $L_{Aeq, T}$ , dB	Mon-Fri 07:00 to 19:00 hours and Sat 07:00 to 13:00 hours	Saturday 13:00 to 19:00 hours
2	Parkgate Farm	33	Negligible	Negligible	60	Minor adverse, <b>not significant</b>	Moderate adverse, <b>significant</b>
3	The Stables	35	Negligible	Negligible	63	Negligible, <b>not significant</b>	Minor adverse, <b>not significant</b>
4	The Red House	35	Negligible	Negligible	63	Negligible, <b>not significant</b>	Minor adverse, <b>not significant</b>
5	Stratford Grange	35	Negligible	Negligible	60	Minor adverse, <b>not significant</b>	Moderate adverse, <b>significant</b>

5.3.8 The reason for the predicted increase in levels is that, during the construction of the compound areas, work would take place relatively close to these noise sensitive premises.

5.3.9 The reason for the predicted increase in adverse effects between 13:00 and 19:00 hours on a Saturday is not due to any difference in activities which would occur in this period, but due to the reduction in thresholds for significance which occurs outside of Monday to Friday 07:00 to 19:00 hours and Saturday 07:00 to 13:00 hours.

5.3.10 Exact working methods and plant to be used will not be determined until a contractor is appointed, and therefore precise details of noise mitigation measures cannot yet be given. Accordingly, and as set out in the **Code of Construction Practice (CoCP)** (Doc Ref. 8.11(A)), it is likely the mitigation measures could include selection of alternative plant or working methods, barrier screening and/or stand-off margins and/or alternative plant.

- 5.3.11 Mitigation measures listed above and in the **CoCP** (Doc Ref. 8.11(A)), and which may include screening and changing working methods and times, including limiting noisy activities on Saturday afternoons should be capable of reducing noise levels so that they are no longer significant.
- 5.3.12 Therefore, it is considered with additional mitigation in place no new significant effects as a result of construction noise are anticipated compared to the effects reports in **Volume 5, Chapter 4** of the **ES**.

d) ii) Revised road traffic noise updates

- 5.3.13 The results of the revised road traffic noise calculations are presented in detail in **Volume 3, Appendices 5.3.A** and **5.3.B** of this **ES Addendum**. These appendices cover the following:
- **Volume 3, Appendix 5.3.A:** contains the corrected predicted road traffic noise levels for the two village bypass for the same assessment years and scenarios as contained in **Volume 5 Chapter 4** of the **ES** (Doc Ref. 6.6) [APP-415], these being 2023, 2028 (typical), 2028 (busiest) and 2034. The corrected road traffic noise level predictions are presented with the predicted road traffic noise levels as reported in **Volume 5, Chapter 4** of the **ES** (Doc Ref. 6.6) [APP-415] for comparison. This was required to correct an error in the earlier noise prediction model
  - **Volume 3, Appendix 5.3.B:** contains updated road traffic noise level predictions for the two village bypass for the same assessment years and scenarios as contained in **Volume 5 Chapter 4** of the **ES** (Doc Ref. 6.6) [APP-415], taking account of the changes to the strategic traffic model. These are presented with the corrected road traffic noise levels as reported in **Appendix 5.3.A** for comparison. The new values set out in **Appendix 5.3.B** represent the road traffic noise level for Sizewell C Project.
- 5.3.14 The locations and situations in which a change in assessment outcome is predicted are summarised in **Tables 5.2** and **5.3**. Where the change results in an improvement in the category of effect, these are marked in green. Where the change results in a worsening in the category of effect, these are marked in orange.

**Table 5.2: Changes to road traffic noise assessment outcomes for Two Village Bypass resulting from corrections**

Period	Receptor		Effect		Change in Significance
			As submitted in ES Volume 5 Chapter 4	Corrected values	
2028 Typical Day	17	Friday Street Farm	Moderate adverse, significant	Minor adverse, not significant	Significant to <b>Not Significant</b>
	28	Mill Lane Houses	Negligible, not significant	Minor beneficial, not significant	No Change
2028 Typical Night	1	Chapel Cottages	Minor adverse, not significant	Moderate adverse, significant	Not Significant to <b>Significant</b>
	17	Friday Street Farm	Minor adverse, not significant	Negligible, not significant	No Change
2028 Busiest Day	1	Chapel Cottages	Moderate adverse, significant	Minor adverse, not significant	Significant to <b>Not Significant</b>
	17	Friday Street Farm	Moderate adverse, significant	Minor adverse, not significant	Significant to <b>Not Significant</b>
	19	Rosehill Cottages	Moderate adverse, significant	Minor adverse, not significant	Significant to <b>Not Significant</b>
	34	Mill Lane West	Moderate adverse, significant	Minor adverse, not significant	Significant to <b>Not Significant</b>
2028 Busiest Night	15	Mollett's Farm	Moderate adverse, significant	Minor adverse, not significant	Significant to <b>Not Significant</b>
2034 Typical Day	15	Mollett's Farm	Negligible, not significant	Minor adverse, not significant	No Change
	17	Friday Street Farm	Minor adverse, not significant	Negligible, not significant	No Change
	18	51 Friday Street	Minor adverse, not significant	Negligible, not significant	No Change

**5.3.15** A change in adverse effects which would result in a change from 'not significant' to '**significant**' as a result of the corrections would occur at Chapel Cottages in 2028 during a typical night. Changes which result in adverse effects changing from 'significant' to '**not significant**' would occur at Friday Street Farm during both typical and busiest days in 2028; at Chapel Cottages during 2028 busiest night; during busiest days at Chapel Cottages; and Mill Lane West; and during 2028 busiest night at Mollett's Farm. Mitigation as set out in the 'Noise Mitigation Scheme' **Volume 2, Chapter 11 Appendix 11G** of the **ES** (Doc Ref. 6.3) [APP-210] will be applied, where appropriate.

- 5.3.16 In general, the changes would result in only very small changes in level; some would be beneficial, others would be adverse.

**Table 5.3: Changes to road traffic noise assessment outcomes for Two Village Bypass resulting from updates to the strategic traffic model**

Period	Receptor		Effect		Change in Significance
			Corrected values	Model update – predicted levels	
2028 Typical Night	17	Friday Street Farm	Negligible, not significant	Minor adverse, not significant	No Change
2034 Typical Night	31	Ramblers	Negligible, not significant	Minor beneficial, not significant	No Change

- 5.3.17 Whilst there would be a change in effect for Friday Street Farm during 2028 typical night and Ramblers during 2034 typical night, there would be no change in the significance of effect as a result of the updated road traffic noise assessment from refinements to the strategic traffic model.

e) Updated assessment – Reduction in HGV movements (Changes 1 and 2)

- 5.3.18 This section considers the potential changes in the noise effects that are expected from reduced HGV movements associated with the proposed changes to increase rail movements (**Change 1**) and the additional temporary BLF (**Change 2**), as described within **Chapter 2** of the **ES Addendum** and detailed in the update of the **Freight Management Strategy** (Doc Ref. 8.18). The proposed changes would lead to a reduction in the number of HGVs on the road network by up to 150 HGVs per day at the peak of construction. This equates to a reduction of up 300 daily HGV movements that would not occur as a result of the proposed changes to rail and marine capacity explained in the update to the **Freight Management Strategy** (Doc Ref. 8.18).

- 5.3.19 The benefit of these changes is likely to be most noticeable on the roads that are anticipated to carry most of SZC Co.'s traffic.

- 5.3.20 The results of the revised road traffic noise calculations are presented in detail in **Volume 3, Appendix 5.3.C** of this **ES Addendum**. **Appendix 5.3.C** contains new road traffic noise level predictions for the two village bypass for the 2028 (typical), 2028 (busiest) scenarios, taking account of the reduction in HGV numbers that result from the reductions in HGV movements explained in the **Freight Management Strategy** (Doc Ref. 8.18). These new values are presented with the corrected and updated road traffic noise level predictions from **Volume 3, Appendix 5.3.B** of this **ES Addendum**.



- 5.3.21 The locations and situations in which a change in assessment outcome is predicted are summarised in **Table 5.4** below.
- 5.3.22 Where the change results in an improvement in effect category, these are marked in green. Where the change results in a worsening of effect category, these are marked in orange.

**Table 5.4: Changes to road traffic noise assessment outcomes for Two Village Bypass resulting from updates to Freight Management Strategy**

Period	Receptor		Effect		Change in Significance
			Model update – predicted levels	Updated Freight Management Strategy Predicted Levels	
2028 Busiest Day	24	Church Hill Cottages	Minor Beneficial, not significant	Moderate beneficial, significant	Not Significant to <b>Significant</b>
	25	Church Bungalow	Major adverse, significant	Moderate adverse, significant	No Change
	28	Mill Lane Houses	Negligible, not significant	Minor beneficial, not significant	No Change

- 5.3.23 The significance of the predicted effects are predicted to change at one receptor as a result of the updated Freight Management Strategy, where the beneficial change would become a significant one where previously it was a non-significant benefit. The effect categories are predicted to reduce at two further receptors, although without changing the significance of those effects.
- 5.3.24 Although the effect categories are not predicted to change at other receptors, all of the changes in traffic noise are either beneficial, i.e. a smaller increase in traffic noise or a greater reduction in traffic noise, or there is expected to be no change, relative to the outcomes that result from the corrected and updated values, as set out in **Appendix 5.3.B** of this **ES Addendum**.
- 5.3.25 There are no other changes to the noise and vibration assessment arising from changes in the road traffic noise from the two village bypass.

## 5.4 Air quality

### a) Introduction

5.4.1 This section provides an addendum to the air quality assessment at the two village bypass site with reference to the following documents submitted with the Application:

- **Volume 5, Chapter 5** of the **ES** (Doc Ref. 6.6) [[APP-418](#)]; and
- **Volume 5, Chapter 5** of the **ES** Air Quality **Figure 5.1** (Doc Ref. 6.6) [[APP-420](#)].

5.4.2 This section presents Additional Information that has been gathered since the Application was made, and an assessment of the potential air quality effects from the reduction in HGV movements as a result of the potential to increase rail movements (**Change 1**) and the proposed additional temporary BLF (**Change 2**).

5.4.3 The air quality assessment presented within this section considers the air quality impacts from assessment using the Additional Information described below, and the air quality impacts associated with the relevant design changes.

5.4.4 This section is supported by the following appendices provided in **Volume 3** of this **ES Addendum**:

- **Volume 3, Appendix 5.4.A**, which presents the modelled air quality current and future year baselines in the air quality assessment;
- **Volume 3, Appendix 5.4.B**, which presents receptors with a change in magnitude of change descriptors in the air quality assessment; and
- **Volume 3, Appendix 2.7.C**, which presents the updated transport emissions assessment using the Additional Information and the assessment of transport emissions associated with the proposed design changes.

### b) Relevant Additional Information

5.4.5 The NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> concentrations were reported incorrectly for the receptor SX6 in **Volume 5, Chapter 5** of the **ES** [[APP-418](#)], due to a typographical error. The values for SX6 that should have been reported in the **ES** are presented below and in **Volume 3, Appendix 2.7.C** of the **ES Addendum**.

5.4.6 Additional Information is presented in this chapter on further air quality transport emissions modelling that has been undertaken to include the following:

- Refined traffic representative estimates of the 24-hour Annual Average Daily Traffic (AADT) (refer to **Transport Assessment Addendum** for further information (Doc Ref. 8.5(A) Ad));
- Emissions Factors Toolkit (EFT) version 10.1 (Ref.1);
- Defra's projected 2018-based Background Pollutant Concentration Maps (Ref.2); and
- NO<sub>x</sub> to NO<sub>2</sub> conversion tool v8.1 (Ref.3).

c) **Relevant changes**

5.4.7 Relevant changes for the assessment of effects on air quality at the two village bypass include the reduced HGV movements during construction of Sizewell C with the proposed changes to increase rail movements (**Change 1**) and the enhancement of the permanent BLF and additional temporary BLF (**Change 2**), as described within **Chapter 2** of the **ES Addendum**.

5.4.8 The revisions to the site boundary of the two village bypass (**Change 12**) to amend the PRow and highways works, and provision of additional floodplain grazing marsh, as referenced within **section 5.2** of this chapter, do not change the assessment of effects on air quality and, therefore, have not been considered further.

d) **Updated assessment – Additional Information**

5.4.9 The traffic data for the Sizewell C Project has been updated with the refinements to the strategic traffic modelling as detailed in the **Transport Assessment Addendum** (Doc Ref. 8.5(A) Ad)).

5.4.10 The refined traffic flows result in a change in modelled pollutant concentrations at receptors within the study area of the two village bypass, from the results presented in **Volume 5, Chapter 5** of the **ES** (Doc Ref. 6.4) [APP-418]. Furthermore, Defra have since published the updated EFT version 10.1 (Ref. 1), updated background pollutant concentration maps (Ref. 2), and an updated version of the NO<sub>x</sub> to NO<sub>2</sub> conversion tool v8.1 (Ref. 3). Therefore, a revised air quality assessment of traffic emissions has been undertaken with the full results presented within **Volume 3, Appendix 2.7.C** of this **ES Addendum**. A summary of these results within the study area of the two village bypass is included within this section.

- 5.4.11 The Additional Information does not change the legislation, policy and guidance, the methodology or other assessments for air quality as described in **Volume 5, Chapter 5** of the **ES** [APP-418], with the exception of the updates made to the transport emissions modelling to take into account the latest Defra EFT version 10.1 and the NO<sub>x</sub> to NO<sub>2</sub> conversion tool v8.1.

d) i) Baseline

- 5.4.12 This section presents a description of the updated baseline environment characteristics within the site and the surrounding area. The site and receptors in the study area are presented in **Figure 5.1** of **Volume 5** in the **ES** (Doc Ref. 6.6) [APP-420].

d) i) a) Current baseline

- 5.4.13 NO<sub>2</sub> and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) 2018 background concentrations within the site are projected to be between 7.2 and 7.9µg/m<sup>3</sup> for NO<sub>2</sub>, between 14.8 and 16.0µg/m<sup>3</sup> for PM<sub>10</sub> and between 9.2 and 9.5µg/m<sup>3</sup> for PM<sub>2.5</sub>, according to the recently published Defra Background Concentration Maps (Ref. 2). The backgrounds for the current baseline are broadly in line with the background values set out within **Volume 5, Chapter 5** of the **ES** (Doc Ref. 6.6) [APP-418].

- 5.4.14 The overall predicted baseline concentrations, including nearby road traffic contributions, range from 7.2 to 39.4µg/m<sup>3</sup> for NO<sub>2</sub>, 15.0 to 19.6µg/m<sup>3</sup> for PM<sub>10</sub>, and 9.3 to 12.2µg/m<sup>3</sup> for PM<sub>2.5</sub> at sensitive receptors near the site. These values are broadly in line with the baseline assessment presented within **Volume 5, Chapter 5** of the **ES** (Doc Ref. 6.6) [APP-418], albeit the updated baseline NO<sub>2</sub> values are slightly reduced (by up to 2.1µg/m<sup>3</sup>) at all receptors in the study area except for SX6<sup>1</sup> which has slightly increased by 0.4µg/m<sup>3</sup>, PM<sub>10</sub> values are slightly increased (by up to 1.9µg/m<sup>3</sup>) and PM<sub>2.5</sub> are the same or slightly lower (by up to 1.8µg/m<sup>3</sup>). Further details on the modelled 2018 baseline pollutant concentrations at receptors can be found in **Volume 3, Appendix 5.4.A** and **Volume 3, Appendix 2.7.C** of the **ES Addendum**.

d) i) b) Future Baseline

- 5.4.15 NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> 2023 background concentrations within the site are projected to be between 6.1 and 6.6µg/m<sup>3</sup> for NO<sub>2</sub>, between 13.8 and 15.0µg/m<sup>3</sup> for PM<sub>10</sub> and between 8.3 and 8.6µg/m<sup>3</sup> for PM<sub>2.5</sub>, presenting a reduction in all three pollutants from the current baseline according to the recently published Defra Background Concentration Maps (Ref. 2).

<sup>1</sup> Compared to the replacement concentrations reported in **Volume 3, Appendix 2.7.C** of the **ES Addendum**



- 5.4.16 NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> 2028 background concentrations within the site are projected to be between 5.4 and 5.8µg/m<sup>3</sup> for NO<sub>2</sub>, between 13.5 and 14.6µg/m<sup>3</sup> for PM<sub>10</sub> and between 8.1 and 8.4µg/m<sup>3</sup> for PM<sub>2.5</sub>, presenting an overall reduction in all three pollutants from the current baseline (Ref. 2).
- 5.4.17 NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> 2030<sup>2</sup> background concentrations within the site are projected to be between 5.3 and 5.6µg/m<sup>3</sup> for NO<sub>2</sub>, between 13.5 and 14.7µg/m<sup>3</sup> for PM<sub>10</sub> and between 8.1 and 8.4µg/m<sup>3</sup> for PM<sub>2.5</sub>, presenting an overall reduction in all three pollutants from the current baseline (Ref. 2).
- 5.4.18 The backgrounds for the future baseline years are broadly in line with the background values set out within **Volume 5, Chapter 5** of the **ES** (Doc Ref. 6.6) [APP-418].
- 5.4.19 The future baseline pollutant concentrations at nearby sensitive receptors in 2023 range from 6.0 to 27.3µg/m<sup>3</sup> for NO<sub>2</sub>, 14.0 to 18.4µg/m<sup>3</sup> for PM<sub>10</sub>, 8.4 to 11.1µg/m<sup>3</sup> for PM<sub>2.5</sub>. The future baseline pollutant concentrations at nearby sensitive receptors in 2028 range from 5.3 to 18.6µg/m<sup>3</sup> for NO<sub>2</sub>, 13.6 to 18.2µg/m<sup>3</sup> for PM<sub>10</sub>, and 8.2 to 10.8µg/m<sup>3</sup> for PM<sub>2.5</sub>. The future baseline pollutant concentrations at nearby sensitive receptors in 2034<sup>3</sup> range from 5.3 to 16.9µg/m<sup>3</sup> for NO<sub>2</sub>, 13.7 to 18.4µg/m<sup>3</sup> for PM<sub>10</sub> and 8.2 to 11.0µg/m<sup>3</sup> for PM<sub>2.5</sub>. The values are broadly in line with the baseline assessment presented within **Volume 5, Chapter 5** of the **ES** (Doc Ref. 6.6) [APP-418], albeit the updated baseline NO<sub>2</sub> values are slightly reduced (by up to 3.8µg/m<sup>3</sup> for 2023 and 2034, and 3.7µg/m<sup>3</sup> for 2028), PM<sub>10</sub> values are slightly increase (by up to 1.8µg/m<sup>3</sup> for 2023 and 2028, and 1.9µg/m<sup>3</sup> for 2034) with the exception of slightly reduced concentration (0.1µg/m<sup>3</sup>) at SX8 in 2034 and SX9 in 2028 and 2034, and PM<sub>2.5</sub> are slightly lower (by up to 2.1µg/m<sup>3</sup> for 2023, 2.2µg/m<sup>3</sup> for 2028 and 2.3µg/m<sup>3</sup> for 2034). Further details of modelled pollutant concentrations for the years 2023, 2028 and 2034 can be found in **Volume 3, Appendix 5.4.A** and **Volume 3, Appendix 2.7.C** of the **ES Addendum**.

#### d) ii) Assessment

- 5.4.20 Details on modelled pollutant concentrations for the year 2023 (assumed peak year of construction of the two village bypass), 2028 (assumed peak year of operation of the two village bypass during peak construction year of the main development site) and 2034 (assumed operational year of the two village bypass and Sizewell C power station) can be found in **Volume 3, Appendix 2.7.C** of the **ES Addendum**. The updated modelling using

<sup>2</sup> Defra backgrounds used are projected from a 2018 reference year and the furthest projected is 2030.

<sup>3</sup> Predicted concentrations (modelled) are predicted for the year 2034 based on traffic flows for this year.

the Additional Information (detailed in **section 5.4 b**) has resulted in changes to the magnitude of change descriptor and some receptors, leading to a worsening in the effect descriptor at receptors adjacent to the two village bypass during peak year of operation (SX8, SX9 and WM1), due to increased traffic flow on the two village bypass. The updated modelling does not change the overall effect of **not significant**, as described in **Volume 5, Chapter 5** of the **ES** (Doc Ref. 6.6) [APP-418]. With no change to the conclusion of the assessment, no further mitigation is also required.

- 5.4.21 Receptors with a change in magnitude of change descriptors are presented in **Volume 3, Chapter 5.4.B**.
- e) Updated assessment – Reduction in HGV movements (Changes 1 and 2)
- 5.4.22 The updated modelling of transport emissions with the reduced HGV movements associated with the potential changes to increase rail movements (**Change 1**) and the proposed additional temporary BLF (**Change 2**) is presented in **Volume 3, Appendix 2.7.C** to this **ES Addendum**.
- 5.4.23 The proposed changes do not affect the existing and future air quality baseline, as described in **Volume 5, Chapter 5** of the **ES** (Doc Ref. 6.6) [APP-418]. The overall magnitude of change in NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> during 2028 average day or busiest day would be the same as presented for the updated assessment with Additional Information above and in **Volume 3, Appendix 2.7.C** of the **ES Addendum**, with the exception of SX10 which would have a slight worsening to give a Very Low magnitude of change for the 2028 average day, due to an increase in rail movements. The proposed changes do not change the overall effect of **not significant**, as described in **Volume 5, Chapter 5** of the **ES** (Doc Ref. 6.6) [APP-418]. No further mitigation is required.

## 5.5 Landscape and visual

### a) Introduction

- 5.5.1 This section provides an addendum to landscape and visual assessment at the two village bypass site with reference to the following documents submitted with the Application:
- **Volume 5, Chapter 6** of the **ES** (Doc Ref. 6.6) [[APP-421](#)].
- 5.5.2 This section presents an assessment of the potential landscape and visual effects from the proposed changes (described in **section 5.2**).

b) Relevant Additional Information

- 5.5.3 The provision of a second indicative area for a temporary contractor compound at the western end of the bypass has been considered.

c) Relevant changes

- 5.5.4 Relevant changes for the assessment of landscape and visual effects at the two village bypass site include:

- changes to the site boundary as a result of:
  - highway changes; and
  - Public Rights of Way Changes.
- additional floodplain grassland mitigation.

d) Updated assessment – Additional Information

d) i) Addition of indicative temporary contractor compound area

- 5.5.5 Further details of construction assumptions identified the need for an additional contractor compound area to the western end of the site. The provision of a second indicative area for a temporary contractor compound would introduce additional construction activity in this vicinity. However, within **Volume 5, Chapter 6** of the **ES** (Doc Ref. 6.6) [APP-421], effects on landscape character within the Rolling Estate Claylands Landscape Character Type (LCT) are assessed to be large scale in this area due to the construction of the proposed roundabout and the additional compound would not be sufficient to increase the extent of large scale effects or increase the overall significance of effects. Effects on the Rolling Estate Claylands LCT during construction would remain of medium magnitude and would result in a moderate adverse effect on this area which is considered to be **not significant**.
- 5.5.6 The temporary contractor compound would also be visible within visual receptor group 4. This visual receptor group, which includes pedestrians using the footways along the A12 and local residents along the A12 at Stratford St. Andrew, were already assessed as experiencing large scale effects from the construction of the proposed roundabout within **Volume 5, Chapter 6** of the **ES** (Doc Ref. 6.6) [APP-421]. Visibility of the proposed temporary contractor compound could not increase this further, and effects on visual receptor group 4 during construction would remain of medium magnitude, and would result in major-moderate adverse effect, which are considered to be **significant**.

- e) Updated assessment – Extensions and reductions of the Order Limits for works on the two village bypass, as well as minor changes to the public right of way proposals at these sites (Change 12)

- 5.5.7 None of the proposed changes which form part of **Change 12** would extend the study area, change the landscape baseline or result in any changes to the visual baseline or zone of theoretical visibility from those considered within **Volume 5, Chapter 6** of the **ES** (Doc Ref. 6.6) [APP-421].
- 5.5.8 The proposed highway changes would result in the removal of a small area of woodland and the realignment of proposed hedgerows to accommodate potential visibility splays. These changes would result in a relatively minor change to views within visual receptor group 2, where significant effects are already identified during construction and in the medium to long-term. Effects would remain as assessed within **Volume 5, Chapter 6** of the **ES** (Doc Ref. 6.6) [APP-421]. During construction, effects would remain of medium magnitude, and would result in major-moderate adverse effects which are considered to be **significant**. During operation, effects would remain of high-medium magnitude and would be major-moderate adverse effects, which is considered to be **significant**.
- 5.5.9 The Public Rights of Way changes would alter a very short stretch of footpath E-243/011/0, requiring the potential removal of short sections of hedgerow at either end of the diversion to allow the route to pass through field boundary hedgerows. The new alignment would be similar to both the existing definitive route and the route used in practice and would also be of a similar length. This change to a very limited extent of the route would not have an adverse effect on footpath users and would result in a relatively minor change to views within visual receptor group 2. Effects would remain as assessed within **Volume 5, Chapter 6** of the **ES** (Doc Ref. 6.6) [APP-421]. During construction, effects would be of medium magnitude, and would result in major-moderate adverse effects which are considered to be **significant**. During operation, effects would remain of high-medium magnitude and would be major-moderate adverse, which is considered to be **significant**.
- 5.5.10 The introduction of additional floodplain habitat mitigation would be visually similar if the area was returned to the current grazing use and would be in character with existing land uses along the River Alde. This would not be sufficient to change the appearance of the proposed development or the direct effects on landscape character. Within the Valley Meadowlands LCT, as assessed within **Volume 5, Chapter 6** of the **ES** (Doc Ref. 6.6) [APP-421], large to large-medium scale effects would be experienced within this part of the LCT during construction and effects would remain of medium-low magnitude, and would be moderate



adverse which is considered to be **not significant**. During operation, effects would remain of medium magnitude, and would result in a moderate adverse effect on this area, which is considered to be **not significant**.

5.5.11 As such, there are no changes to the residual effects presented within **Volume 5, Chapter 6** of the **ES** (Doc Ref. 6.6) [APP-421].

## 5.6 Terrestrial ecology and ornithology

### a) Introduction

5.6.1 This section provides an addendum to the terrestrial ecology and ornithology assessment at the two village bypass site with reference to the following documents submitted with the Application:

- **Volume 5, Chapter 7** of the **ES** (Doc Ref. 6.6) [[APP-425](#)]; and
- **Volume 5, Appendix 7A** of the **ES** (Doc Ref. 6.6) [[APP-426](#)].

5.6.2 This section presents Additional Information that has been gathered since the Application was made and the proposed changes described within **section 5.2** of this chapter.

### b) Relevant Additional Information

5.6.3 Relevant additional ecological information for the assessment of effects on terrestrial ecology and ornithology at the two village bypass site includes the following:

- Changes by Natural England to the boundary of the ancient woodland at Foxburrow Wood.

5.6.4 An **OLEMP** for the two village bypass site has also been submitted and is provided in **Book 8** (refer to Doc Ref. 8.3A). The **OLEMP** sets out the objectives and general principles for the establishment and longer-term management of the landscape, and ecological mitigation proposals identified for the area within the two village bypass site, as set out in **Volume 5, Chapter 7** of the **ES** (Doc Ref. 6.6) [APP-425], following construction of the two village bypass.

### c) Relevant changes

5.6.5 Relevant proposed changes for the assessment of effects on terrestrial ecology and ornithology at the two village bypass site includes the extension of the site boundary for works on the two village bypass (**Change 12**) for additional land required to facilitate the highway works

and a change to the PRoW E-243/011/0 around Walk Barn Farm) as well as the associated vegetation clearance requirements.

- 5.6.6 In addition, there are also additional habitat mitigation proposals (the creation of additional (and enhancement) of floodplain grassland measures.

d) Updated assessment – Additional Information

d) i) Ancient Woodland

- 5.6.7 Foxburrow Wood County Wildlife Site (CWS) and ancient woodland will be retained in its entirety, as presented in **Volume 5, Chapter 7** of the **ES** (Doc Ref. 6.6) [APP-425] and this is not affected by the recent update to the ancient woodland boundary which affects the Palant's Grove part of the designation where the western block of Palant's Grove has been removed (in 2020) from the Ancient Woodland Inventory, as confirmed by Natural England. A buffer distance of 15m from earthworks would be maintained, as presented in the Application, to avoid direct impacts to the trees on the edge of the woodland.

- 5.6.8 Where trees are being retained, works would be undertaken outside of root protection zones. Protective fencing would be installed where required, prior to works commencing adjacent to these areas. If works need to be undertaken within the root protection zones, an arboricultural survey would be undertaken, and any advice provided adhered to, to support the long-term survival of the trees. Method statements would be produced to capture appropriate working methods and, where required, works would be carried out under the supervision of a trained arboriculturalist.

- 5.6.9 The impact assessment in relation to ancient woodland presented within **ES Volume 5, Chapter 7** [APP-425] remains unchanged, with potential impacts to Foxburrow Wood CWS as a result of construction of the development results in no impact due to the primary and tertiary mitigation measure in place. During the operational phase the assessment of effects for Foxburrow Wood would remain of minor beneficial (**not significant**) for habitat fragmentation and negligible adverse effect, which is considered to be **not significant**, in relation to air quality impacts.

- e) Updated assessment – Extensions and reductions of the Order Limits for works on the two village bypass, as well as minor changes to the public right of way proposals at these sites (Change 12)

- e) i) Proposed change to site boundary

5.6.10 It is proposed to expand the site boundary to the west of the existing access road which will join the two village bypass at the proposed 'north-west staggered junction'. The additional land would be to the north of the bypass, on the eastern side of Nuttery Belt woodland, requiring the removal of approximately 245sqm of existing woodland. However, the proposed woodland planting regime will reinstate woodland post construction and provide new planting areas, along with retained woodland resulting in an increase in the total area of woodland within the site compared to the existing baseline. Given the proposed woodland planting regime as part of the embedded primary mitigation measures, this additional habitat loss would result in a short-term, temporary, reversible, minor adverse effect, which is considered to be **not significant**.

- e) ii) Floodplain Grassland

5.6.11 As reported in the Terrestrial Ecology and Ornithology assessment in **Volume 5, Chapter 7** of the **ES**, the two village bypass would result in the permanent loss of 2.91ha of floodplain grassland and this would be of agriculturally improved grassland of relatively low ecological value. Whilst the assessment reported the effect on the floodplain grasslands was minor adverse and thus **not significant**, SZC Co. recognises that the site provides a linkage to the wider, higher quality floodplain grazing marsh habitats on the River Alde network. Therefore, SZC Co. proposes the creation of new and enhanced habitats to mitigate the loss of the floodplain grazing marsh habitat.

5.6.12 The improvements proposed including the creation of new habitats to mitigate the loss of floodplain grazing marsh will provide benefits for local biodiversity. However, the impact assessment outcome presented within **Volume 5, Chapter 7** of the **ES** [APP-425] remains unchanged, with the effect being minor adverse and **not significant**.

5.6.13 It is proposed that the area of approximately 2.77ha, would be used to create these mitigation habitats. There would be no extension of the site boundary to accommodate the creation of this habitat. The existing floodplain grassland within this area is of low value, comprising predominantly a sown agricultural ley of perennial ryegrass and the focus would be on the creation of higher quality habitats, through improving both the diversity of the grassland sward and the habitats within ditches close

to the River Alde. New wetland channels to be created in this area would mitigate the loss of approximately 143m of ditch associated with the land take from the proposed bypass footprint in this location which form the most valuable element of the existing floodplain grassland as presented within the **OLEMP** for the two village bypass which is provided in **Book 8** (refer to Doc Ref. 8.3A)

## 5.7 Amenity and recreation

### a) Introduction

5.7.1 This section provides an addendum to the amenity and recreation assessment at the two village bypass site with reference to the following documents submitted with the Application:

- **Volume 5, Chapter 8** of the **ES** (Doc Ref. 6.6) [[APP-429](#)]; and
- **Volume 5, Appendix 8A** of the **ES** (Doc Ref. 6.6) [[APP-430](#)].

5.7.2 This section presents Additional Information that has been gathered since the Application was made and is summarised in sections below. The assessment also considers the potential effects on amenity and recreation as a result of the proposed changes described in **section 5.2**.

### b) Relevant Additional Information

5.7.3 Relevant Additional Information for the assessment amenity and recreation effects at the two village bypass site include:

- minor corrections to **Access and Rights Of Way Plans** [[AS-013](#)];
- an additional temporary contractor compound at the western end of the two village bypass to facilitate construction of the River Alde overbridge;
- refinements to road traffic noise predictions, and subsequent updates to:
  - corrections to the road traffic noise calculations presented in **Volume 5, Chapter 4** of the **ES** (Doc Ref 6.6) [[APP-415](#)]; and
  - refinements to the strategic traffic model (refer to **Transport Assessment Addendum** (Doc Ref. 8.5(A) Ad) for further information) and associated air quality and noise modelling.
- refinements to the air quality modelling which was updated to account for new information published by Defra and updated traffic estimates from the strategic traffic model.

c) Relevant changes

5.7.4 Relevant proposed changes for the assessment of effects on amenity and recreation, for the two village bypass site include:

- Changes to site boundary (**Change 12**) as a result of additional land requirements to accommodate changes to highway works and a change to the alignment of PRoW E-243/011/0, at Walk Barn Farm, as well as an enhancement of floodplain grasslands.
- Changes to HGV numbers as described within **Chapter 2** of this **ES Addendum**, and **Transport Assessment Addendum** (Doc Ref. 8.5(A) Ad) as a result of the potential changes to increase rail movements (**Change 1**) and the proposed additional temporary BLF (**Change 2**).

d) Updated assessment – Additional Information

d) i) Corrections to Access and Rights of Way Plans

5.7.5 **Access and Rights of Way plans** were submitted with the Application (Doc Ref. 2.4) [APP-013]. The changes to the **Access and Rights of Way plans** submitted in November 2020 [AS-013] are considered to be minor and do not change the assessment presented within **Volume 5, Chapter 8** of the **ES** [APP- 429].

d) ii) Addition of indicative temporary contractor compound area

5.7.6 The additional temporary contractor compound area at the western end of the two village bypass would not be located near any sensitive recreational receptors. The closest would be cyclists using the Suffolk Coastal Cycle Route / Sustrans Reginal Cycle Route to the west of the compound, or cyclists on the A12. The addition of a compound into this area would be relatively minor in the context of other construction works associated with the two village bypass, including construction of the roundabout junction with the A12 which would be closer to these receptors than the construction compound. This change would not change the assessment presented within **Volume 5, Chapter 8** of the **ES** [APP- 429].

d) iii) Revised traffic, noise and air quality modelling

5.7.7 **Volume 2, Chapter 10 Transport** of the **ES** (Doc Ref. 6.3) [APP-198] assessed a worst case of the Sizewell C busiest day for the peak of construction phase. The assessment of impacts on recreational receptors in **Volume 5, Chapter 8** of the **ES** (Doc Ref. 6.6) [APP- 429] is also based on the busiest day (i.e. worst case) traffic volumes. The **Transport**



**Assessment Addendum** (Doc Ref. 8.5(A) Ad) has introduced an additional assessment scenario for the peak of construction phase – a typical day (with lower traffic levels than the busiest day). The new assessment for the typical day presented in the **Transport Assessment Addendum** (Doc Ref. 8.5(A) Ad) is not considered in this assessment on recreational receptors, and the assessment below presents the ‘worst case’ effects during the busiest day.

- 5.7.8 The locations of transport ‘links’ referred to below are shown on **Figures 10.3 of Volume 2, Chapter 10** of the **ES** (Doc Ref. 6.3) [APP-198].
- 5.7.9 The **Transport Assessment Addendum** (Doc Ref. 8.5(A) Ad) confirms that the changes to the strategic traffic modelling do not change the effects on severance, pedestrian delay, amenity or fear and intimidation at the two village bypass during the construction or operational phases of the main development site.
- 5.7.10 The changes to the strategic traffic modelling do not change the results of the sound tranquillity assessment presented in **Volume 5, Appendix 8A** of the **ES** (Doc Ref. 6.6) [APP – 430].
- 5.7.11 As identified in **section 5.3** of this chapter, road traffic noise calculations presented in **Volume 5, Chapter 4** of the **ES** (Doc Ref 6.6) [APP-415] have been corrected. The changes presented in **section 5.3** of this chapter does not alter the assessment of effects presented within **Volume 5, Chapter 8** of the **ES** [APP- 429], or the sound tranquillity assessment presented in **Volume 5, Appendix 8A** of the **ES** [APP-430]. The error found in the main road traffic noise calculations was not repeated in the tranquillity assessment therefore no changes to the assessment are required.
- 5.7.12 **Section 5.4 Air quality** of this chapter identifies that the updated air quality modelling of the changes to the strategic traffic modelling do not change the overall effect of **not significant**, as described in **Volume 5, Chapter 5** of the **ES** (Doc Ref. 6.6) [APP-418]. Changes to air quality do not therefore change the assessment of effects on recreational receptors presented within **Volume 5, Chapter 8** of the **ES** (Doc Ref. 6.6) [APP-429].
- 5.7.13 The changes to the strategic traffic modelling do not therefore change the assessment of effects on recreational receptors presented within **Volume 5, Chapter 8** of the **ES** (Doc Ref. 6.6) [APP- 429].
- e) Updated assessment – Extensions and reductions of the Order Limits for works on the two village bypass, as well as minor changes

to the public right of way proposals at these sites Proposed (Change 12)

- 5.7.14 Changes to the site boundary to include an area of additional land to accommodate changes to highway works, the change to the alignment of PRoW E-243/011/0 around Walk Barn Farm and enhancement of floodplain grassland would not change the assessment of effects within **Volume 5, Chapter 8** of the **ES** [APP- 429]. The change to the alignment of PRoW E-243/011/0 around Walk Barn Farm is a short diversion and would provide an attractive alternative route of a similar length to the existing alignment.
- f) Updated assessment – reduction in HGV movements (Changes 1 and 2)
- 5.7.15 The **Transport Assessment Addendum** (Doc Ref. 8.5(A) Ad) assesses changes that would result from a reduction in HGV movements as a result of the proposed changes to rail and marine capacity, as explained in the update to the **Freight Management Strategy** (Doc Ref 8.18). The **Transport Assessment Addendum** states that the benefit of these changes is likely to be most noticeable on the HGV routes during peak construction (i.e. A12 and Sizewell link road), and provides an assessment of changes in effect during the peak construction phase only.
- 5.7.16 The **Transport Assessment Addendum** (Doc Ref. 8.5(A) Ad) identifies that there would be no changes in effects on severance, amenity, pedestrian delay or fear and intimidation during the peak construction typical day and busiest day at the two village bypass, when comparing the assessments based on the Refined DCO flows (resulting from the refinements to the strategic traffic model) and the reduced HGV flows resulting from Changes 1 and 2.
- 5.7.17 Whilst changes resulting from a reduction in HGV numbers as a result of the changes explained in the updated Freight Management Strategy would bring benefits to recreational receptors, through reduced opportunities for interaction with traffic and reduced noise, changes to HGV numbers do not change the assessment presented within **Volume 5, Chapter 8** of the **ES** [APP- 429].
- 5.8 Terrestrial historic environment
- a) Introduction
- 5.8.1 This section provides an addendum to terrestrial historic environment assessment at the two village bypass site with reference to the following documents submitted with the Application:

- **Volume 5, Chapter 9** of the **ES** (Doc Ref. 6.6) [[APP-432](#)].

5.8.2 This section presents an assessment of the Additional Information and the potential terrestrial historic effects from the proposed changes (described in **section 5.2**).

5.8.3 This assessment is supported by the following appendix provided in **Volume 3** of this **ES Addendum**:

- **Volume 3, Appendix 5.8.A** Two Village Bypass – Area 2 - Archaeological Evaluation Report.

b) **Relevant Additional Information**

5.8.4 Relevant Additional Information for the assessment of effects on terrestrial historic environment at the two village bypass comprises the Two Village Bypass – Area 2 - Archaeological Evaluation Report (refer to **Volume 3, Appendix 5.8.A** of this **ES Addendum**).

5.8.5 In addition, consideration is given to the potential effects of an additional temporary contractor compound at the western end of the two village bypass to facilitate construction of the River Alde overbridge.

c) **Relevant design changes**

5.8.6 The relevant proposed design change for the assessment of effects on terrestrial historic environment at the two village bypass site comprises the extension of the site boundary for additional land required to facilitate the highway works, changes to the PRow E-243/011/0 around Walk Barn Farm.

5.8.7 As referenced within **section 5.2** of this chapter, the provision of additional floodplain grazing marsh does not change the assessment of effects on terrestrial historic environment and, therefore, has not been considered further.

d) **Updated assessment – Additional Information**

d) i) **Archaeological Evaluation Report**

5.8.8 The Archaeological Evaluation Report for the area of the two village bypass subject to evaluation to date (Area 2) was completed in June 2020 (refer to **Volume 3, Appendix 5.8.A** of this **ES Addendum**).

5.8.9 The report provides more detail on the findings of the evaluation trenching investigations at Area 2 of the site, and supersedes the interim fieldwork summary provided in **Volume 5, Appendix 9D** of the **ES** (Doc Ref. 6.6) [[APP-433](#)].

- 5.8.10 The Archaeological Evaluation Report did not identify any new issues beyond those reported in the interim fieldwork summary **Volume 5, Appendix 9D** of the **ES** (Doc Ref. 6.6) [APP-433].
- 5.8.11 As such, there are no changes to the assessment presented within **Volume 5, Chapter 9** of the **ES** (Doc Ref. 6.6) [APP-433].
- d) ii) Addition of indicative temporary contractor compound area
- 5.8.12 Further details of construction assumptions identified the need for an additional contractor compound area to the western end of the site.
- 5.8.13 With regards to indirect effects, the presence of the additional temporary contractor compound at the western end of the two village bypass to facilitate construction of the River Alde overbridge would introduce a new element into the landscape in proximity to Glemham Hall (Park and Garden 1001461). However, there will be no visibility of the proposed compound from within the park itself and any views from within the woodland will be strongly filtered by the mature trees. The compound would be a temporary feature within the landscape.
- 5.8.14 The archaeological and architectural interests of the asset as set out within **Volume 5, Chapter 9** of the **ES** (Doc Ref. 6.6) [APP-433] would remain unaffected by the proposed change.
- 5.8.15 Overall, there is no change to the conclusions of the assessment presented within **Volume 5, Chapter 9** of the **ES** (Doc Ref. 6.6) [APP-433].
- e) Updated assessment – Extensions and reductions of the Order Limits for works on the two village bypass, as well as minor changes to the public right of way proposals at these sites (Change 12)
- 5.8.16 There are no changes to the baseline in **Volume 5, Chapter 9** of the **ES** (Doc Ref. 6.6) [APP-433].
- 5.8.17 The proposed change would not result in new or different significant direct effects on heritage assets compared to the assessment presented within **Volume 5, Chapter 9** of the **ES** (Doc Ref. 6.6) [APP-433]. There remains the potential for disturbance to buried archaeological remains. The site specific Written Scheme of Investigation when written will take into account any additional areas of disturbance within the site boundary to ensure any disturbance can be appropriately mitigated.
- 5.8.18 The overall residual effect following the implementation of an agreed scheme of archaeological investigation would be of the same magnitude as presented in **Volume 5, Chapter 9** of the **ES** (Doc Ref. 6.6) [APP-433].

and would be of a low magnitude, resulting in a minor adverse effect, which would be **not significant**.

## 5.9 Soils and agriculture

### a) Introduction

5.9.1 This section provides an addendum to the soils and agricultural assessment at the two village bypass site with reference to the following documents submitted with the Application:

- **Volume 5, Chapter 10** of the **ES** (Doc Ref. 6.6) [[APP-435](#)]; and
- **Volume 5, Chapter 10, Figures 10.1 – 10.5** of the **ES** (Doc Ref. 6.6) [[APP-437](#)].

5.9.2 This section presents an assessment of the potential effects on soils and agriculture from the proposed changes to the site boundary (described in **section 5.2**).

5.9.3 Relevant information for the assessment of effects on soils and agriculture in relation to the two village bypass is provided in **Volume 5, Chapter 10** of the **ES** (Doc Ref. 6.6) [[APP-435](#)] and associated appendices. The desk-based information collated extends beyond the site boundary and so has been sufficient to cover the proposed changes, with the exception of the detailed Agricultural Land Classification (ALC) survey mapping. Due to a previous reduction in the extent of the site boundary some detailed ALC mapping is available beyond the current extent of the site boundary. Where this data is absent the areas have been mapped as un-surveyed.

### b) Relevant changes

5.9.4 The relevant design change for soils and agriculture in relation to the two village bypass comprises the extension of the site boundary for highway works and amendment to the PRow adjacent to Walk Barn Farm (**Change 12**). As referenced within **section 5.2** of this chapter, the provision of additional floodplain grazing marsh do not change the assessment of effects on soils and agriculture and, therefore, has not been considered further.



- c) Updated assessment – Extensions and reductions of the Order Limits for works on the two village bypass, as well as minor changes to the public right of way proposals at these sites (Change 12)

c) i) Baseline

- 5.9.5 The additional land would extend the site boundary and would therefore change the baseline for soils and agriculture as described in **Volume 5, Chapter 10** of the **ES** [APP-435].
- 5.9.6 Following the submission of the ES, the following baseline information has been updated:
- Agricultural land classification (ALC) mapping, and the extent of land falling into the best and most versatile (BMV) land grades (ALC grades 1, 2 and 3a); and
  - Agricultural land-take across each affected landholding, to assess the extent of land required at the start of construction and the permanent land take once land required temporarily has been returned to agriculture.
- 5.9.7 The methodology used for the desk-based review is as detailed in **Volume 5, Chapter 10** of the **ES** [APP-435].
- 5.9.8 All the figures previously presented have been reproduced to show the new site boundary. The reproduced figures are as follows and provided in **Volume 2** of this **ES Addendum**:
- **Figure 5.9.1:** Two village bypass Soilscape mapping;
  - **Figure 5.9.2:** Two village bypass provisional ALC mapping;
  - **Figure 5.9.3:** Two village bypass detailed ALC mapping;
  - **Figure 5.9.4:** Two village bypass agri-environment schemes; and
  - **Figure 5.9.5:** Two village bypass forestry and woodland schemes.
- 5.9.9 Areas of land according to ALC grade and by landholding have been remeasured.
- 5.9.10 Other than the extent of ALC grades or landholding units affected, the baseline as presented in **Volume 5, Chapter 10** of the **ES** [APP-435] does not change.

c) i) a) Agricultural land

- 5.9.11 In relation to ALC grades, the design changes result in a small increase (0.5%) in the total area of agricultural land required at the start of the construction phase. This change is shown in **Table 5.5** below (areas have been rounded to 1 decimal point).

**Table 5.5: Comparison of areas of agricultural land required by ALC Grade**

ALC Grade	DCO Assessment		Updated Assessment	
	Total Area (ha)	%	Total Area (ha)	%
1	0	0	0	0
2	2.0	3.65	2.0	3.63
3a	25.1	45.80	25.2	45.74
3b	19.5	35.58	19.5	35.39
4	0.6	1.10	0.6	1.09
5	0	0	0	0
Non-agricultural	4.5	8.21	4.5	8.17
Not surveyed	3.1	5.66	3.3	5.98
<b>Total</b>	<b>54.8</b>	<b>100</b>	<b>55.1</b>	<b>100</b>

c) i) b) Agricultural landholdings

- 5.9.12 In relation to agricultural businesses, the design changes affect all three landholdings associated with the two village bypass.
- 5.9.13 These changes do not alter the sensitivity of each landholding as detailed in **Volume 5, Chapter 10** of the **ES** [APP-435] and no new receptors are introduced.
- 5.9.14 There is no change to the future baseline as presented in **Volume 5, Chapter 10** of the **ES** [APP-435].

c) ii) Environmental Design and Mitigation

- 5.9.15 No further mitigation measures are proposed as a result of the proposed changes, above those identified in **Volume 5, Chapter 10** of the **ES** [APP-435].

c) iii) Assessment of Effects

c) iii) a) Construction

c) iii) a) a) *Agricultural land*

5.9.16 During construction there is a slight (0.5%) increase in the total area of agricultural land required. There is a very small (<0.2%) increase in the extent of BMV land required at the start of construction. There is no change to the extent of land that would be returned to agriculture by the end of the construction phase .

5.9.17 These changes are shown in **Table 5.6** (areas have been rounded to 1 decimal point).

**Table 5.6: Comparison of areas of agricultural land required by ALC Grade**

ALC Grade	DCO Assessment			Updated Assessment		
	Total Area (ha)	Area required permanently (ha)	Area required temporarily (ha)	Total Area (ha)	Area required permanently (ha)	Area required temporarily (ha)
1	0	0	0	0	0	0
2	2.0	1.9	0.1	2.0	1.9	0.1
3a	25.1	18.8	6.3	25.2	18.8	6.4
3b	19.5	15.3	4.2	19.5	15.3	4.2
4	0.6	0.2	0.4	0.6	0.2	0.4
5	0	0	0	0	0	0
Non-agricultural	4.5	3.9	0.6	4.5	4.0	0.5
Not surveyed	3.1	3.0	0.1	3.3	3.0	0.3
<b>Total</b>	<b>54.8</b>	<b>43.1</b>	<b>11.7</b>	<b>55.1</b>	<b>43.2</b>	<b>11.9</b>

5.9.18 This will not change the level of significance of the effects on BMV land reported in the **ES**, which were assessed as major adverse (both for total and permanent BMV land take) which is **significant**.

c) iii) a) b) *Agricultural landholdings*

5.9.19 The design changes result in a small increase in the extent of land required from agricultural businesses at the start of construction, with a small reduction in the land required permanently from agricultural landholdings. This is shown in **Table 5.7**.

**Table 5.7: Comparison of the extent of agricultural landholdings affected**

Holding Name	DCO Assessment			Updated Assessment		
	Total Area of Holding required (ha)	Area of holding required permanently (ha)	Area of holding to be returned to agricultural use (ha)	Total Area of Holding required (ha)	Area of holding required permanently (ha)	Area of holding to be returned to agricultural use (ha)
Parkgate Farm (forming part of the Glenham Hall Estate.	28.61	23.27	5.34	28.67	23.35	5.32
Farnham Hall.	10.98	9.56	1.42	11.16	9.56	1.60
Friday Street Farm.	12.01	7.14	4.87	12.02	7.15	4.87

**5.9.20** Overall, the total land required from agricultural businesses during the construction phase has increased by approximately 0.5%. The area required permanently has increased by approximately 0.2% as a result of the proposed changes. In **Volume 5, Chapter 10** of the **ES** [APP-435] it was reported that, overall, three holdings would be permanently affected by construction and operation of the proposed two village bypass. One holding, Friday Street, would experience moderate adverse (**significant**) effects. However, this effect during construction would reduce to minor adverse (**not significant**) once land is restored at the end of construction. The effects experienced by the remaining agricultural land holdings would be minor adverse (**not significant**).

**5.9.21** The proposed changes would not change the significance of effects on agricultural landholdings reported in the ES, either as individual landholdings or for the entire scheme. In addition, there are no change in severance effects results from the design changes.

**c) iii) b) Operation**

**5.9.22** There are no new or different significant operational effects to soils and agriculture as a result of the proposed design changes, in comparison with **Volume 5, Chapter 10** of the **ES** [APP-435].

**c) iv) Additional mitigation and residual effects**

**5.9.23** No additional mitigation measures are required above the measures reported in **Volume 5, Chapter 10** of the **ES** [APP-435].

5.9.24 There are no changes to the residual effects identified in **Volume 5, Chapter 10** of the **ES** [APP-435].

## 5.10 Groundwater and surface water

### a) Introduction

5.10.1 This section provides an addendum to the groundwater and surface water assessment at the two village bypass site with reference to the following documents submitted with the Application:

- **Volume 5, Chapter 12** of the **ES** (Doc Ref. 6.6) [[APP-441](#)].
- **Two Village Bypass Flood Risk Assessment** (Doc Ref. 5.5) [APP-119 to APP-135]
- **Water Framework Directive Compliance Assessment** (Doc Ref. 8.14) [APP-619 to APP-633]

5.10.2 This section presents an assessment of the Additional Information and potential effects on groundwater and surface water from the proposed changes (described in **section 5.2**).

### b) Relevant Additional Information

5.10.3 Relevant Additional Information available for groundwater and surface water on the two village bypass includes updates to the Flood Risk Assessment, which includes a Flood Risk Emergency Plan (Doc Ref. 5.5Ad).

### c) Relevant changes

5.10.4 The changes have been considered within the revised assessment for groundwater and surface water along the two village bypass includes the extension of the site boundary for works on the two village bypass (**Change 12**) for additional land required to facilitate the highway works and a change to the PRow E-243/011/0 around Walk Barn Farm). There are also additional habitat mitigation proposals (the creation of additional (and enhancement) of floodplain grassland measures).

5.10.5 In addition, the following addenda of relevance to the groundwater and surface water assessment reflect the proposed design changes:

- Two Village Bypass Flood Risk Assessment Addendum (Doc Ref. 5.5 Ad); and



- Water Framework Directive Compliance Assessment Addendum (Doc Ref. 8.14Ad).

d) Updated assessment –Additional Information

5.10.6 The updates to the Flood Risk Assessment did not identify any material changes for groundwater and surface water receptors relative to those considered within **Volume 5, Chapter 12** of the **ES** [APP-441]. As such, there no changes to the assessment presented within **Volume 5, Chapter 12** of the **ES** [APP-441].

- e) Updated assessment – Extensions and reductions of the Order Limits for works on the two village bypass, as well as minor changes to the public right of way proposals at these sites (Change 12)

e) i) Baseline

5.10.7 There are no changes to the baseline information presented in **Volume 5 Chapter 12** of the **ES** [APP-441].

e) ii) Environmental design and mitigation

5.10.8 The proposed design changes seek to mitigate the permanent loss of floodplain habitat in the vicinity of the River Alde. The improvement in quality of the floodplain grassland in this area will make a positive contribution to the wider network of floodplain grazing marsh habitats along the River Alde, ensuring the linkage between these habitats on the river network is maintained and enhanced.

e) iii) Assessment of effects

e) iii) a) Construction

5.10.9 The proposed floodplain grassland mitigation is within the existing footprint of the development. No change is predicted for groundwater or surface water receptors during the construction phase.

5.10.10 Updated assessments for the Flood Risk Assessment and Water Framework Directive (WFD) Compliance Assessment did not identify any material considerations for groundwater and surface water receptors relative to those considered in the original assessment.

5.10.11 As such, there are no changes to the assessment presented within **Volume 5, Chapter 12** of the **ES** [APP-441].

e) iii) b) Operation

- 5.10.12 The proposed changes, incorporating floodplain grassland as mitigation for the permanent loss of existing habitat on the River Alde floodplain will not alter impacts on groundwater or surface water receptors reported in **Volume 5, Chapter 12** of the **ES** [APP-441].
- 5.10.13 Updates for the Flood Risk Assessment and WFD Compliance Assessment did not identify any material considerations for groundwater and surface water receptors relative to those considered in the original assessment.
- 5.10.14 As such, no changes to the assessment presented within **Volume 5, Chapter 12** of the **ES** [APP-441].

e) iv) Additional mitigation and residual effects

- 5.10.15 The changes outlined in this section represent alterations to primary mitigation during the operational phase. They will improve the quality of the floodplain grassland in this area (see **section 5.7** of this chapter for further detail) and will make a positive contribution to the wider network of floodplain grazing marsh habitats along the River Alde, ensuring the linkage between these habitats on the river network is maintained and enhanced.
- 5.10.16 There are no changes to the residual effects identified in **Volume 5, Chapter 12** of the **ES** [APP-441], as a result of the changes introduced.

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## REFERENCES

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2. Department for Environment Food and Rural Affairs. (2020). Background Pollutant Concentration Maps. Available at: <https://uk-air.defra.gov.uk/data/laqm-background-home>. (Accessed October 2020).
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