

# Lower Thames Crossing

## 6.3 Environmental Statement Appendices

### Appendix 12.7 – Noise Insulation Regulations Assessment

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### Appendix 12.7 – Noise Insulation Regulations Assessment

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# 1 Introduction

- 1.1.1 This appendix provides an assessment of the potential effects of the A122 Lower Thames Crossing ('the Project') in accordance with the specific requirements of The Noise Insulation Regulations 1975 (as amended in 1988) ('NIR').
- 1.1.2 Details of the protocols used and the requirements of the NIR are covered within this document.

## 1.2 The Noise Insulation Regulations 1975 (as amended 1988)

- 1.2.1 The NIR set out the requirements under which residential buildings may qualify for both statutory and discretionary noise insulation.
- 1.2.2 The NIR apply to a highway or altered carriageway which is or will be first open to public traffic after 16 October 1972.

## 1.3 Noise Insulation Regulations 1975 definitions

- 1.3.1 The specific definitions from the NIR relevant to the assessment of the Project are as follows:
- a. Altered highway - a highway of which the location, width or level of the carriageway has been or is to be altered (other than by resurfacing) after 16th October 1969, and 'alter' and 'alteration' in relation to a highway shall be construed accordingly.
  - b. Specified level - a noise level of 68dB LA10 (18-hour)
  - c. Prevailing noise level - the level of noise, expressed as a level of LA10 (18-hour), one metre in front of the most exposed of any windows and doors in a facade of a building, caused by traffic using any highway immediately before works began for the construction of a highway or additional carriageway, or for the alteration of a highway, as the case may be.
  - d. Relevant noise level - the level of noise, expressed as a level of LA10 (18-hour), one metre in front of the most exposed of any windows and doors in a facade of a building caused or expected to be caused by traffic using or expected to use any highway.

## 1.4 Buildings to which the Noise Insulation Regulations 1975 apply

- 1.4.1 Subject to the provisions of the NIR, the classes of buildings in respect of which a duty or power arises under these regulations, are as follows:
- a. Dwellings, and other buildings used for residential purposes, which will be not more than 300m from the nearest point on the carriageway of the highway after the construction of that highway or of an additional carriageway.

## 1.5 Duty to carry out insulation work or to make grants

- 1.5.1 Regulation 3 of the NIR imposes a duty on the highway authority to offer insulation or provide grants in respect of a new road, or a road for which a new carriageway has been constructed, if the following three requirements are fulfilled:
- a. The relevant noise level is greater than or equal to the specified level (68dB LA10 (18-hour)).
  - b. The relevant noise level is greater by at least 1dB(A) than the prevailing noise level.
  - c. Noise caused or expected to be caused by traffic using or expected to use that highway makes an effective contribution to the relevant noise level of at least 1dB(A).

## 2 Methodology

### 2.1 Study area

- 2.1.1 For the purpose of this noise insulation assessment, the study area has been confined to residential dwellings within 300m of the Project.
- 2.1.2 This has been determined under Regulation 7 of the NIR which states that the regulations apply to eligible dwellings or other buildings used for residential purposes '*which will be not more than 300 metres from the nearest point on the carriageway of the highway after the construction of that highway*'.

### 2.2 Road traffic noise calculations

- 2.2.1 The procedure for predicting the noise level from a road is described in the Calculation of Road Traffic Noise (CRTN) (Department for Transport and Welsh Office, 1988). The prediction method takes into account factors such as the traffic flow, composition and speed, the alignment and distance of the road relative to receiving property, the road surface type, the nature of the intervening ground cover between the road and receptors, and reflections from building facades, in order to calculate the dB LA10 (18-hour) noise level.
- 2.2.2 The prediction method contained within CRTN is that specified under Regulation 6 of the NIR.
- 2.2.3 The noise levels have been modelled using a computer-based prediction program IMMI (produced by Wölfel Meßsysteme). The software package is validated to follow the procedures given in the CRTN.

### 2.3 Noise insulation assessment

- 2.3.1 The assessment of whether any dwellings or other buildings would qualify for statutory noise insulation under the noise insulation regulations has been undertaken based upon the results for the assessed case as presented in the Environmental Statement (ES).
- 2.3.2 For the NIR assessment, the following data has been used:
- The prevailing noise has been assumed to be the Do-Minimum road traffic noise level in the opening year (2030). This would be representative of the existing noise climate immediately before the opening of the Project.
  - The relevant noise level has been assumed to be the highest predicted Do-Something scenario noise level in either the opening year (2030) or the design year (2045), whichever is greatest.

## 3 NIR assessment results

- 3.1.1 The assessment results for all residential dwellings within 300m, indicate the following:
- a. There are 4,733 identified residential dwellings within 300m of the Project.
  - b. Of the 4,733 residential dwellings, 245 are predicted to experience a noise level equal to or greater than 68dB LA10 (18-hour).
  - c. Of these 245 residential dwellings, 28 would experience a change in road traffic noise level greater than 1dB as a result of the Project.
  - d. None of these 28 residential dwellings are predicted to have a contribution from traffic using or expected to use the Project roads of greater than 1dB.
- 3.1.2 The results of the NIR assessment presented above indicate that no dwellings would qualify for noise insulation under the Noise Insulation Regulations 1975.

## References

The Noise Insulation Regulations 1975 (Amendment 1988)  
<http://www.legislation.gov.uk/uksi/1975/1763/contents/made>

Department for Transport and Welsh Office (1988). Calculation of Road Traffic Noise (CRTN).

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