A358 Taunton to Southfields Dualling Scheme

Preliminary Environmental Information Report - Appendix 11.2
Guidance and Standards

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1 Guidance and standards

1.1 Introduction

1.1.1 Details of relevant noise and vibration guidance and standards considered as part of the assessment in the ES chapter are described below.

1.2 Guidance and standards

Design Manual for Roads and Bridges (DMRB) LA 111 *Noise and vibration*

1.2.1 The DMRB is the standard for the design of a new road or improvements to an existing road. As part of DMRB, LA 111 *Noise and vibration* [1] sets out the method for assessing noise and vibration associated with road traffic. DMRB LA 111 *Noise and vibration* provides guidance on the selection of the scheme assessment area and the relevant assessment years. The assessment presented in this ES has been based upon these procedures.

Calculation of road traffic noise

1.2.2 DMRB LA 111 *Noise and vibration* requires that road traffic noise is calculated under the method described in *Calculation of Road Traffic Noise* (CRTN) [2]. This describes a procedure for determining the level of noise from the highway based upon the traffic flow parameters, road surface, propagation distance, screening, intervening ground cover and topographical features between the highway and receptor. This is the accepted methodology to quantify traffic noise levels for use with highway noise assessment procedures.

Transport Analysis Guidance (TAG) Unit A3, Environmental Impact Appraisal, Section 2

1.2.3 The Department for Transport's (DfT) *Transport Analysis Guidance* (TAG) [3] can be used to present the results of a transport scheme appraisal as part of a business case. The noise assessment takes the form of an analysis [4] of noise levels with and without a proposed highway scheme to calculate the monetised impacts of noise. This has been carried out in addition to the assessment presented in this ES and is reported in TAG environmental impacts worksheets.

British Standard (BS) 5228-1:2009+A1:2014 and BS 5228-2:2009+A1:2014 Code of practice for noise and vibration on construction and open sites

1.2.4 BS 5228 [5] provides guidance on the assessment and control of noise and vibration from construction operations. The standard contains detailed information on noise reduction measures and promotes the 'best practicable means' approach to control noise and vibration to reduce the impact on residents and construction workers. A methodology for predicting construction noise is included. The standard also provides criteria for vibration disturbance to people.

BS 7385-2 Evaluation and measurement for vibration in buildings – Guide to damage levels from groundborne vibration

1.2.5 BS 7385-2 [6] provides criteria for the effects of vibration upon buildings.

BS ISO 4866: 2010 Mechanical vibration and shock – Vibration of fixed structures – Guidelines for the measurement of vibrations and evaluation of their effects on structures

1.2.6 BS ISO 4866 [7] provides damage categories methodologies for the measurement and effects of vibration upon buildings.

BS 8233 Guidance on sound insulation and noise reduction for buildings, British Standards Institution

1.2.7 BS8233 [8] provides advice for the control of noise in and around buildings and guidance criteria for noise levels inside new buildings.

Department for Education & Education Funding Agency (2015), Acoustic design of Schools: Performance standards Building Bulletin 93

1.2.8 Building bulletin 93 (BB93) [9] sets out the minimum acoustic performance standards for new build and refurbished school buildings to ensure that the design and construction of school buildings provide acoustic conditions that enable effective teaching and learning.

2 References

[1] Highways England, Transport Scotland, Welsh Assembly, Depratment for Infrastrucutre, Northern Ireland, “Design Manual for Roads and Bridges LA 111, Noise and Vibration, Revision 2,” Highways England, 2020.

[2] Department of Transport Welsh Office, “Calculation of Road Noise Traffic,” Department of Transport, 1988.

[3] Department of Transport, “Transport Analysis Guidance (TAG) Unit A3, Enviornmental Impact Appraisal,” Department of Transport, London, 2021.

[4] Department for Transport, “TAG: Environmental impacts worksheets,” Department for Transport, 2017.

[5] British Standards Institution, “BS 5228-1:2009+A1:2014 and BS 5228-2:2009+A1:2014 Code of Practice for Noise and Vibration Control on Open Construction Sites,” British Standards Institution, 2014.

[6] British Standards Institution, “BS 7385-2 Evaluation and measurement for vibration in buildings - Guide to damage levels from groundborne vibration,” British Standards Institution, 1993.

[7] British Standards Institution, “BS ISO 4866 Mechanical vibration and shock - vibration of fixed struction - Guidelines for the measurement of vibrations and evaluation of their effects on structure,” British Standards Institution, 2010.

[8] British Standards Institution, “BS 8233 Guidance on sound insultation and noise reduction for buildings,” British Standards Institution, 2014.

[9] Department for Education & Education Funding Agency, “Acoustic design of Schools: Performance standards Building Bulletin 93,” 2015.