

The Network Rail (East West Rail Bicester to Bedford Improvements) Order

Transport and Works Act 1992

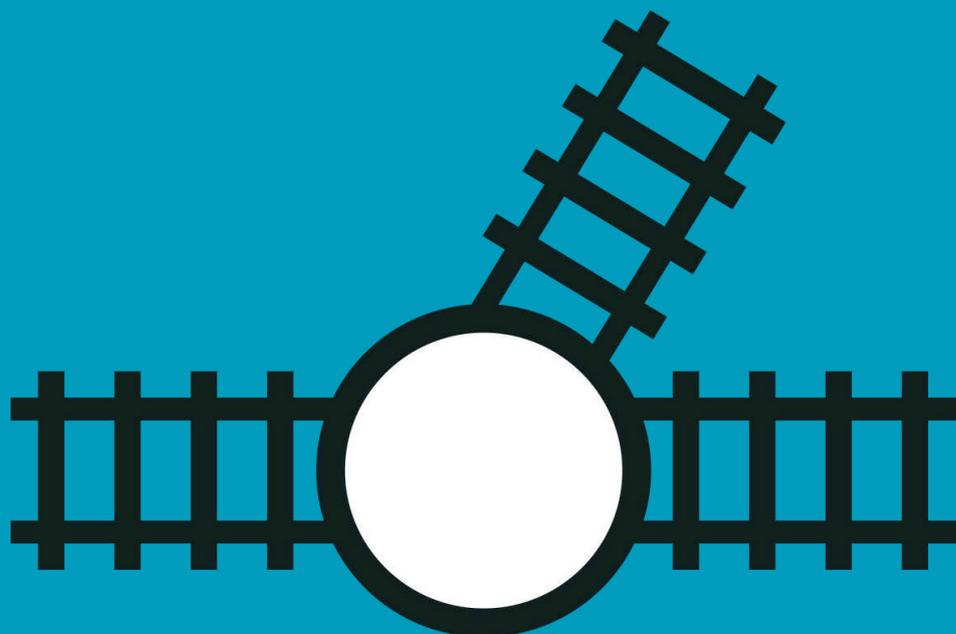
The Transport and Works
(Inquiries Procedure) Rules 2004

Summary of

Proof of Evidence of Andrew Shuttleworth

Environment

NR127



Summary

1.1 Introduction

- 1.1.1 I am a Technical Director with Atkins and have been providing guidance for and review of environmental documentation produced in support of the EWR2 TWAO since late 2016. My evidence provides an overview of the likely environmental impacts of constructing and operating the Order Scheme, with reference to: the likely environmental impacts of construction and operation; measures to avoid, reduce or remedy major or significant adverse impacts; what adverse environmental impacts would remain; and any anticipated environmental benefits.
- 1.1.2 My evidence presents the key aspects of environmental design and construction management incorporated into the Order Scheme and outlines the residual environmental effects of the Scheme by topic and, where appropriate, by Route Section. I then consider the objections made to the TWAO that raise issues covered by the environmental topics in my evidence. I provide evidence on: environmental design; environmental management during construction; land use and agriculture; cultural heritage; air quality; noise and vibration; geology, soils and land contamination; landscape and visual; and water quality and flood risk.

1.2 Environmental design and management

- 1.2.1 The railway corridor already exists between Bicester, Bletchley, Milton Keynes, Bedford and Aylesbury, which has influenced the Order Scheme design and the EIA. The design has sought to avoid, reduce and compensate for environmental impacts wherever possible, using an iterative process informed by EIA and consultation, with environmental and sustainability considerations at its core through application of the mitigation hierarchy. This includes repositioning of infrastructure or temporary works to reduce impact on or avoid environmental constraints and use of modern engineering solutions that reduce environmental impacts.
- 1.2.2 Where it has not been possible to avoid environmental impacts, environmental works are proposed as an integral aspect of the Order Scheme, covering landscape, ecology, noise and vibration, and the water environment. The landscape and ecology works include: planting woodland, trees, hedgerows, scrub, grassland and species-rich grassland; creating of habitats for protected species; retaining and protecting existing vegetation; and providing 25 Ecological Compensation Sites (ECS). Planting will be undertaken in advance where practicable and vegetation will be reinstated in areas of temporary use. The noise and vibration measures include: noise barrier fences in four locations with a

total length of about 2.9km; noise insulation provided at 22 individual properties; and, potentially, vibration mitigation for 11 properties, if feasible. The water environment measures include: compensatory flood storage areas (CFSAs) in 33 locations; works to affected watercourses to meet Water Framework Directive requirements; and drainage basins and swales to mitigate increased runoff rates and potential pollution from new highway alignments.

- 1.2.3 The environmental design will be developed further to accommodate stakeholder considerations and implications of additional survey information and will be subject to approval by the local planning authorities and will be controlled through the planning conditions associated with this TWAO.
- 1.2.4 Construction activities will be managed in line with the Code of Construction Practice (CoCP), (ES Appendix 2.1, Volume 3) (NR16). A Construction Environmental Management Plan (CEMP) will be produced and implemented during construction of the Order Scheme, which will comply with the CoCP and Network Rail requirements. Construction access and traffic will be managed through a framework Construction Traffic Management Plan (CTMP), (ES Appendix 2.2, Volume 3).

1.3 Environmental assessment

- 1.3.1 The Order Scheme has been subject to an Environmental Impact Assessment (EIA), which is reported in the environmental statement (ES) (NR16), in four volumes. I summarise the content of the ES for the topics within the scope of my evidence and outline any relevant information obtained since the ES was published in July 2018. The key aspects for each topic are:
 - 1.3.2 **Land Use and Agriculture** – There will be significant adverse residual effects due to temporary and permanent land acquisition in Route Sections 2A, 2B, 2C, 2D and 2E, mainly from farm landholdings but also from some houses and community facilities, along with the demolition of three residential properties: Swanbourne Old Station, Chuffa Cottage and South View.
 - 1.3.3 **Cultural heritage** - A programme of geophysical survey and archaeological evaluation trenching is underway and the results will be included in the Archaeological Fieldwork Strategy to support the CoCP. A detailed Desk Based Assessment of a site in Route Section 2A has identified it as a medieval windmill mound. There will be significant adverse residual effects due to demolition, alteration or loss of one (possibly two) designated archaeological assets and eleven non-designated archaeological assets, in Route Sections 2A, 2B, 2D and 2E.
 - 1.3.4 **Air Quality** - The results of local authority monitoring and EWR monitoring of roadside locations undertaken during 2017 are provided. No significant residual effects are

expected from road and/or rail emissions during construction or operation of the Order Scheme.

- 1.3.5 **Noise and vibration** - No significant residual adverse noise and vibration effects are predicted from construction, including construction traffic. From operation, there will not be any significant residual adverse airborne noise effects within Route Sections 2A, 2B, 2C, 2E or the HS2 Interface Area. There will be significant residual airborne noise effects at 19 receptors in Route Section 2D, due to the increased frequency and speed of trains. There will be potentially significant residual adverse ground-borne noise and vibration effects at two properties in Route Section 2A and eleven properties in Route Section 2B.
- 1.3.6 **Geology, soils and land contamination** - No significant adverse residual effects are expected during construction or operation of the Order Scheme.
- 1.3.7 **Landscape and visual impact** – During construction and in operation in year 1, there will be significant adverse residual effects on 16 local landscape character areas in Route sections 2A, 2B and 2E and visual receptors associated with 56 viewpoints in Route Sections 2A, 2B, 2C, 2D and 2E. During operation in year 15, the proposed planting will have established and there will be no significant residual effects on the landscape resource, but significant adverse residual effects will remain for visual receptors associated with 15 viewpoints in Route Sections 2A and 2B.
- 1.3.8 **Water quality and flood risk** – Some additional modelling of CFSA's has been undertaken to inform the responses to objections. No significant adverse residual effects on surface water quality or flood risk are expected during construction or operation of the Order Scheme.

1.4 Environmental objections

- 1.4.1 Most of the environmental issues raised can be summarised by topic:
- 1.4.2 **Land Use and Agriculture** – The acquisition of land for environmental works in perpetuity will guarantee that Network Rail can provide and maintain these works, but they would be willing to return this land to the original owner in many locations, subject to agreement of an appropriate maintenance regime. Objections based on the extent of land to be acquired are responded to in each case, but Network Rail will seek to reduce requirements during detailed design, if practicable. The fencing around the construction area and the finished railway will be appropriate to the location and suitable for any farm or other animals kept in adjacent land.
- 1.4.3 **Cultural heritage** – The loss of heritage assets that are considered insufficiently recorded in the ES is responded to in each case. The full detail for the archaeological mitigation will be provided in the Written Scheme of Investigation for the archaeological evaluation of the Order Scheme.

- 1.4.4 **Air Quality** - Control of emissions and dust from construction activity will be managed in line with the CoCP and construction traffic will be managed in line with the Framework CTMP. Some objections raise concerns about emissions from diesel trains, but predicted levels will remain below, often well below, the annual mean objectives in the Air Quality Strategy.
- 1.4.5 **Noise and vibration** - Control of noise from construction activity will be managed in line with the CoCP and construction traffic will be managed in line with the Framework CTMP. Noise from four-coach diesel trains is generally less than 1 dB different to that from similar electric trains, There is less noise mitigation in the Order Scheme than in the 2016 draft ES because a more accurate level of service has been developed for the ES as the basis for assessment. Operational noise levels are a concern along parts of Route Sections 2A, 2B and 2C and details are provided on the locations of noise mitigation measures. Operational noise levels will increase along Route Sections 2D and 2E because service levels and speeds will increase, but noise mitigation does not need to be provided.
- 1.4.6 **Geology, soils and land contamination** – The risk of pollution to groundwater from construction activities on or near landfill site areas will be managed in line with the CoCP.
- 1.4.7 **Landscape and visual impact** - Additional study has identified some locations where the construction footprint can be reduced and existing vegetation in adjacent residential properties retained. Landscape planting will be provided between nearby properties and amended rail and road elements, where sufficient space is available, to limit or screen views. Maintenance of proposed highway embankment side slopes will be undertaken by Network Rail.
- 1.4.8 **Water quality and flood risk** – Some objections raise concerns with the location and/or extent of 13 of the CFSAs and the further modelling work has enabled several locations to be moved and/or reduced in size and one to be omitted.