A303 Sparkford to Ilchester Dualling Scheme TR010036

6.3 Environmental Statement Appendix 4.8 Assessment of Major Accidents and Natural Disasters

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A303 Sparkford to Ilchester Dualling Scheme

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6.3 Environmental Statement
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Table of Contents

1 Assessment of Major Accidents and Natural Disasters

1.1 Introduction

1.1.1 This technical appendix demonstrates the assessment undertaken for major accidents and disasters for the A303 Sparkford to Ilchester Dualling scheme (hereafter referred to as 'the scheme').

1.1.2 The *Infrastructure Planning (EIA) Regulations 2017* require an assessment of 'the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and / or disasters which are relevant to the project concerned'.

1.1.3 The scope of this assessment covers:

- The vulnerability of the scheme to risks of major accidents and / or disasters.
- Any consequential changes in the predicted effects of the scheme on environmental factors.

1.1.4 The overarching objective of this assessment is to ensure that appropriate precautionary actions have been identified and integrated into the design and execution of the scheme, including a consideration of the likelihood of increased frequency of extreme weather events as a result of climate change, to address vulnerability to major accidents and / or natural disasters.

1.2 Definitions

1.1.5 The following scheme-specific definitions related to the assessment of major accidents and disasters (major events) have been identified, based on professional judgement:

- **Major accident**: An event or situation caused by humans that threatens immediate or delayed serious and far-reaching harm to human health, welfare and / or the environment.
- **Natural disaster**: A naturally occurring phenomenon such as an extreme weather event or ground-related hazard events with the potential to cause an event or situation that threatens immediate or delayed serious and far-reaching harm to human health, welfare and / or the environment.

1.3 Methodology

Identification of major accidents and natural disasters

1.3.1 For the purposes of this assessment, major accidents and natural disasters have been identified through a review of the scheme risk registers.

1.3.2 The *Construction (Design and Management) (CDM) Regulations 2015* cover the management of health, safety and welfare when carrying out construction projects. Scheme-specific risk registers have been established and maintained

throughout the development of the scheme design (during development of both options and following the announcement of the preferred option) to ensure any risks as a result of the scheme are reduced as far as possible, and that suitable mitigation and control measures are in place. These scheme-specific risk registers consider risks during construction, operation and maintenance works, and have been reviewed to inform this assessment.

1.3.3 The scheme risk registers include a number of risks that are residual, meaning they cannot be closed out as a result of design amendments or control measures implemented during the options development and design development stage. These risks therefore may not be closed out until construction or maintenance. In these instances where the residual risk would result in an event or situation caused by humans that threatens immediate or delayed serious damage to human health, welfare and / or the environment, these have subsequently been included within this assessment of major accidents and natural disasters (refer to Table 1.1 below).

1.3.4 Certain risks have been identified within the scheme risk registers that would have serious consequences for an individual but would not be far-reaching. Examples include falling from height and strikes with overhead cables. Such risks have been screened out of this assessment of the effects on the environment deriving from the vulnerability of the development to risks of major accidents and / or disasters. This is because these kind of risks would already be managed through risk mitigation and controls included within the risk registers, and do not therefore qualify as a major event.

1.3.5 The identification of natural disasters is not included within the scheme-specific risk registers, and has been based on professional judgement. The list of relevant natural disasters has been compiled by environmental specialists (competent experts) who have an understanding of the baseline conditions and the likely natural disasters that could result during both construction and operation of the scheme.

1.3.6 The major accidents and natural disasters have been tabulated in Table 1.1.

Review of major accidents and natural disasters

1.1.6 Each of the risks contained within Table 1.1 has been reviewed in turn, in consultation with the relevant members of the project team such as environment specialists (competent experts), to determine whether there would be a change to the impacts associated with each environmental factor, and an alteration to the overall conclusions of each chapter of the Environmental Statement (ES) if major accidents and disasters were to occur.

Table 1.1: List of possible major accidents and natural disasters associated with the scheme

ID	Major accident or natural disaster	Hazard sources	Reasonable worst consequences if event did occur	Receptor(s) and associated environmental topic	Scoped in / out of EIA
Major accidents - construction					
1	Major road traffic accident	Person-vehicle accident during construction. Pedestrians crossing the mainline. Movement of construction vehicles along public roads and adjacent to public rights of way.	Death and / or injury to member of the public.	Local community (Chapter 12 People and Communities, Volume 6.1), and human health and wellbeing (Chapter 15 Combined and Cumulative Effects, Volume 6.1).	Scoped out. Contractor to establish appropriate mitigation measures including the prevention of unauthorised crossings and the set-up of temporary pedestrian crossings if sufficient usage. These measures are included within the ***Outline Environmental Management Plan (OEMP) (document reference TR010036/APP/6.7)*** and the Outline Traffic Management Plan (TMP) (Annex B.5 of the OEMP).
			Delays and congestion to the surrounding area resulting in effects to local air quality and local communities.	Sensitive air quality and noise receptor(s) (Chapter 5 Air Quality and Chapter 11 Noise and Vibration, Volume 6.1). Local community (Chapter 12 People and Communities, Volume 6.1).	Scoped out. Contractor to establish appropriate mitigation measures including the prevention of unauthorised crossings and the set-up of temporary pedestrian crossings if sufficient usage.
			Major pollution event (atmospheric and / or watercourses)	Sensitive air quality receptors (Chapter 5 Air Quality, Volume 6.1), habitats and protected species downstream of watercourses (Chapter 8 Biodiversity, Volume 6.1), and watercourses (Appendix 4.3 Road Drainage and the Water Environment assessment summary, Volume 6.3).	Scoped out. Contractor to have emergency response plan / disaster plan in place and implement any measures in the event of an accident in a timely manner to avoid exceedances of the short-term air quality objectives. Contractor to have necessary best practice measures in place as well as emergency spill kit responses.
2	Aircraft collision with high plant and equipment (for example cranes and batching plant)	Working in flight paths of aircraft using Royal Navy Air Station Yeovilton.	Death or injury as a result of air craft falling to ground.	Local community (Chapter 12 People and Communities, Volume 6.1).	Scoped out. Liaison with air station to establish maximum working heights throughout scheme footprint to be undertaken by the contractor in advance of construction works.

ID	Major accident or natural disaster	Hazard sources	Reasonable worst consequences if event did occur	Receptor(s) and associated environmental topic	Scoped in / out of EIA
Major accidents - operation					
3	Major road traffic accident	Increased exposure to traffic due to addition maintenance requirement for kerb drain / linear maintenance	Death or injury to maintenance worker / member of the public	Local community (Chapter 12 People and Communities, Volume 6.1).	Scoped out. Kerb drains / linear drains have only been included within the scheme design if absolutely required. Maintenance Contractor to manage risks associated with kerb drain / linear maintenance.
			Delays and congestion to the surrounding area resulting in effects to local air quality and local communities.	Sensitive air quality and noise receptor(s) (Chapter 5 Air Quality and Chapter 11 Noise and Vibration, Volume 6.1). Local community (Chapter 12 People and Communities, Volume 6.1).	Scoped out. The creation of a dual carriageway would mean that lane closures can take place if necessary whilst still facilitating a free movement of traffic utilising other lanes, resulting in reduced potential for congestion and associated impacts.
			Major pollution event (atmospheric and / or watercourses).	Sensitive air quality receptors (Chapter 5 Air Quality, Volume 6.1), habitats and protected species downstream of watercourses (Chapter 8 Biodiversity, Volume 6.1), and watercourses (Appendix 4.3 Road Drainage and the Water Environment Assessment Summary, Volume 6.3).	Scoped out. The design would incorporate conventional drainage systems to reduce pollution. Emergency response agencies to implement emergency response procedures.
Natural disasters – construction					
4	Slope destabilisation	Extreme weather such as heavy rain and wind.	Potential mobilisation of contaminants leading to pollution of water courses. Damage and loss of property and livelihoods.	Habitats and protected species downstream of watercourses (Chapter 8 Biodiversity, Volume 6.1), soils (Chapter 9 Geology and Soils. Volume 6.1), local community (Chapter 12 People and Communities, Volume 6.1), and watercourses (Appendix 4.3 Road Drainage and the Water	Scoped out. Contractor to have necessary best practice measures in place as well as emergency spill kit responses in place.

ID	Major accident or natural disaster	Hazard sources	Reasonable worst consequences if event did occur	Receptor(s) and associated environmental topic	Scoped in / out of EIA
				Environment Assessment Summary, Volume 6.3).	
5	Snow disruption	Cold weather conditions leading to a heavy snow fall.	Road closures leading to delays and congestion in the surrounding area, resulting in effects to local air quality and local communities.	Sensitive air quality receptors (Chapter 5 Air Quality, Volume 6.1), and local communities (Chapter 12 People and Communities, Volume 6.1).	Scoped out. Contractor to monitor weather conditions and stop work should conditions become too disruptive.
Natural disasters - operation					
6	Major flood event	Extreme weather such as heavy rain and wind.	Potential mobilisation of contaminants leading to pollution of water courses. Damage and loss of property and livelihoods.	Habitats and protected species downstream of watercourses (Chapter 8 Biodiversity, Volume 6.1), soils (Chapter 9 Geology and Soils. Volume 6.1), local community (Chapter 12 People and Communities, Volume 6.1), and watercourses (Appendix 4.3 Road Drainage and the Water Environment Assessment Summary, Volume 6.1).	Scoped out. The proposed drainage philosophy is to replicate, as far as reasonably practicable, an undeveloped site response to rainfall, limiting both the rate and volume of surface water run-off. The rainfall intensities used to calculate the design storms include an allowance for the effects of climate change by allowing for a 40% increase. A Flood Risk Assessment (Appendix 4.6, Volume 6.3) has subsequently been produced based on the drainage design.
7	Snow disruption	Cold weather conditions leading to a heavy snow fall.	Road closures leading to delays and congestion in the surrounding area, resulting in effects to local air quality and local communities.	Sensitive air quality receptors (Chapter 5 Air Quality, Volume 6.1), and local communities (Chapter 12 People and Communities, Volume 6.1).	Scoped out. Salt spreading in line with Area maintenance plan.

1.4 Summary and conclusions

1.4.1 The above assessment has concluded that the risks included within the scheme risk registers would not result in major accidents, during either construction or operation of the scheme, with risk mitigation measures in place.

1.4.2 The above assessment has concluded that the risks of natural disasters in the area would be sufficiently managed and would not therefore result in natural disasters.

1.4.3 As a result, there would be no additional environmental effects as a result of any major accidents or natural disasters with mitigation in place, and the scheme would not increase the chances of such events occurring.