



# HIGH SPEED TWO PHASE ONE INFORMATION PAPER

## E<sub>3</sub>: EXCAVATED MATERIAL AND WASTE MANAGEMENT

This paper outlines the approach for managing excavated material and waste that will arise from the construction of Phase One of High Speed 2 (HS2).

It will be of particular interest to those potentially affected by the Government's proposals for high speed rail.

This paper was prepared in relation to the promotion of the Bill for Phase One of the scheme which is now enacted. Although the contents were maintained and updated as considered appropriate during the passage of the Bill (including shortly prior to the enactment of the Bill in February 2017) the contents are now historic and are no longer maintained.

If you have any queries about this paper or about how it might apply to you, please contact the HS2 Helpdesk in the first instance.

**The Helpdesk can be reached at:**

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# E3: EXCAVATED MATERIAL AND WASTE MANAGEMENT

## 1. Introduction

- 1.1. High Speed Two (HS2) is the Government's proposal for a new, high speed north-south railway. The proposal is being taken forward in two phases: Phase One will connect London with Birmingham and the West Midlands and Phase Two will extend the route to Manchester, Leeds and beyond.
- 1.2. HS2 Ltd is the non-departmental public body responsible for developing and promoting these proposals. The company works to a Development Agreement made with the Secretary of State for Transport.
- 1.3. In November 2013, HS2 Ltd deposited a hybrid Bill<sup>1</sup> with Parliament to seek powers for the construction and operation of Phase One of HS2 (sometimes referred to as 'the Proposed Scheme'). The Bill is the culmination of nearly six years of work, including an Environmental Impact Assessment (EIA), the results of which were reported in an Environmental Statement (ES) submitted alongside the Bill. The Secretary of State has also published draft Environmental Minimum Requirements (EMRs), which set out the environmental and sustainability commitments that will be observed in the construction of the Proposed Scheme.
- 1.4. The Bill is being promoted through Parliament by the Secretary of State for Transport (the 'Promoter'). The Secretary of State will also appoint a body responsible for delivering the Proposed Scheme under the powers granted by the Bill.
- 1.5. This body is known as the 'nominated undertaker'. There may well be more than one nominated undertaker – for example, HS2 Ltd could become the nominated undertaker for the main railway works, while Network Rail could become the nominated undertaker for works to an existing station such as Euston. But whoever they are, all nominated undertakers will be bound by the obligations contained in the Bill and the policies established in the EMRs.
- 1.6. These information papers have been produced to explain the commitments made in the Bill and the EMRs and how they will be applied to the design and construction of the Proposed Scheme. They also provide information about the Proposed Scheme itself, the powers contained in the Bill and how particular decisions about the project have been reached.

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<sup>1</sup>The High Speed Rail (London – West Midlands) Bill, hereafter 'the Bill'.

## 2. Overview

- 2.1. This paper outlines the approach for managing excavated material and waste that will arise from the construction of the Proposed Scheme. This is addressed under the Waste and Material Resources topic of the Environmental Statement (ES) written in support of the hybrid Bill.
- 2.2. Only if excavated material is not required or is unsuitable for the construction of the Proposed Scheme will it be considered waste.

## 3. Environmental effects of Waste Management

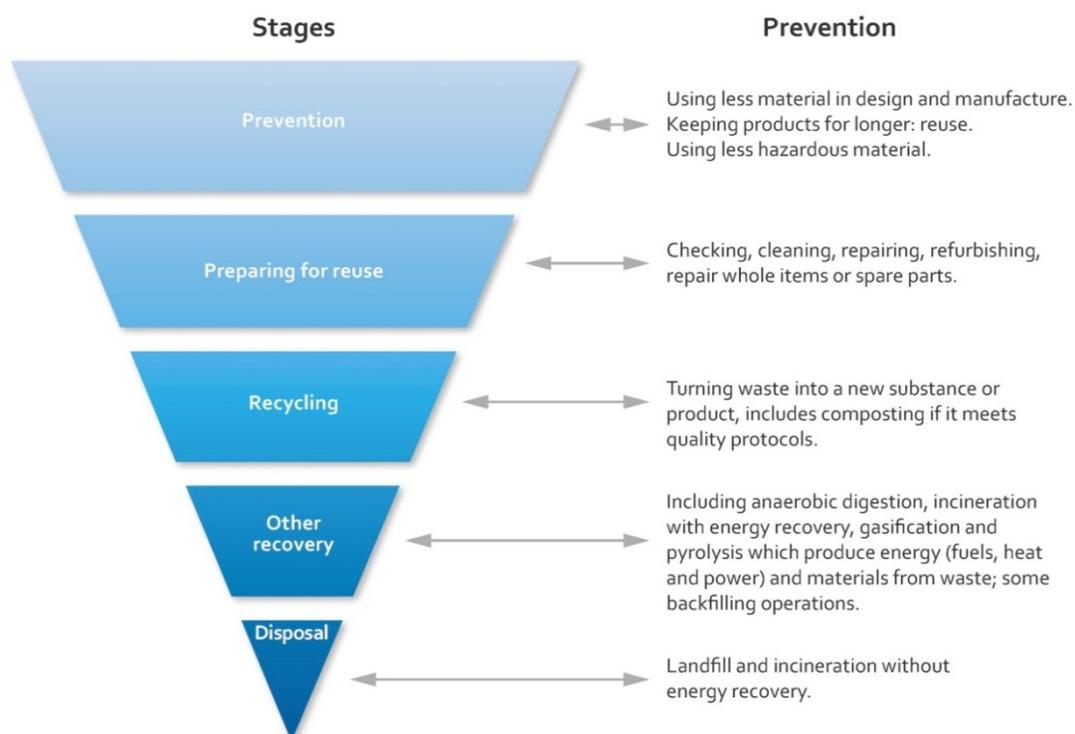
- 3.1. The design, construction and operation of the Proposed Scheme will lead to the generation of solid waste. In England and Wales, waste producers are legally required to apply the waste hierarchy to decisions concerning the management of waste<sup>2</sup>.
- 3.2. The waste hierarchy as described in the Government Review of Waste Policy in England 2011<sup>3</sup> (see Figure 1) sets out the preferred approach to the management of waste from waste prevention, to reuse, recycling, energy recovery and landfill. It supports the need to achieve efficient use of material resources, minimise the amount of waste produced (or otherwise increase its value as a resource) and reduce, as far as possible, the amount of waste that is disposed to landfill, in keeping with the HS2 Sustainability Policy.
- 3.3. HS2 will apply the waste hierarchy in relation to the reduction and sustainable management of solid waste generated from the design, construction and operation of the Proposed Scheme to:
  - improve resource efficiency and environmental performance; and
  - reduce costs.
- 3.4. All waste generated from the design, construction and operation of the Proposed Scheme will be managed in accordance with the waste hierarchy. This places waste prevention as the preferred option at the top, followed by reuse, recycling and other recovery, with landfill disposal at the bottom as the last resort.

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<sup>2</sup> The Waste (England and Wales) Regulations 2011 (SI 2011 No. 988) (as amended), article 12 (1). London, HMSO, in accordance with Directive 2008/98/EC on waste (Waste Framework Directive).

<sup>3</sup> Defra (2011), Government Review of Waste Policy in England 2011. London, HMSO.

Figure 1: Waste hierarchy



- 3.5. Excavated material will only be classified as waste if it is surplus to the design requirements of the Proposed Scheme. Where the transport of surplus excavated materials would result in significant environmental effects, sustainable placement will be used, in line with the HS2 Strategy for the Sustainable on-Site Placement of Surplus Excavated Materials<sup>4</sup>. This is in accordance with paragraphs (2) and (3) of article 12 of the Waste (England and Wales) Regulations 2011 (as amended) which allow deviation from the hierarchy “so as to achieve the best environmental outcome where this is justified by life-cycle thinking on the overall impacts of the generation and management of the waste” when considering “the overall environmental, human health, economic and social impacts.”
- 3.6. The waste hierarchy advocates the use of landfill disposal only as a last resort due to a range of potential adverse effects associated with the use of landfill. These include natural resource depletion, methane production and nuisance effects (e.g. dust and odour). There is also a need to conserve existing landfill capacity for wastes for which there is currently no alternative treatment option that can be used to recover material resources and/or energy.

<sup>4</sup> See Information Paper E19: Sustainable Placement of Surplus Excavated Material

## 4. Design approach and mitigation

- 4.1. An integrated design approach has been developed to use excavated material to satisfy the fill material requirements wherever reasonably practicable. This includes reuse of all topsoil and agricultural subsoil as close to the point of excavation as practicable.
- 4.2. A 'Contaminated Land: Applications in Real Environments' (CL:AIRE) Code of Practice Materials Management Plan will also be prepared in advance of the implementation of the integrated design approach. This will set out how the suitable excavated material is to be used as a resource within the construction of the Proposed Scheme.
- 4.3. For the excavated material which cannot be beneficially reused for the earthworks of the Proposed Scheme, the nominated undertaker will seek timely opportunities for such material to be used in other local construction projects or the restoration of mineral sites, provided that the transportation of that material does not result in significant environmental effects.
- 4.4. Where the transportation of excavated material would result in significant environmental effects, sustainable placement will be used. Sustainable placement is the local on-site placement of excavated material to avoid causing environmental effects associated with the transportation of that material. Local sites for sustainable placement have been selected on the basis of their suitability for the disposal of excavated material.

## 5. Transportation of excavated materials

- 5.1. For distances where it is reasonably practicable excavated material will be moved along the construction corridor of the Proposed Scheme. For longer distances or when it is not reasonably practicable to use the construction corridor, excavated material will be transported by public highway along designated construction routes. Where reasonably practicable, rail has been considered for the transportation of large quantities of excavated material over long distances.
- 5.2. The traffic and transport impacts and effects from the movement of excavated material, demolition material and construction waste are contained in the ES and the transport assessment appendix in Volume 5.

## 6. Material generation and reuse

- 6.1. The construction of the Proposed Scheme will lead to the generation of approximately 130 million tonnes of excavated material, over 86% of which will be reused within the project for the construction of engineering and environmental mitigation earthworks. The remaining excavated material is surplus to requirements or is unsuitable for reuse due to contamination and cannot be remediated.

- 6.2. The Proposed Scheme will also lead to the generation of approximately 1.7 million tonnes of demolition material. It is anticipated that at least 90% of this material will be diverted from landfill through reuse, recycling and recovery.
- 6.3. It is estimated that construction of the Proposed Scheme will lead to the generation of approximately 3.1 million tonnes of construction waste, at least 90% of which will be diverted from landfill through reuse, recycling and recovery.
- 6.4. A smaller quantity of domestic type waste will be produced during construction from worker accommodation sites.

## **7. More information**

- 7.1. More detail on the Bill and related documents can be found at: [www.gov.uk/HS2](http://www.gov.uk/HS2)