

# HS2

## Phase 2a - Control of Environmental Impacts

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26<sup>th</sup> March 2018

# What today's presentation will cover

1. The legal framework
  - Controls within the Bill
  - Controls outside the Bill
  - Existing Legislation
2. Principles of environmental design

# The legal framework

## Controls within the Bill

- Scope of works (Sch 1 &2)
- Planning Conditions (Sch 17)
- Bringing into use scheduled works (Sch 17)
- Restoration of construction sites (Sch 17)
- Restoration of land following temporary possession and use (Sch 15)
- Construction of replacement buildings (Clause 55)
- Protective provisions (Sch 32)
- Highways approvals (Sch 4)

## Controls outside the Bill

### Environmental Minimum Requirements

- General Principles
- Code of Construction Practice (Information paper D3)
- Planning Memorandum
- Heritage Memorandum
- Environmental Memorandum
- Undertakings and Assurances

## Existing Legislation

Unless expressly or impliedly disapplied or modified by the Bill, existing legislation will apply

- e.g. Section 61 of the Control of Pollution Act (noise)
- e.g. Licences for affected species
- e.g. Environmental permitting for waste

# Planning conditions (Schedule 17)

- Bill provides deemed planning permission subject to conditions set out in Schedule 17
- Schedule 17 includes conditions requiring various matters to be subject to approval by local planning authority
- Extent and scope of approvals depends on whether local planning authority becomes a “qualifying authority” (through signing the Planning Memorandum)

Controls within the Bill

Controls outside of the Bill

Existing legislation

# Planning conditions (Schedule 17)

IP E1

IP B2

## Operations and Works

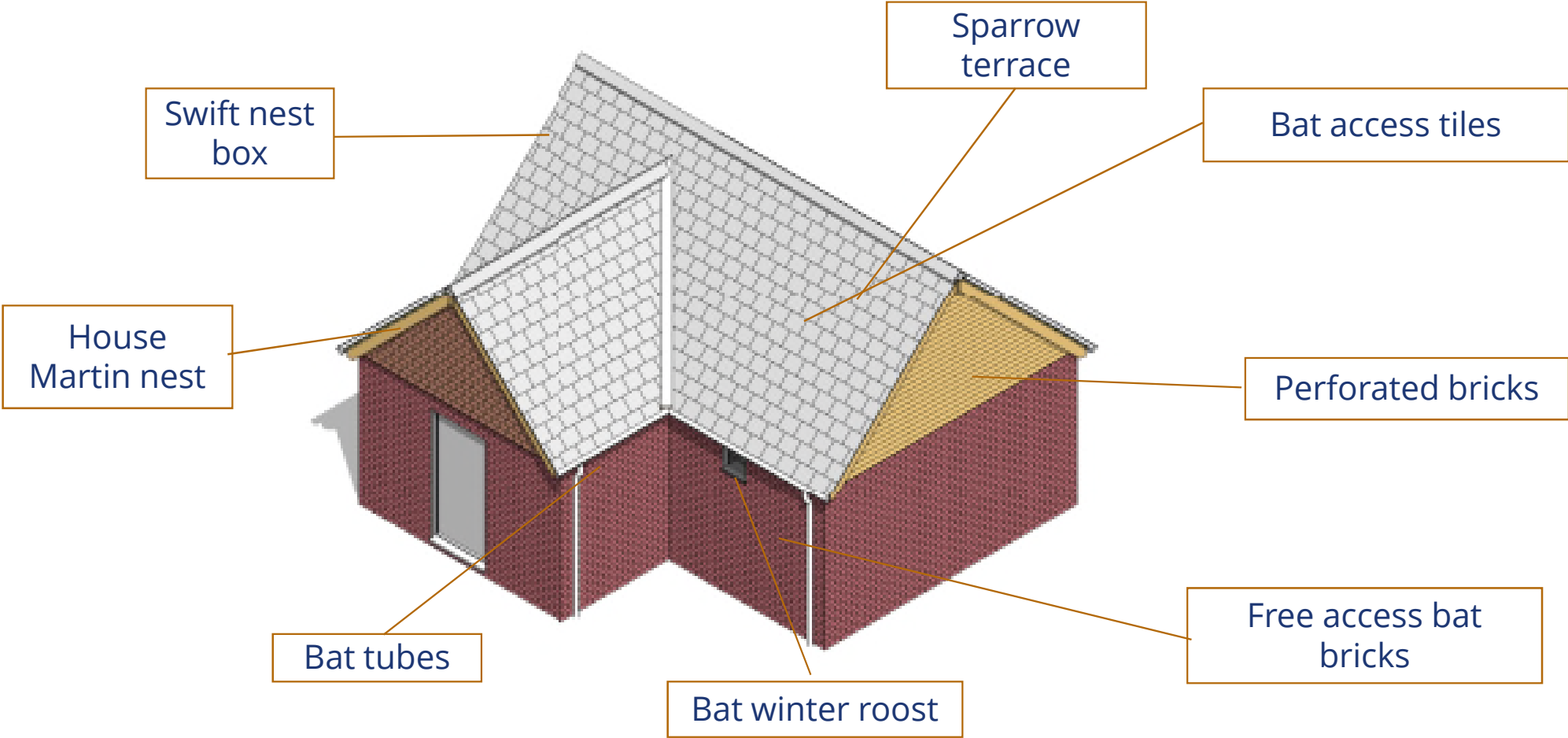
- Qualifying authorities can refuse to approve or condition the approval of plans and specifications for most permanent, above ground works, on certain specified grounds
- Provisions do not apply to temporary works, underground works (except part of stations), tunnel or railway track bed

Controls within the Bill

Controls outside of the Bill

Existing legislation

# Example from Phase One – Drayton Bassett Bat House



# Planning conditions (Schedule 17)

IP E1

IP B2

## Construction arrangements

Conditions apply to construction arrangements relating to:

- Handling of reusable spoil or topsoils
- Storage sites for construction materials, spoil or topsoils
- Works screening
- Artificial lighting
- Dust suppression
- Road mud control measures
- Construction camps

Construction arrangements may be subject to class approval by the Secretary of State (except for construction camps)

Controls within the Bill

Controls outside of the Bill

Existing legislation

# Planning conditions (Schedule 17)

IP E1

IP B2

## Construction camps and road transport

### Construction camps

- Approval of residential accommodation on site
- Cannot be part of the Class Approval – will always require site specific approval

### Road transport

- Approval of lorry routes to and from worksites with more than 24 lorry movements per day

Controls within the Bill

Controls outside of the Bill

Existing legislation



# Planning conditions (Schedule 17)

IP E1

IP B2

## Bringing into use

Bringing into use scheduled works

- To ensure appropriate mitigation for the permanent works and their operation, approval must be sought from the relevant local authority before a Scheduled Work can be brought into use, unless that work is underground

Progressive engagement on mitigation

- Bringing into use approvals are sought late in the construction programme
- The Promoter will engage with local authorities and statutory consultees during the design approvals to get early feedback

Controls within the Bill

Controls outside of the Bill

Existing legislation

# Planning conditions (Schedule 17)

IP D12

IP E1

## Borrow pits

- Qualifying authorities to approve plans and specifications for the excavation of bulk material from borrow pits and methods of working, including arrangements for noise, dust, vibration and screening

## Restoration of borrow pits

- Approval of scheme of restoration before borrow pit excavation commences
- Aim to restore land to a condition suitable for its original use, after excavation

## Restoration of construction sites

- Qualifying authorities also approve schemes to restore construction sites

Controls within the Bill

Controls outside of the Bill

Existing legislation

# Planning conditions (Schedule 17)

## Context Reports

Each planning authority must be provided with a document setting out the proposed scheme and programme for Schedule 17 consents



Request for Approval	2017 quarters				2018 quarters				2019 quarters				2020 quarters				2021 quarters				2022 quarters				2023 quarters				2024 quarters				2025 quarters				2026 quarters			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Ecological mitigation																																								
South Heath cutting																																								
Wendover Dean viaduct																																								
Small Dean viaduct																																								
Wendover green tunnel																																								
Wendover north cutting																																								
Stoke Mand. bypass																																								
Stoke Mand. south embankment																																								
Aylesbury south embankment																																								
Thame Valley viaduct																																								
Bicester Road embankment																																								
Bicester Road realignment																																								
Waddesdon south cutting																																								
Quinton south & Dad embankments																																								
Grendon Underwood embankment																																								
Calvert Cutting																																								
Aylesbury Link railway line realign.																																								
Calvert IMD																																								
Tayford viaduct																																								
Godington east and west viaducts																																								
Chetwode Cutting																																								
Westbury viaduct																																								
Turweston cutting																																								
Bringing into Use																																								
Lony route submissions																																								
Class Approval																																								
Small Dean viaduct construction camp																																								

Controls within the Bill

Controls outside of the Bill

Existing legislation

# Environmental Minimum Requirements

## General Principles plus four annexes

- Published in July 2017 with the hybrid Bill
- Currently 'draft' to be finalised upon Royal Assent



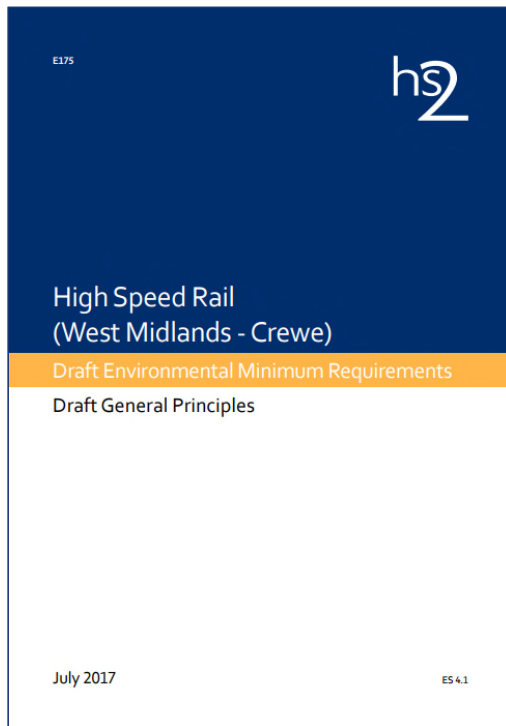
Controls within the Bill

Controls outside of the Bill

Existing legislation

# Environmental Minimum Requirements

## General Principles



- Nominated Undertaker and contractors contractually bound to comply with Environmental Minimum Requirements
- Impacts which have been assessed in the Environmental Statement will not be exceeded (subject to provisos in para 1.1.3 and 3.1.8)
- Requirement to use reasonable endeavours to adopt mitigation measures that will further reduce any adverse environmental impacts

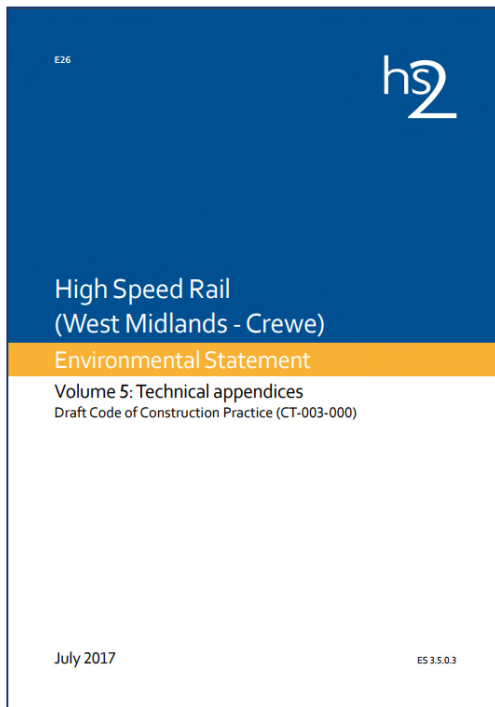
Controls within the Bill

Controls outside of the Bill

Existing legislation

# Environmental Minimum Requirements

## Annex 1: Code of Construction Practice



- Lead contractors and sub contractors will be contractually obliged to comply with the Code of Construction Practice
- Nominated undertaker and contractors will be contractually obliged to have an Environmental Management System (certified to ISO14001)

Controls within the Bill

Controls outside of the Bill

Existing legislation

# Environmental Minimum Requirements

## Annex 1: Code of Construction Practice – Local Environmental Management Plans



- Code of Construction Practice has a requirement for Local Environmental Management Plans
- Local Environmental Management Plans build on general environmental requirements of the Code of Construction Practice and set out specific measures within each local authority area

Controls within the Bill

Controls outside of the Bill

Existing legislation

# Environmental Minimum Requirements

## Annex 1: Code of Construction Practice - requirements

### General requirements

#### Examples:

- Lead contractors to sign up to considerate constructors scheme
- Core working hours
- Community engagement framework
- Pollution incident control measures
- Carbon Management Plan requirement



### Site-specific requirements

#### Examples:

- Dust and air quality management – covering stockpiles
- Control of invasive and non-native species
- Protection of trees
- Noise and vibration – best practicable means
- Workforce travel plans

Controls within the Bill

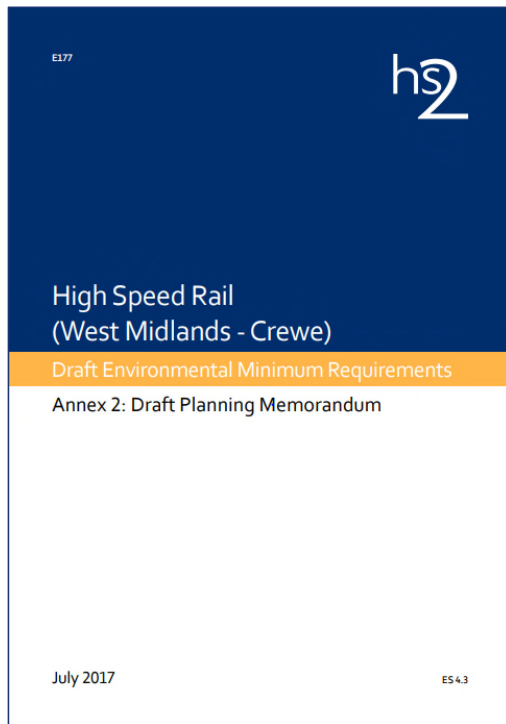
Controls outside of the Bill

Existing legislation



# Environmental Minimum Requirements

## Annex 2: Planning Memorandum



- Details responsibilities of “qualifying authorities”
- The qualifying authorities and nominated undertaker sit on a Planning Forum (established in 2017), which assists effective implementation of the planning regime

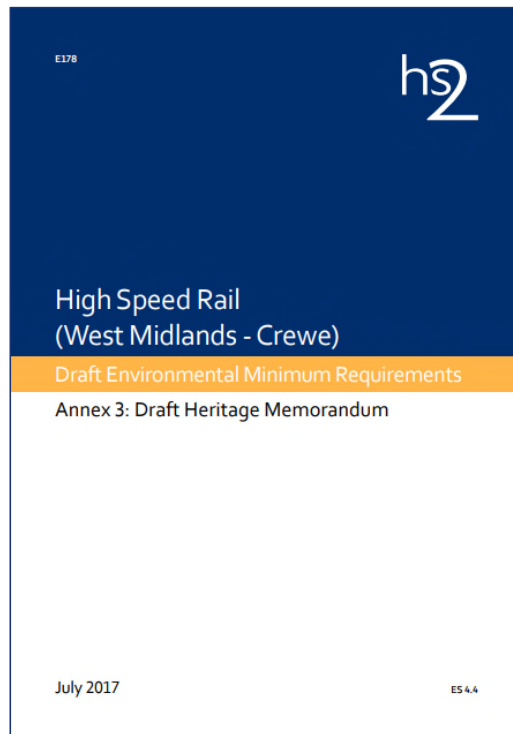
Controls within the Bill

Controls outside of the Bill

Existing legislation

# Environmental Minimum Requirements

## Annex 3: Heritage Memorandum



- Sets out how the historic environment (including heritage assets and their setting) will be addressed during the design and construction (including role of Heritage Agreements)
- A specialist heritage sub-group to the planning forum has been set up to provide the framework for effective engagement and information sharing on high-level technical matters

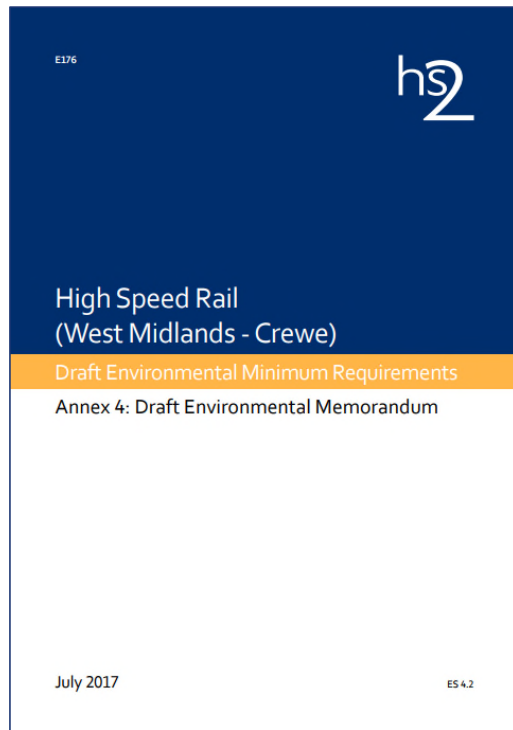
Controls within the Bill

Controls outside of the Bill

Existing legislation

# Environmental Minimum Requirements

## Annex 4: Environmental Memorandum



- Relates to the environmental aspects of the design and construction
- National Environmental Forum comprising the Agencies (Historic England, Environment Agency and Natural England) and representatives from relevant Government departments, including the Forestry Commission.

Controls within the Bill

Controls outside of the Bill

Existing legislation

# Environmental Minimum Requirements

## Undertakings and Assurances (U&As)

- Undertakings & Assurances - commitments by the Promoter to Parliament or Beneficiary of commitment
- The Register of Undertakings & Assurances is published on Royal Assent, however drafts are published periodically during the Hybrid Bill Process

Phase 2a Register of Undertakings and Assurances				
Beneficiary (to whom)	U&A Text (where relevant)	Subject	Reference	Date issued
Section A: undertakings and assurances that have general application				
Users: Understanding the hybrid Bill				
General	Following Royal Assent to the Bill, a nominated undertaker is expected to be appointed to construct and maintain Phase 2a of HS2. Any nominated undertaker will be contractually obliged to comply with all relevant undertakings and assurances made by the Promoter in regard to construction and operation of the Proposed Scheme.	Compliance with undertakings and assurances	Paragraph 4.1, Information Paper B5: Compliance with Undertakings and Assurances. Version 1.0	17/07/201
General	<p>3.1 The Office of Rail and Road (ORR) is the independent safety and economic regulator for Britain's railways. Its functions include setting Network Rail's funding and outputs as the monopoly operator of the network, and enforcing delivery and ensuring fair access to that network.</p> <p>3.2 Its high-level objectives are set in section 4(1) of the Railways Act 1993. Although they could be interpreted as requiring the ORR to facilitate the construction of the Proposed Scheme, the Government considers that it is appropriate to include a specific objective to that effect. This will help to avoid confusion about the ORR's role in relation to the Proposed Scheme and its role in relation to the wider rail network. The same approach was taken in the HS2 Phase One Act and the Crossrail Act. This new objective will sit alongside and is not intended to override the ORR's existing objectives.</p> <p>3.3 Once the construction of the Proposed Scheme is complete, the Secretary of State will lay regulations before Parliament that remove this specific item from the objectives of the ORR, as the Proposed Scheme will then be part of the operational railway network and fully encompassed by the existing legislation on the ORR's role.</p>	Office of Rail and Road (ORR)	Paragraphs 3.1 to 3.3, Information Paper B7: Railway Powers in the hybrid Bill	17/07/201

Noise and vibration assurance example: "The nominated undertaker will reduce ground-borne noise and vibration from the temporary and permanent railways as far as is reasonably practicable"



# Demonstrating Environmental Minimum Requirements compliance

“..the nominated undertaker will develop an environmental management system (EMS) in accordance with BS EN ISO 14001. The EMS provides the processes by which environmental management, both within the nominated undertaker’s organisation and in relation to its operations, is undertaken to ensure the relevant findings of the Environmental Statement are addressed through the construction phase”



Controls within the Bill	<b>Controls outside of the Bill</b>	Existing legislation
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# Ensuring compliance with noise commitments

## Rolling stock

Train manufacturer incentivised to reduce noise through contract

## The track

Early procurement of track design to consider measures to reduce noise

## Civils

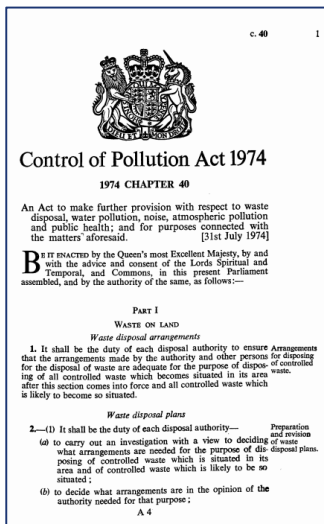
Mitigation (noise fence barriers and earth bunds)

## Insulation

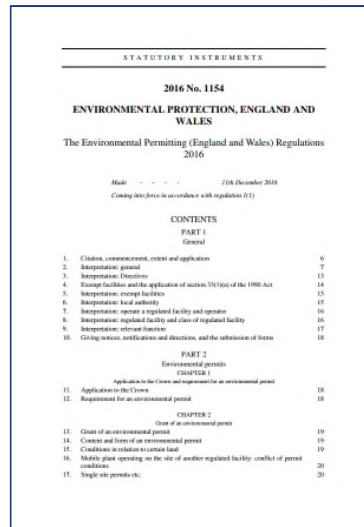
Secondary glazing

# Existing legislation

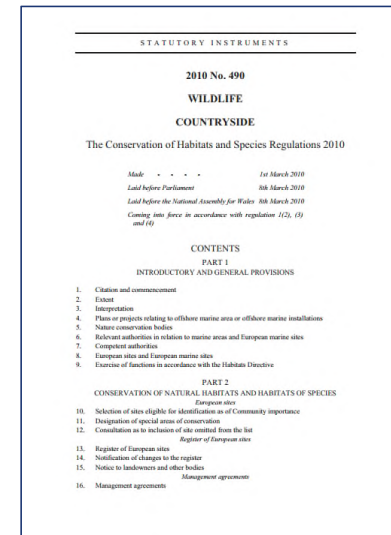
Unless a piece of legislation will be expressly or impliedly disapplied, or modified by the Bill it will continue to apply as normal to the design and construction of the Proposed Scheme



Section 61  
consent  
under  
Control of  
Pollution  
Act 1974



The  
Environmental  
Permitting  
(England and  
Wales)  
Regulations  
2016 for waste  
permitting



Licences for  
affected  
species  
(issued under  
Conservation  
of Habitats  
and Species  
Regulations  
2010)

Controls within the Bill

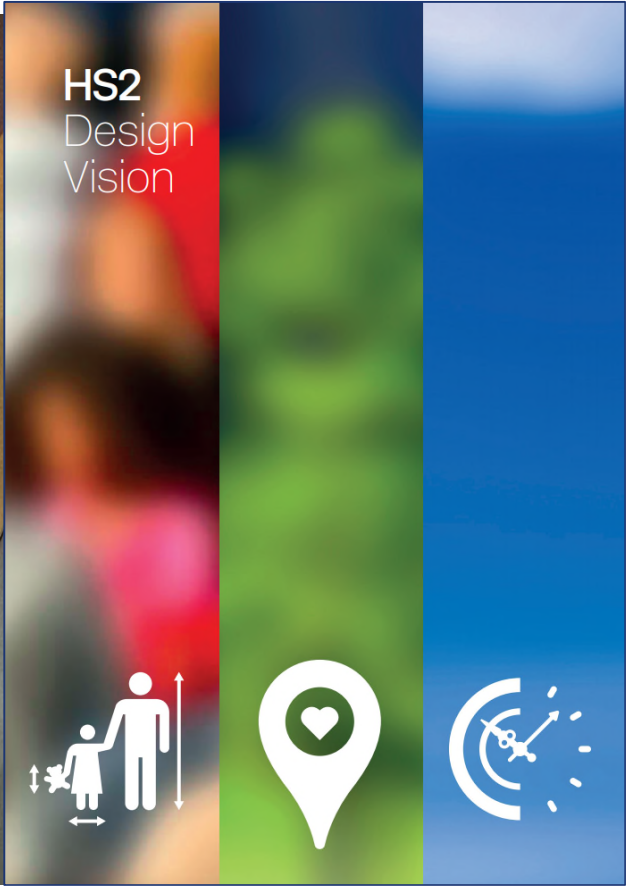
Controls outside of the Bill

Existing legislation

# Principles of environmental design



# HS2 Design Vision



**People**  
Design for everyone  
to benefit and enjoy



**Place**  
Design for a sense  
of place



**Time**  
Design to stand  
the test of time

# HS2 Landscape Design Approach



HS2 | Landscape Design Approach

**Enhance**

A landscape in which HS2 may be potentially highly visible is likely to require a bold landscape design approach to create effective screening and integration, but also gives the opportunity for enhancement of local landscape character.

Measures may include large scale earthworks to integrate HS2 into the landscape, acting with large scale woodland planting to integrate the railway and screen noise barriers. Connected networks can be developed to enhance and link local water bodies, streams and waterways with woodland, field and hedgerow habitats to deliver overall landscape enhancement.

**Restore**

HS2 may traverse a landscape that has lost or is losing original features and qualities that provided its intrinsic landscape character. The opportunity is to restore and significantly improve existing landscape character.

The approach required may be gently graded earthworks that fit with distinctive local topography, whilst also providing visual screening. Extensive woodland and hedgerow planting to screen and integrate the railway whilst also rebuilding the local landscape pattern and restoring its character. Reconnected cycle and pedestrian routes will help to promote permeability.

**Transform**

Some areas through which HS2 is planned may be in very poor landscape condition, or are of a character that HS2 can bring bold transformation that can also provide wide benefits and support local economies. The opportunity for HS2 bringing transformation and wide reaching positive landscape change may occur both in rural and urban locations.

Public open space for local community and businesses may be created to include a range of leisure and recreational activities. Distinctive earthworks and artworks can be combined with water bodies and woodlands to create bold new spaces to link with the wider landscape and public rights of way networks.

9

# Reducing visual impact - typical sections

## Typical embankment



## Typical section at grade



## Typical section at cutting



# Reducing visual impact

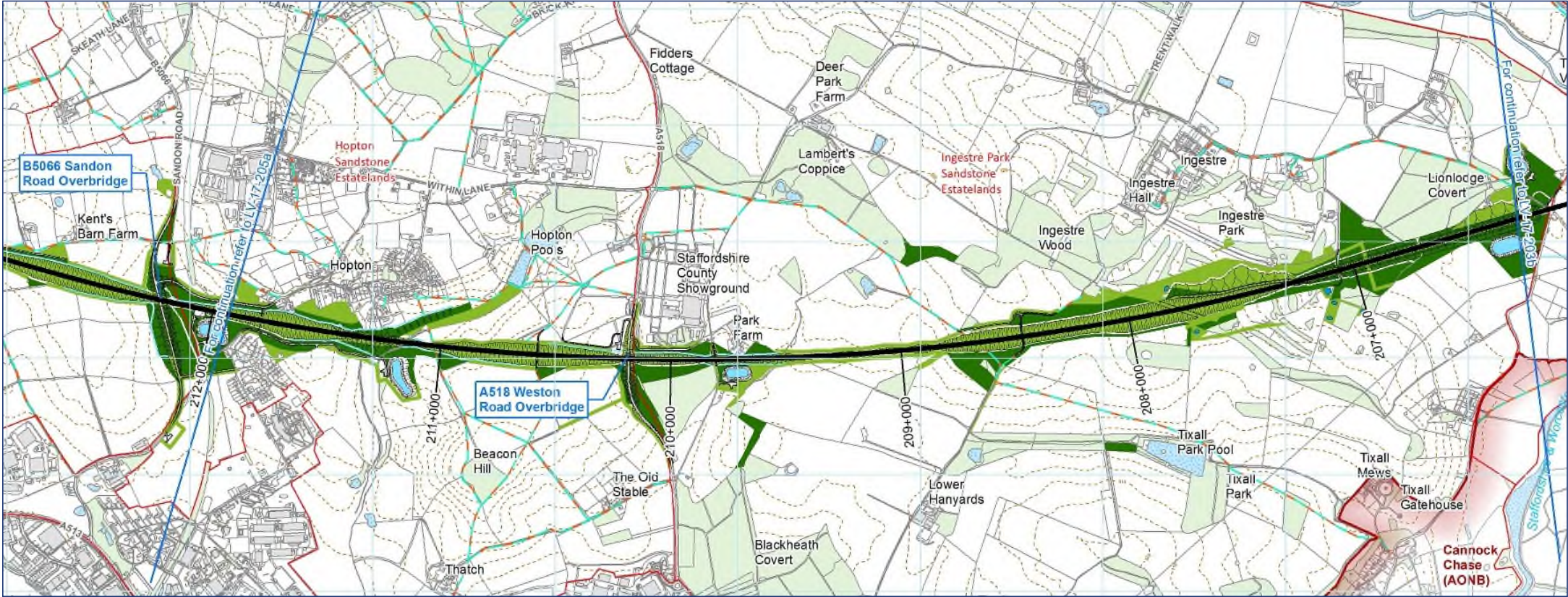


Current  
baseline –  
summer  
view

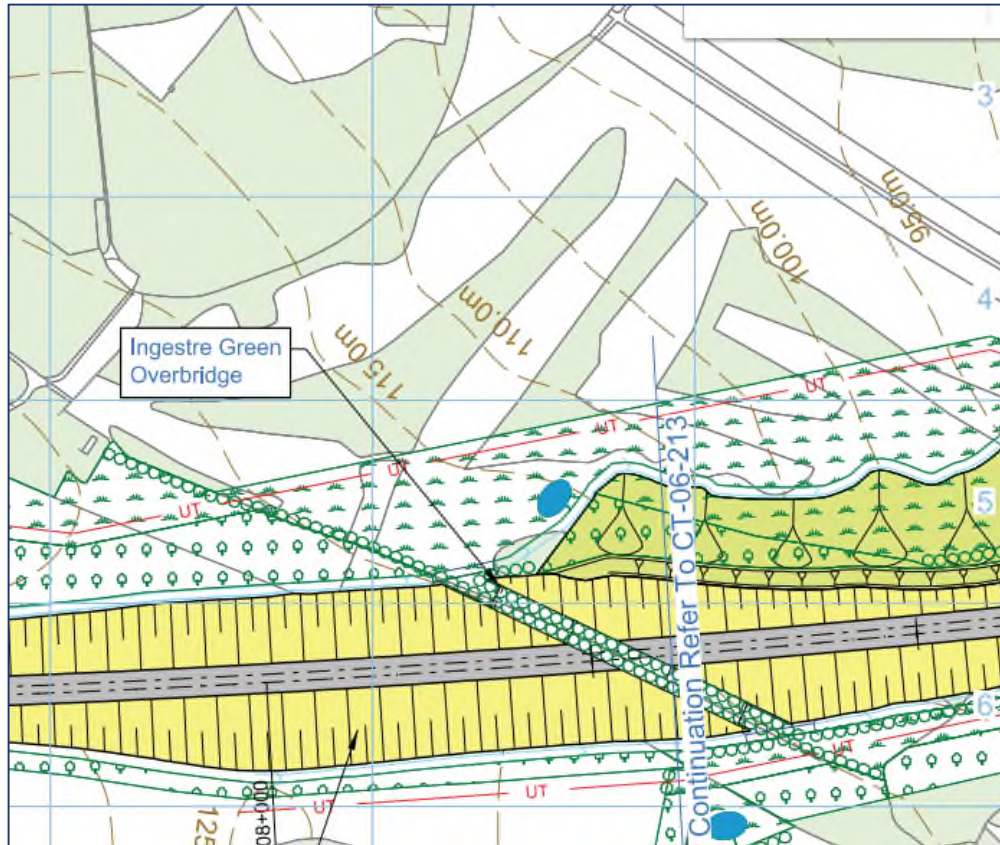


Summer  
verifiable  
photo-  
montage  
–  
Operation  
year 15  
(2042)

# The Green Corridor



# Green Overbridges



Ingestre Green Overbridge



A21 Lamberhust Bypass  
land bridge (taken from HS2  
Landscape Design Approach  
Document)

# No net loss in biodiversity

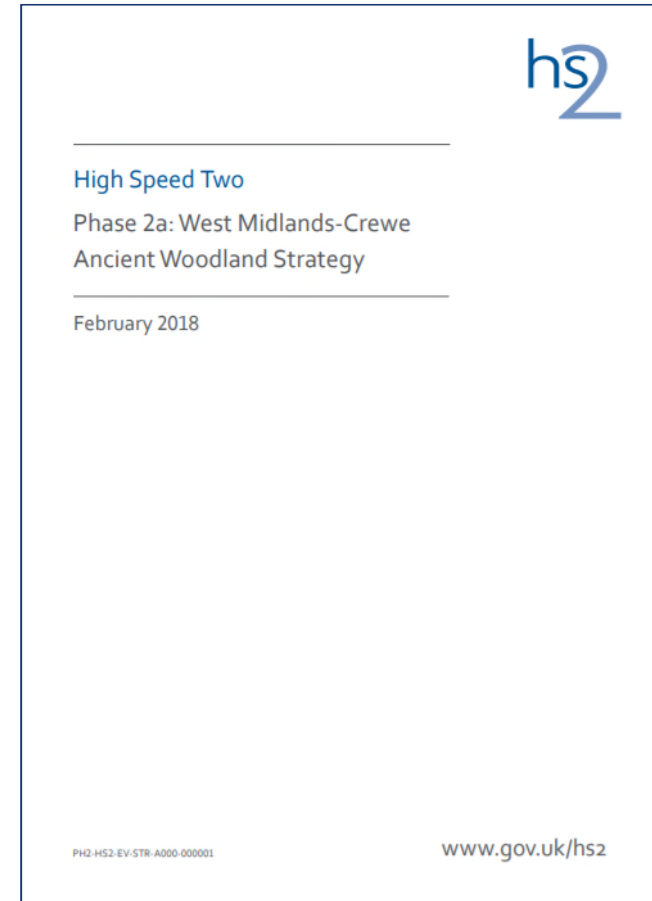


“The Proposed Scheme has the objective of seeking to achieve **no net loss in biodiversity** at a route-wide level”

- The scheme design is based on a professional assessment to determine the appropriate mitigation to address its likely ecological impacts.
- Policy commitment is measured using a metric to calculate all likely losses and gains of biodiversity on the Proposed Scheme
- Used as an accounting tool to check that the level of mitigation provided for in the hybrid Bill is appropriate

# Ancient Woodland and Ancient/Veteran trees

- Loss of 10.2ha (across 10 woodlands) and of 27 ancient/veteran trees
- Bespoke package of measures for each affected woodland totalling:
  - 77.1ha of new woodland planting
  - The translocation of up to 10.2ha of ancient woodland soils
  - Enhancement of 12.9ha of ancient woodland
- We aim to reduce the effect on woodland and ancient/veteran trees in detailed design





# Ancient Woodland Compensation Planting

