



Control of Environmental Impacts

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What today's presentation will cover

1. The legal framework for environmental control through design and construction
2. The tools used to implement control
3. How this will practically be delivered
4. How we will ensure compliance

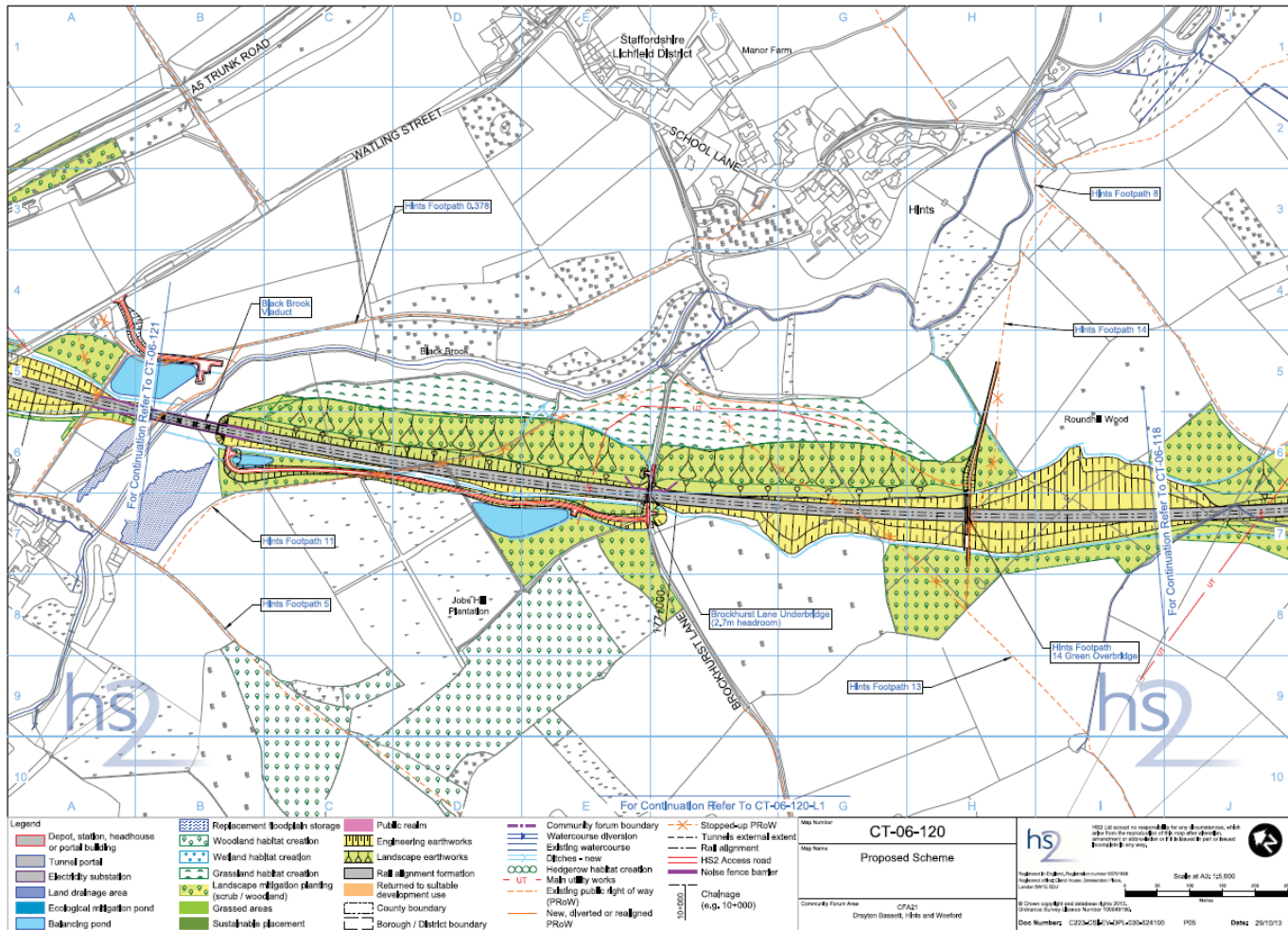
Environmental Control over HS2

- How HS2 affects people and the natural environment has been fundamental to the development of our plans
- Environmental appraisals and assessments are a continuous process
 - Determined the route
 - Influenced mitigation, restoration plans and compensation measures
 - Assists the planning process before Parliament – e.g. Hints
 - Will influence the detailed design of the proposals, detailed planning arrangements, restoration plans, the operation of the railway and future maintenance
- Our approach is designed to reduce the adverse effects of HS2 on the environment

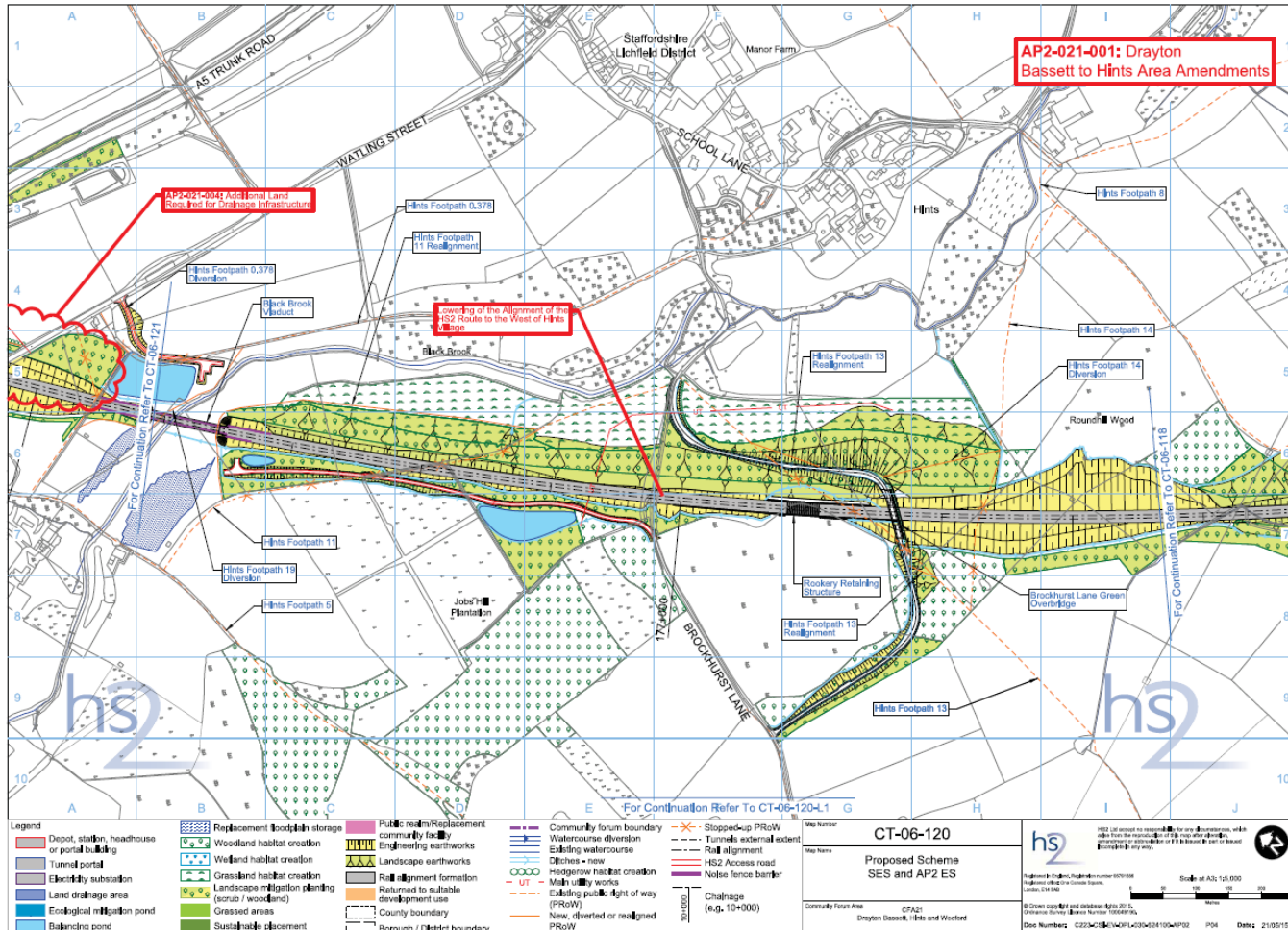
Development of design through the House of Commons Select Committee process



Development of design through the House of Commons Select Committee process



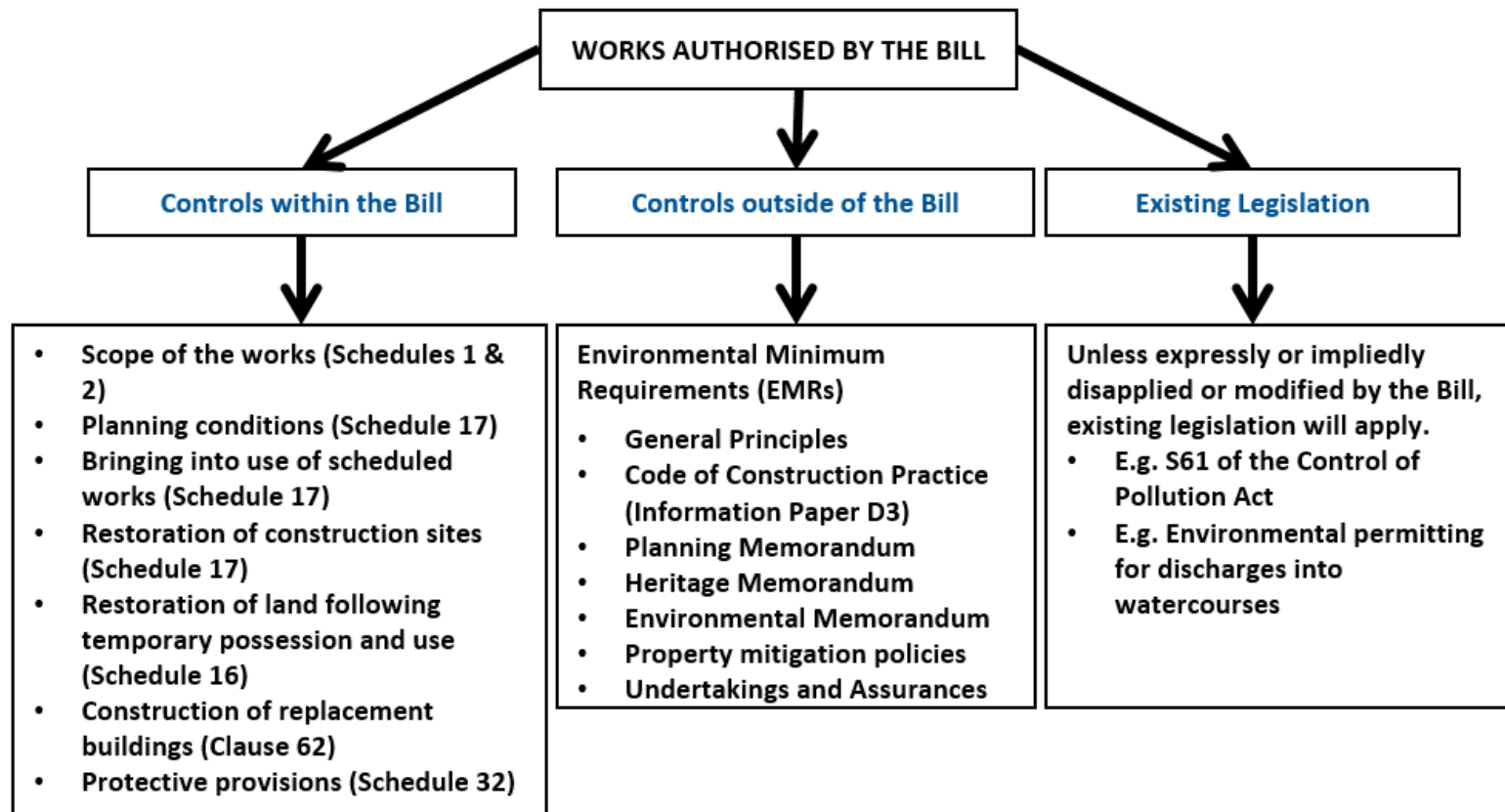
Development of design through the House of Commons Select Committee process



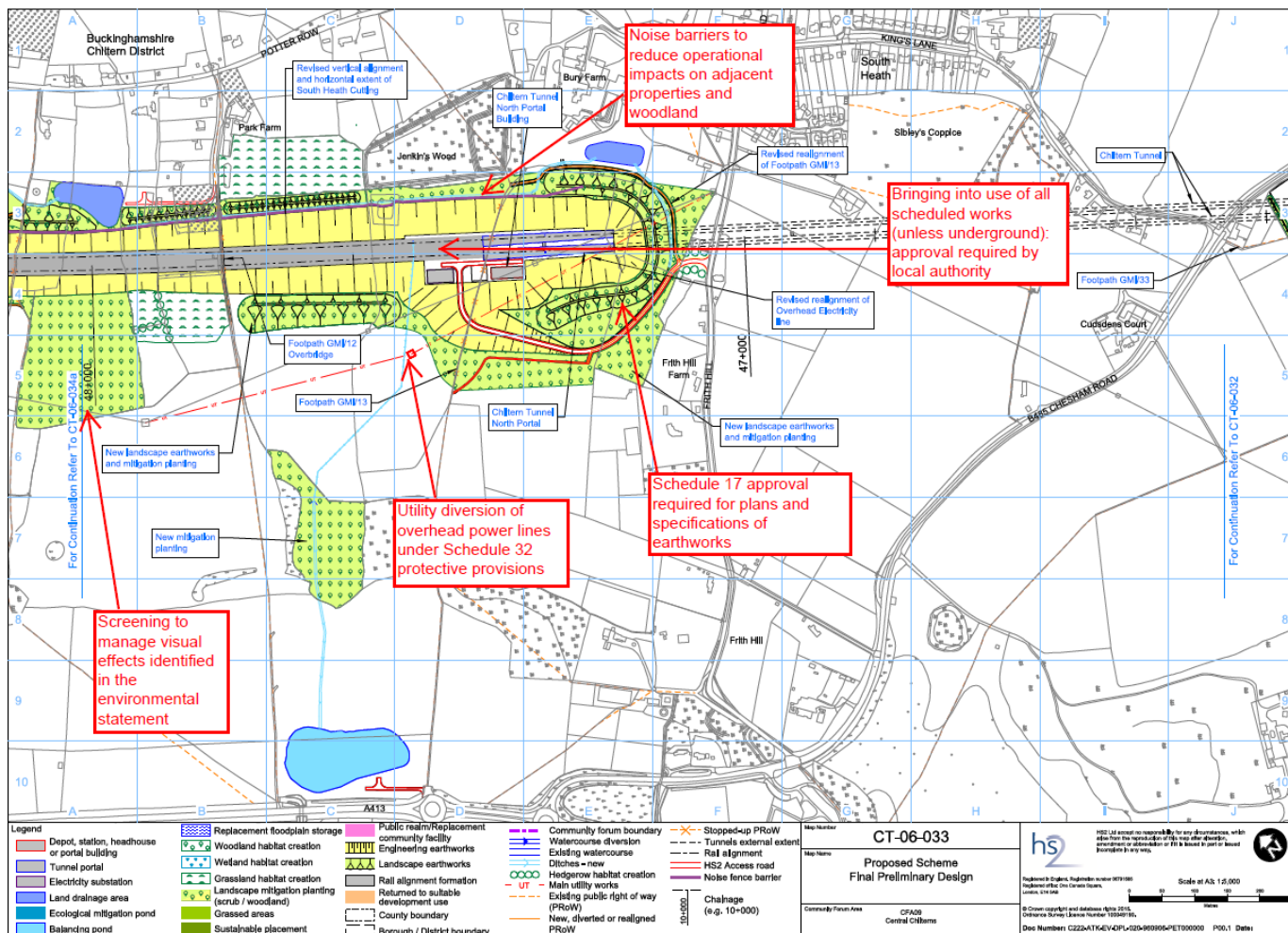
Design and Construction

- The *Act* will provide deemed planning approval – the ability to build and operate a railway within certain limits.
- It influences detailed design and construction arrangements through a *planning regime* and *protective provisions*.
- The *Nominated Undertaker* must abide by the *Environmental Minimum Requirements (EMRs)* that set the parameters within which the Project, through the Act must perform – these arrangements are based on the Environmental Statement and form the fundamental environmental protection Undertaking before Parliament.
- Existing environmental protection in law remains or is modified by the *Act*.

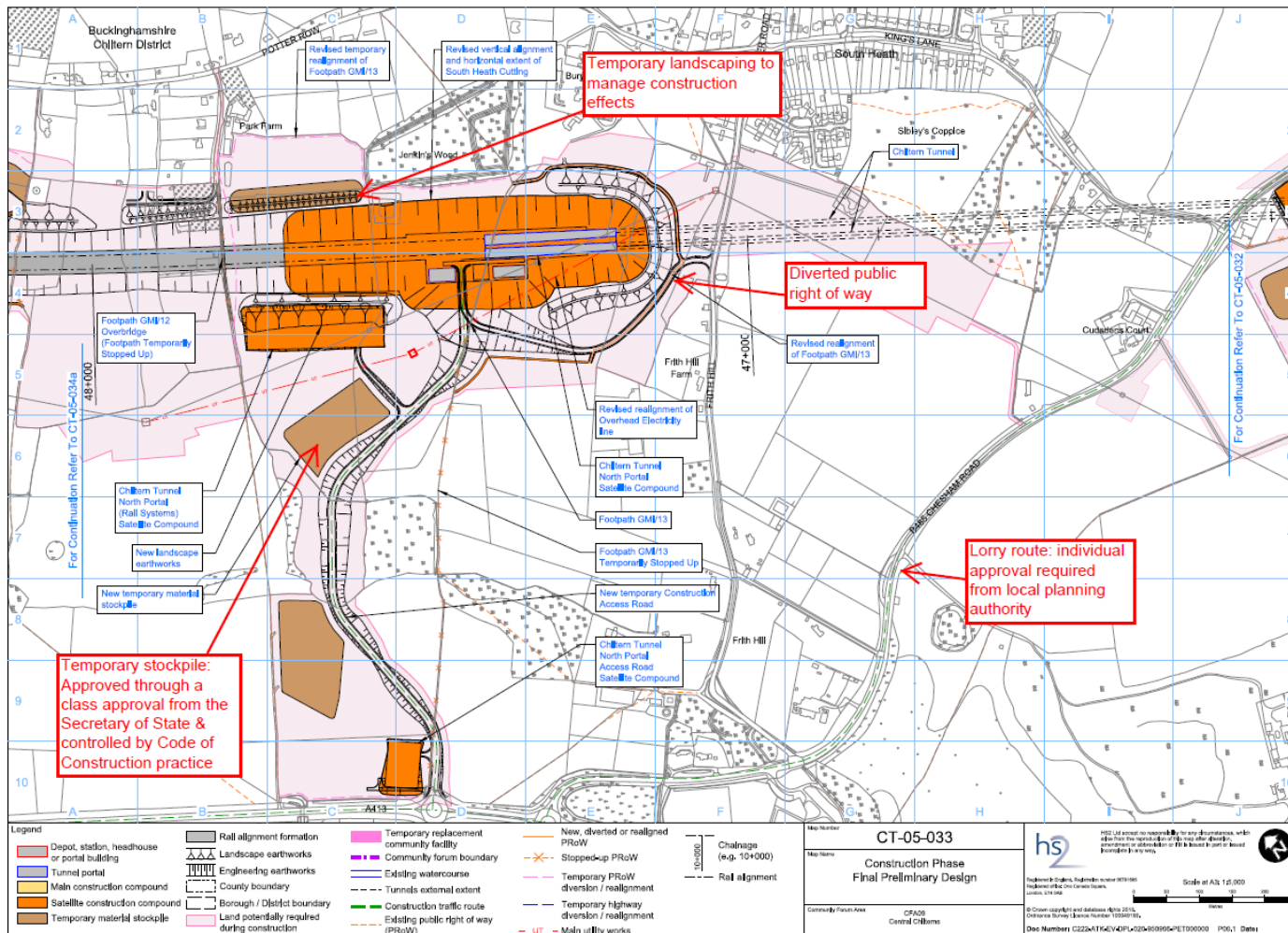
Control of Environmental Impacts: Legal Framework (Information Paper E1)



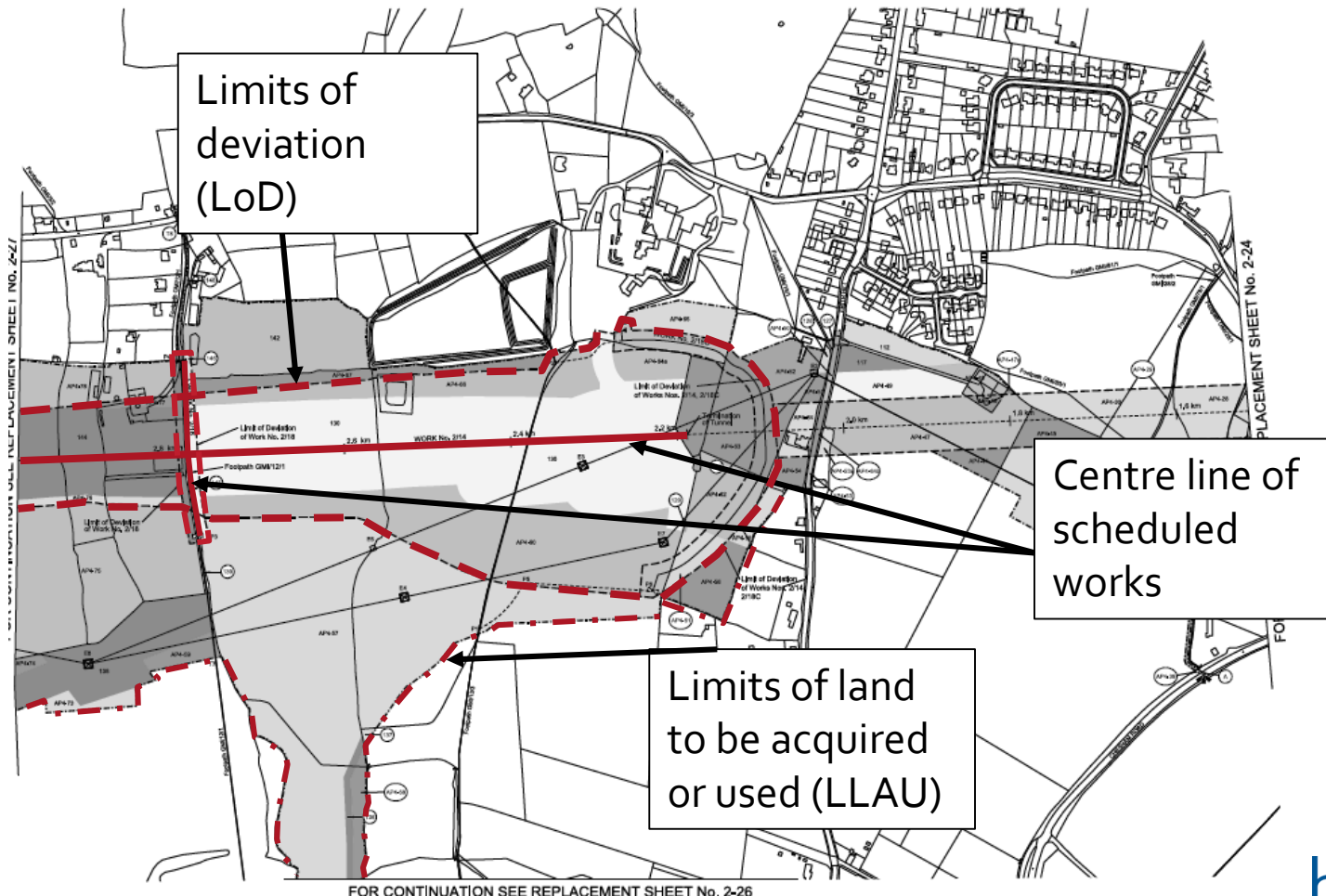
South Heath: Chiltern Tunnel North Portal



South Heath: Chiltern Tunnel North Portal



Controls within the Bill: Scope of the works



HS1 Boxley green tunnel – under construction



HS1 Boxley green tunnel - complete



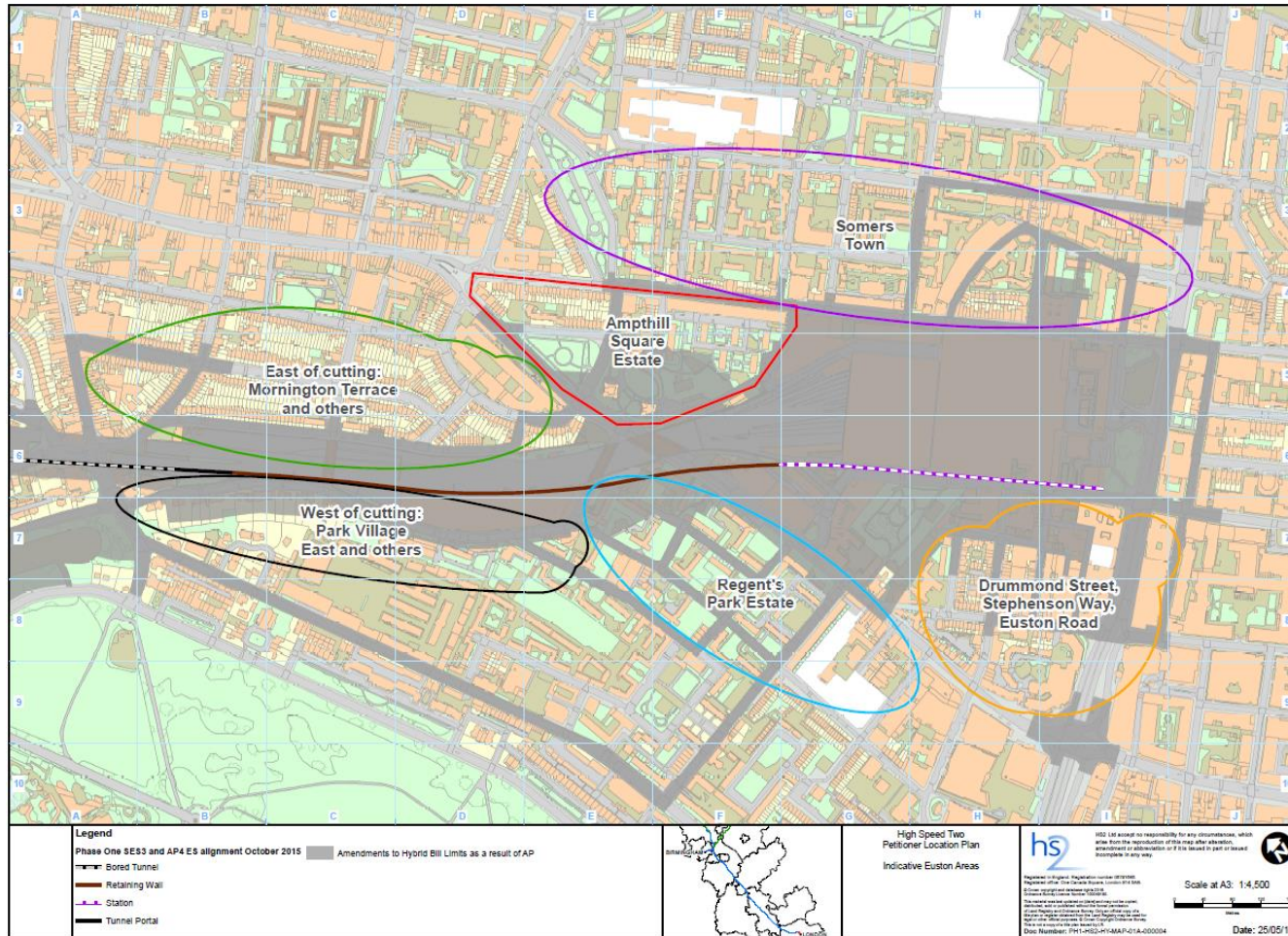
West Hyde: Chiltern Tunnel South Portal

LEGEND

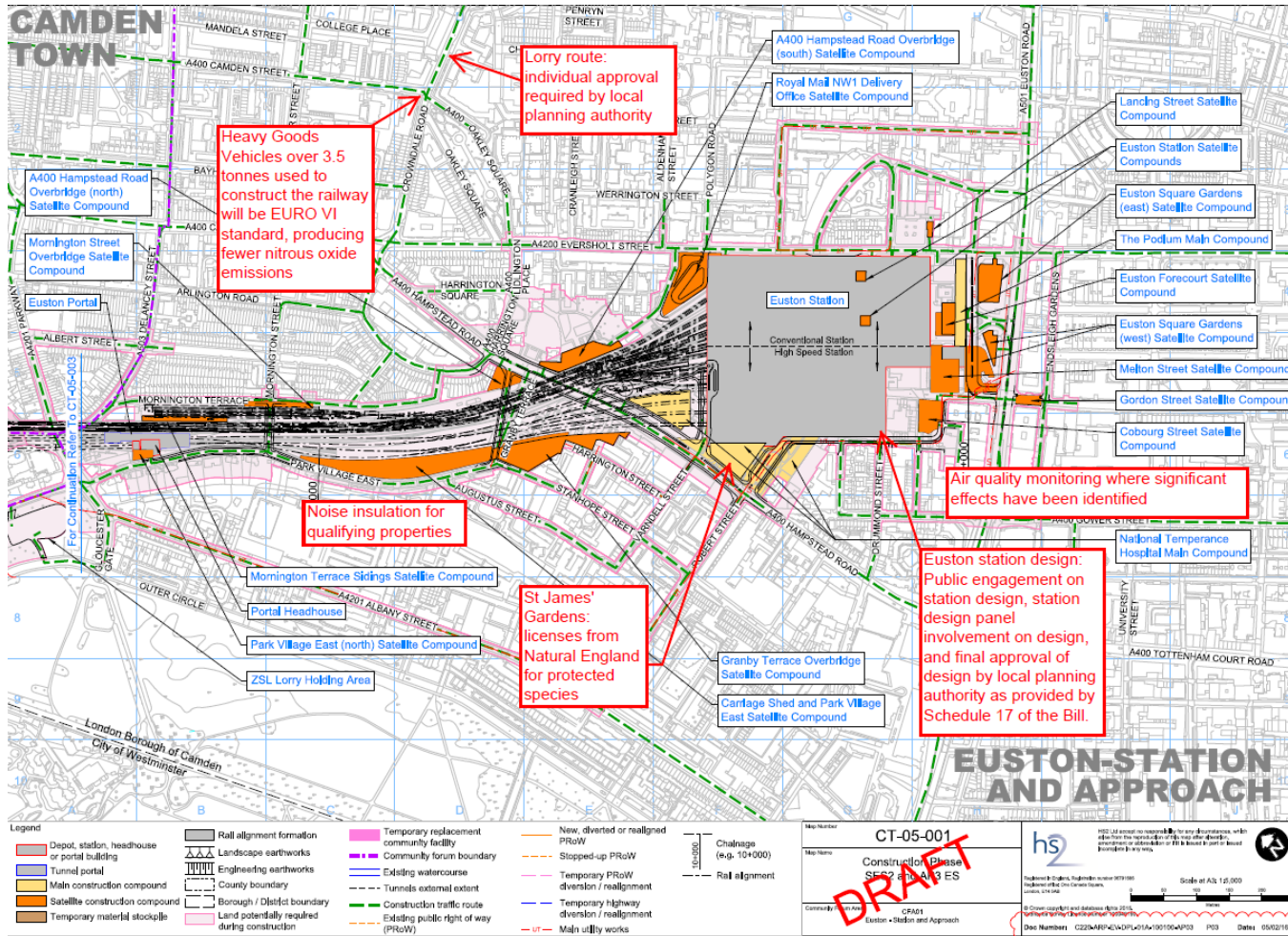
- 1 Wet woodland habitat is associated with the floodplain of the River Coine. It is an uncommon and declining habitat. Nationally and a reason for the designation of the Mid Coine Valley Site of Special Scientific Interest (SSSI), although its extent has been much reduced by gravel extraction. The creation of wet woodland will increase the extent of habitat in the Coine Valley as a whole and provide supporting habitat for nearby SSSIs. Once mature it may provide habitat for declining species such as marsh tit.
- 2 There are opportunities to use excavated material to create calcareous grassland (chalk grassland) on south facing slopes. The species composition of extensive areas of calcareous grassland will reflect that found in the Mid Coine Valley SSSI and the Chilterns as a whole. It will provide sufficient area of habitat for ground-nesting birds, reptiles and a diverse range of invertebrates. Natural colonisation of chalk grassland plants will be encouraged. An example of habitat creation on similar substrate is at 'Sampshire Hole' on the Kent coast, created with spoil from the Channel Tunnel.
- 3 Beech is a dominant species of Chilterns woodland. Planting and management of woodland would aim to replicate species composition of nearby semi natural woodland and natural colonisation would be encouraged. This species would also bring a distinctive sense of place to the Old Chire Country Park.
- 4 Wetland habitat will include extensive areas of marginal fen and reedbed and provide undisturbed areas for waterbirds including breeding species present in the Mid Coine Valley SSSI, such as reed bunting.
- 5 There will be numerous opportunities for the enjoyment of nature, including view points, trails and seating areas. There will be interpretation boards and routes around the park creating a more understandable environment to interact with. This is particularly important as the Coine Valley is a significant countryside asset to many people located to the west of London.
- 6 The access road makes use of the construction access from the A412 Denham Way and enables the car park to be located centrally at a hub of connecting paths providing access for visitors of all ages and abilities.
- 7 The HS2 viewing areas will enable visitors to see the trains as they pass in and out of the tunnel and across the Coine Valley viaduct. There will also be an opportunity for long distant panoramic views across the Coine Valley as promoted by the River Coine and Crane Area Framework.
- 8 The proposed footpaths will enable visitors to walk and enjoy the views across the parkland. The footpaths and bridleways are existing to connect to existing routes including the historic Old Chire Lane PRoW.
- 9 Horse riding is an important pastime for many people in the locality. The park will promote and enable horse riders to utilise the facilities including a cross country route through the undulating parkland.



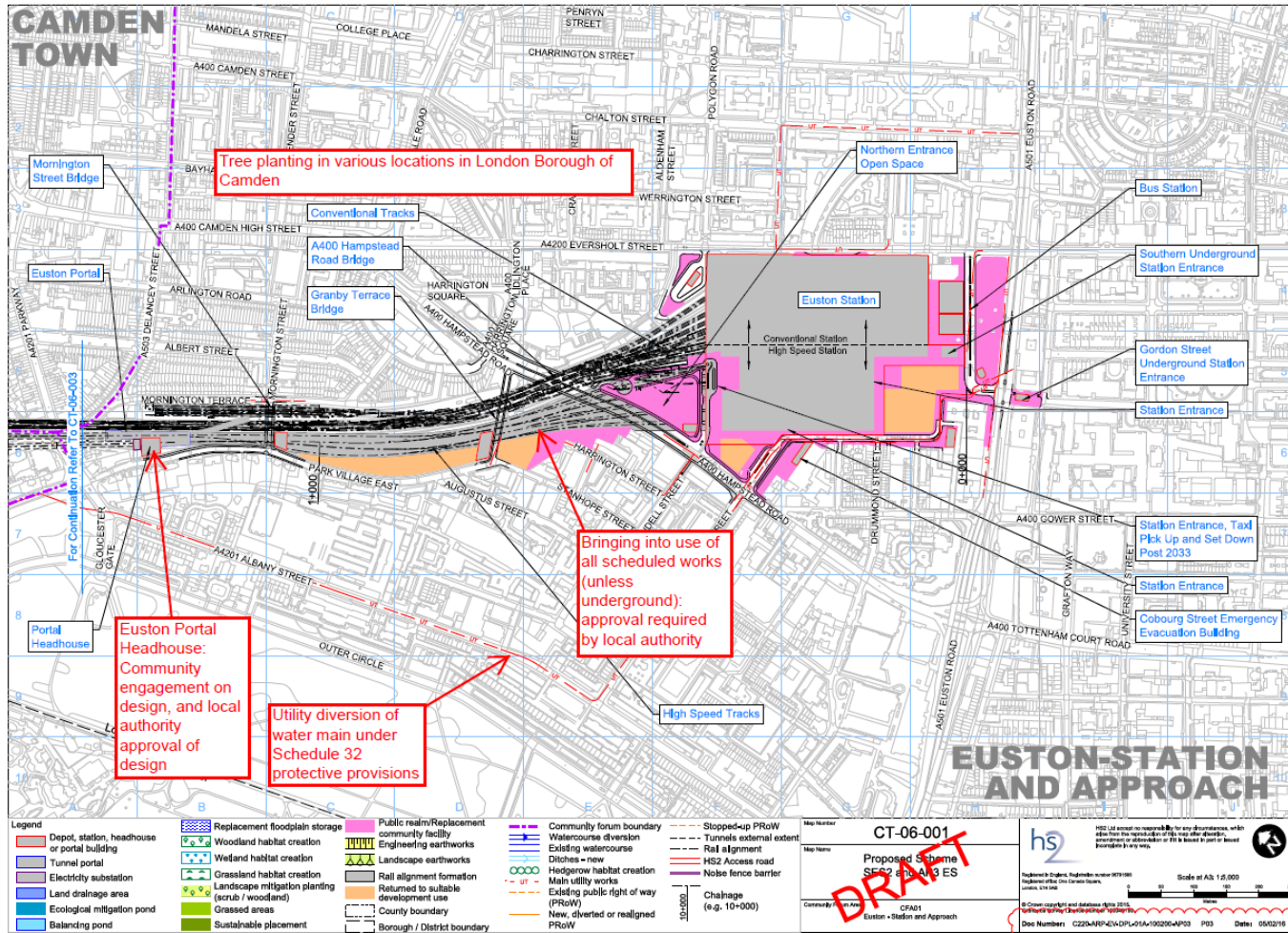
Areas around Euston



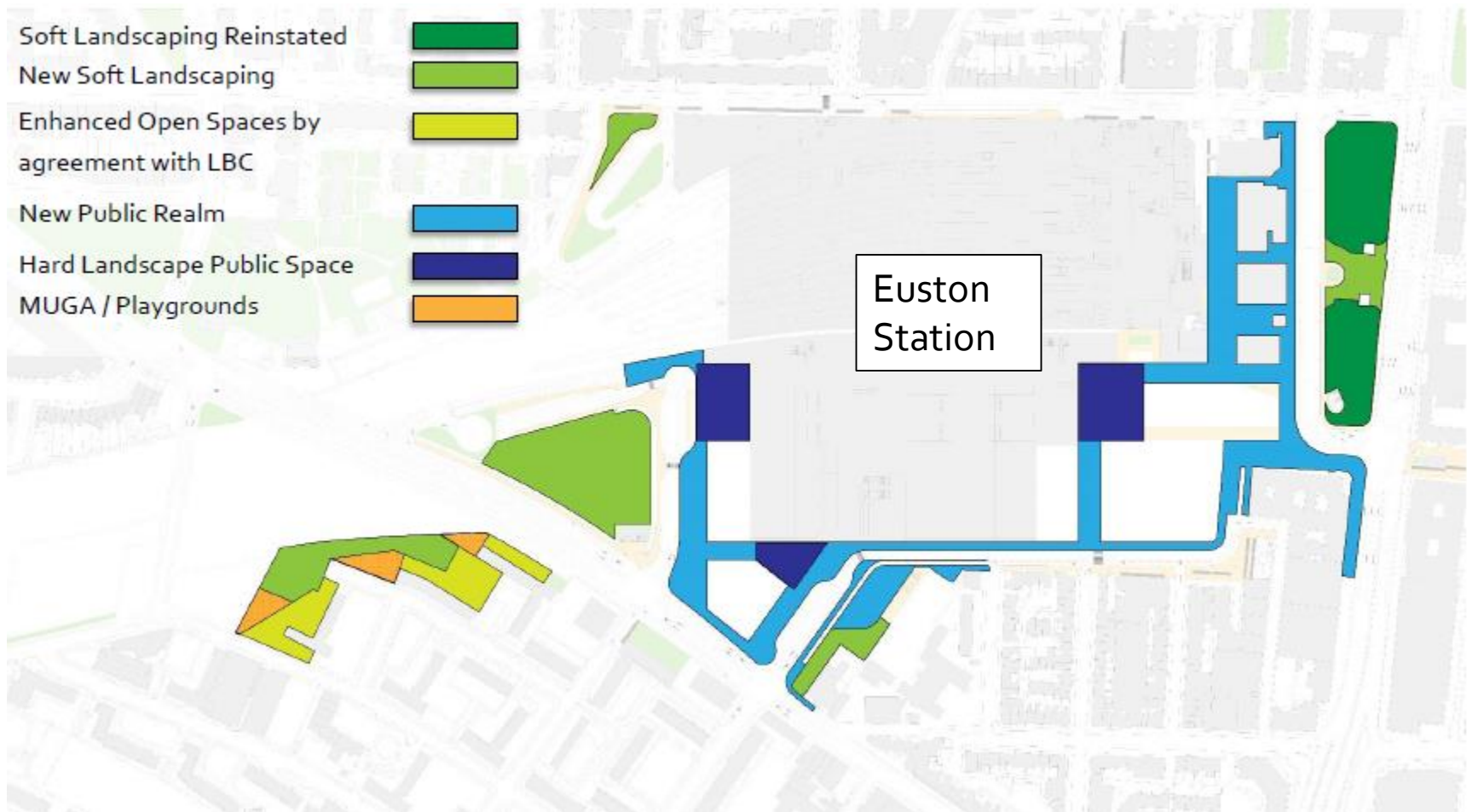
Euston during construction



Euston during operation



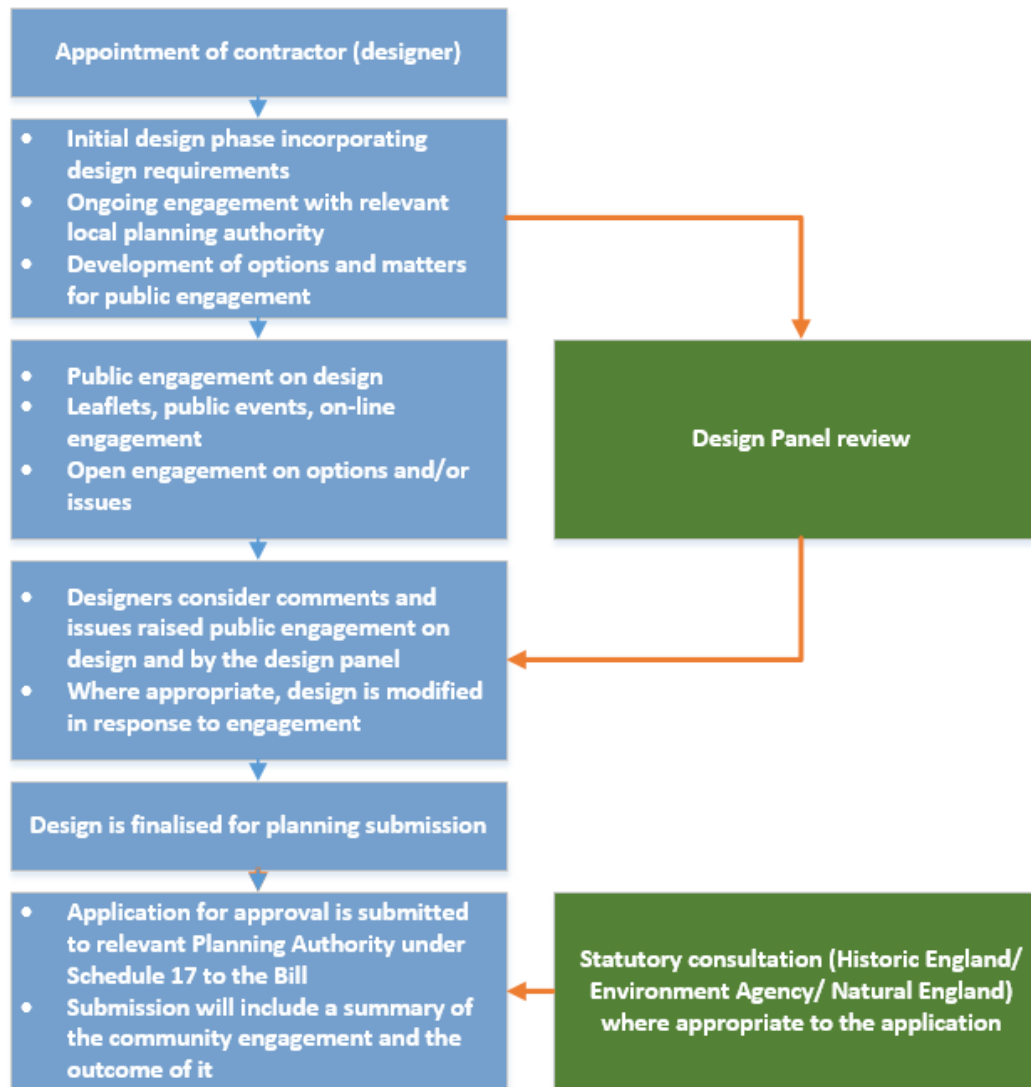
Euston Open Space Mitigation Areas



Illustrative Euston Station Plan



Community engagement on Stations & Key Design Elements (Info Paper D1)



Controls within the Bill: Schedule 17

Planning Regime (Info Paper B1)

- **Operation and works** – **Schedule 17** of the Bill allows local authorities to refuse to approve or condition the approval of plans and specifications for most **permanent, above ground** works.
- **Construction arrangements** – class approval, granted by the Secretary of State, of certain measures to mitigate the impacts of constructing the railway.
- **Principal lorry routes and site accommodation will require individual approval.**
- **Site Restoration schemes** – approval of scheme to restore construction sites following completion of works.
- **Bringing into use** - 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.

Controls within the Bill: Schedule 17

Planning regime (Info Paper B1)

Grounds on which the local authority can refuse to approve plans or specifications of works:

- (a) the design or external appearance of the building works ought to be modified –
 - (i) to preserve the local environment or local amenity,
 - (ii) to prevent or reduce prejudicial effects on road safety or on the free flow of traffic in the local area, or
 - (iii) to preserve a site of archaeological or historic interest or nature conservation value,and is reasonably capable of being so modified, or
- (b) the development ought to, and could reasonably, be carried out elsewhere within the development's permitted limits.

Controls within the Bill: Schedule 17

Planning Regime (Info Paper B1)

Paragraph 16: Context report

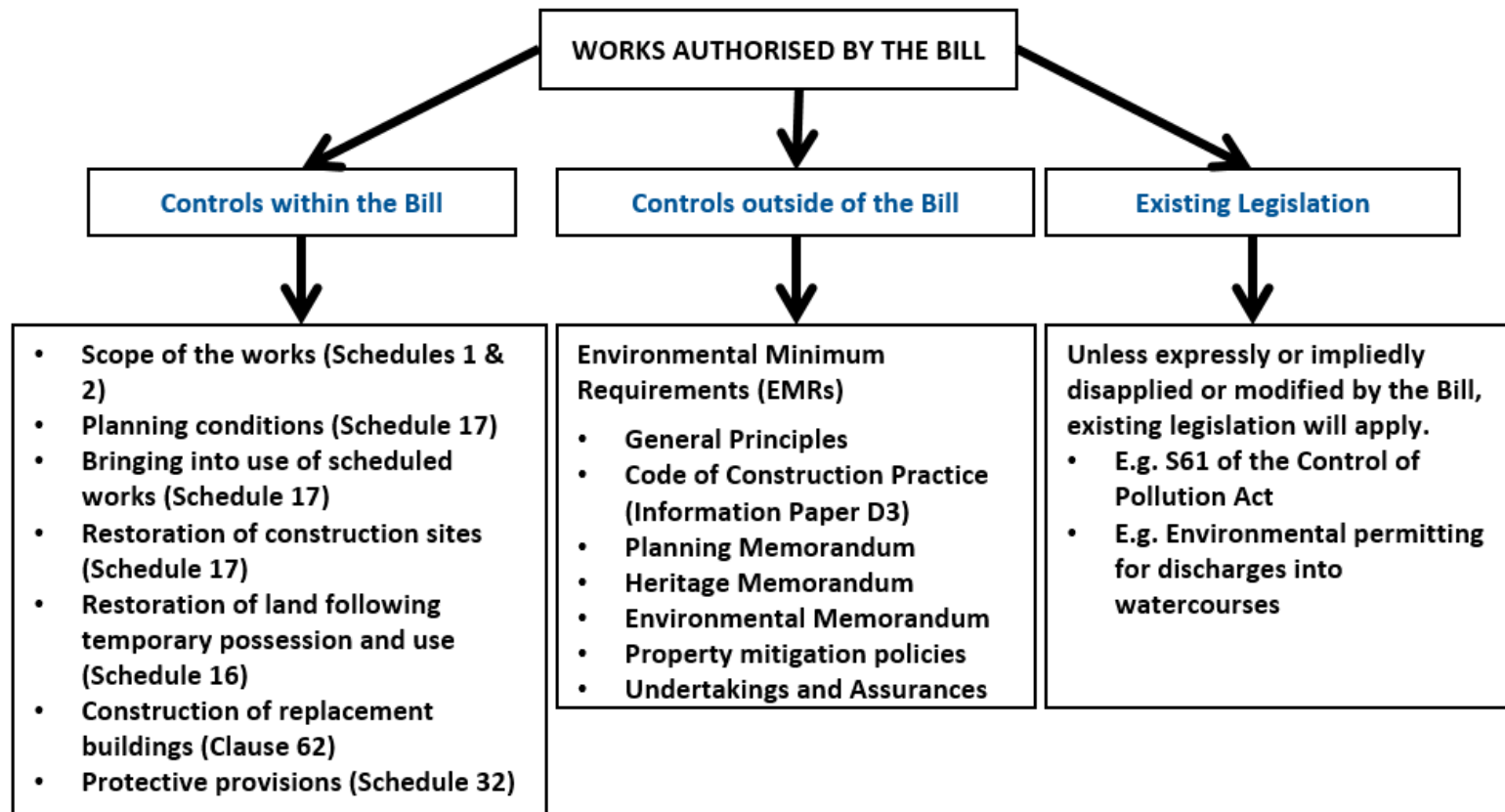
- The Nominated Undertaker is required to deposit a document setting out its proposed programme with respect to the making of requests alongside any request for approvals
- It must also explain how the matters to which the request relates fit into the overall scheme
- A context report will be provided to each local authority for their local area
- Headings may include:
 - Purpose of context report
 - HS2 proposals in the local authority area, broken into temporary and permanent works
 - Request for approval programme
 - Relevant undertakings and assurances

Controls within the Bill: Schedule 32

Protective Provisions

- **Part 1 of Schedule 32** of the Bill will require the nominated undertaker to seek to minimise disruption to traffic where reasonably practicable. Highway authorities will have rights of approval over various matters concerning works affecting highways.
- **Part 4 of Schedule 32** of the Bill gives the Canal and River Trust the power to approve plans and specifications for works affecting waterways for which it is responsible.
- **Part 5 of Schedule 32** of the Bill requires the nominated undertaker to submit plans for any specified works which may affect drainage, flood storage or defence, the flow or purity of water and conservation of water resources, to the Environment Agency or Local Drainage Authorities for approval.
- These bodies may make conditions to require the nominated undertaker to construct protective works as are reasonably necessary.

Control of Environmental Impacts: Legal Framework (Information Paper E1)



Controls outside the Bill: Environmental Minimum Requirements (EMRs)

- General principles
- Code of Construction Practice (IP D3)
- Planning, Heritage and Environmental Memoranda
- Undertakings and Assurances given through the Select Committee process

Environmental Minimum Requirements



- The current versions of the EMRs were published in March 2016
- They are in draft because elements of design, assessment and Parliamentary processes may develop during the passage of the Bill
- They will be finalised upon Royal Assent

General Principles of the EMRs

- The Nominated Undertaker and his contractors will be *contractually bound* to comply with the controls set out in the Environmental Minimum Requirements and as may be developed during the passage of the Bill through Parliament.
- The Nominated Undertaker will use reasonable endeavours to adopt mitigation measures which will *further reduce* any adverse environmental impacts reported in the Environmental Statement.
- The controls contained in the EMRs, along with powers contained in the Bill and the Undertakings given by the Secretary of State, will ensure that impacts which have been assessed in the ES will not be exceeded, unless any new impacts comply with the requirements summarised in paragraphs 1.1.3 and 3.1.8 of the General Principles.

Code of Construction Practice (CoCP)

- Provides effective planning, management and control during construction to control potential impacts upon people, businesses and the environment.
- Provides the mechanisms to engage with the local community and their representatives throughout construction – **community liaison plans**.
- Provides for tailor made **Local Environmental Management Plans** which will set out site-specific controls. These will be developed by engaging with local communities, local authorities and other stakeholders.

CoCP: Implementation

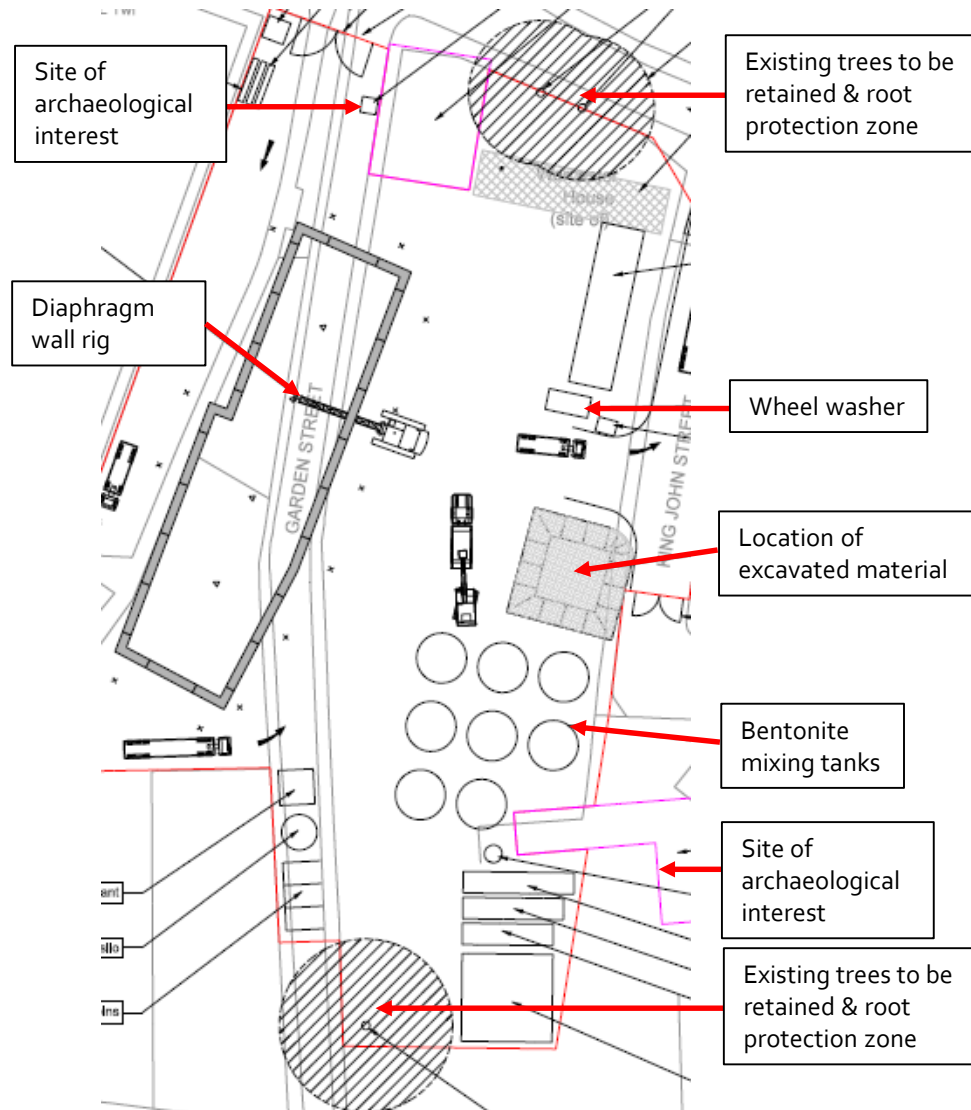
General Requirements

- To reduce the likelihood of incident or nuisance
- Typical measures include:
 - Considerate Constructor practice
 - Good site management practice
 - Core working hours (IP D4)
 - Noise and air quality controls
 - Pollution incident control measures
 - Small claims procedure
 - Contractor qualifications and experience

Both general provisions and site-specific measures for each of the following areas:

- Agriculture, forestry and soils management
- Air quality
- Cultural heritage
- Ecology
- Ground settlement
- Land quality
- Landscape and visual
- Noise and vibration
- Traffic and transport
- Water resources and flood risk

Implementation of CoCP: General requirements: Construction site layout



Implementation of CoCP: General Requirements: Community Relations



- Community helpline: telephone helpline staffed 24 hours a day, 7 days a week, to handle enquiries from the general public and local businesses from local businesses
- Communication initiatives for local schools to warn of dangers
- Small claims scheme (IP C10)

Implementation of CoCP: Air Quality



- Euro VI for vehicles over 3.5t
- Dust suppression should be used where necessary
- Application of water sprays to damp down in dry weather

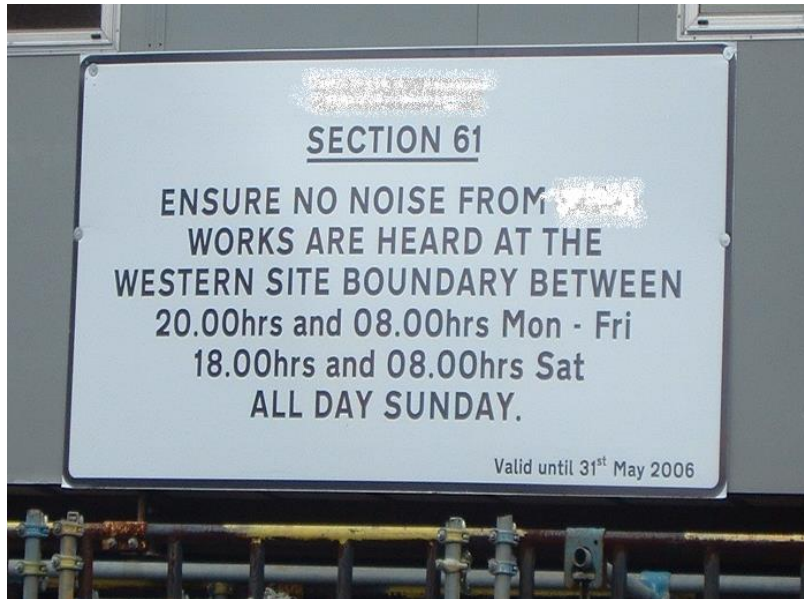


Implementation of CoCP: Ecology



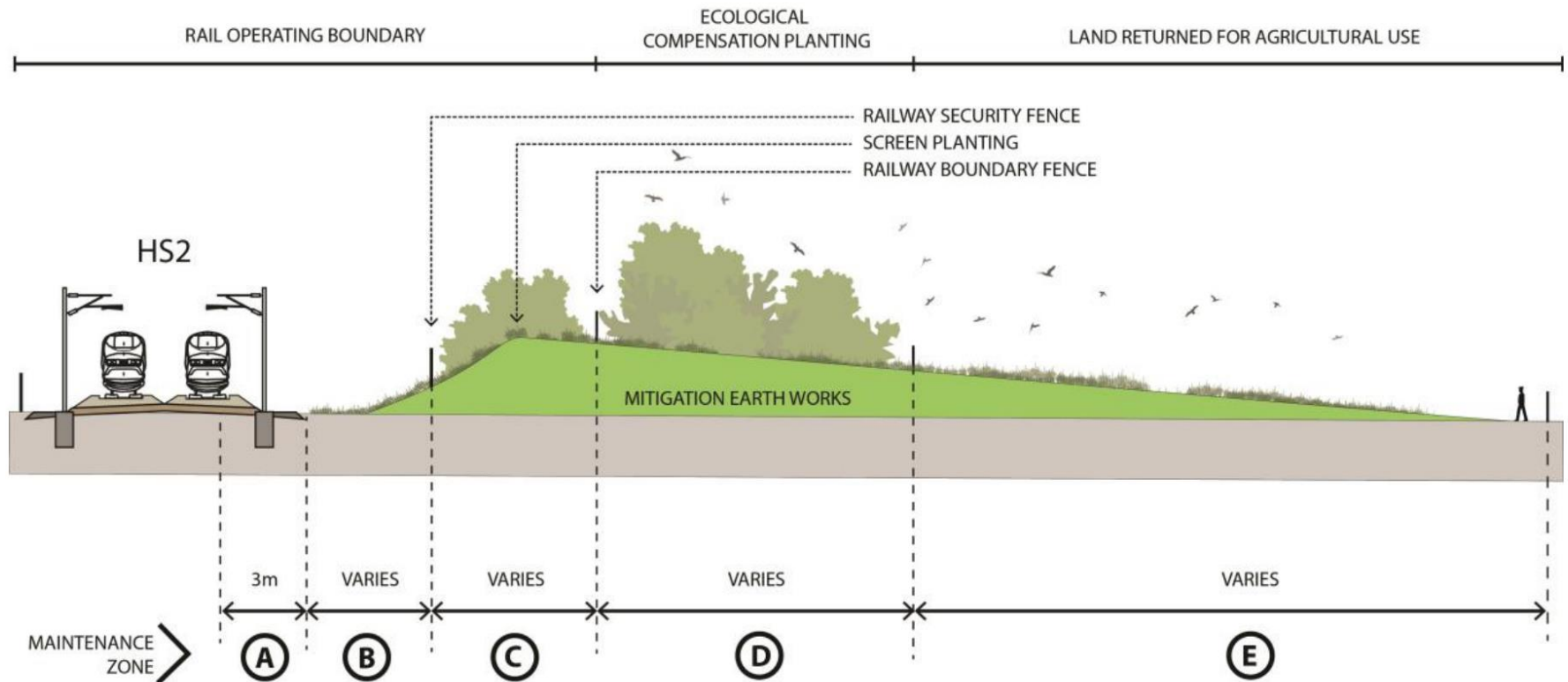
- Control of invasive non-native species
- Protection of adjacent flora
- Where relevant, relocation or translocation of species, soils and plant material (i.e. great crested newts)

Implementation of CoCP: Noise



- Best Practicable Means (BPM):
- Control of noise and vibration at source e.g. super silent pump
- Local screening of equipment and perimeter hoarding
- Noise insulation

Landscape and Visual



- Design has incorporated landscaped earthworks and tree planting (screening) to help integrate the railway into the local landscape.

Traffic and transport



- Site entrance arrangements:
 - Wheel wash or jet wash facility to prevent carriage of mud on to roads
 - Concrete or tarmac hard standing to allow vehicle cleaning
 - Marshall or banksman to direct vehicle movements
 - Separate/ protected pedestrian access required
 - Entrance layout to enhance driver vision
- Principle construction lorry route approvals
- Local traffic management plans and travel plans

Water resources and flood risk



- Balancing ponds to regulate water flows in order to avoid an increase in flooding from new surface water drainage systems

EMRs: Planning Memorandum

- Local authorities will either have a wide range of approval powers, or a reduced range, depending on whether or not they become Qualifying authorities
- The Planning Memorandum sets out in detail their responsibilities and requirements on planning matters (i.e. consents under Schedule 17)
- The qualifying authorities and nominated undertaker sit on a Planning Forum (established in 2013), which will assist effective implementation of the planning regime
- The forum will consider common design items for certain structures associated with the railway (such as bridges, acoustic barriers or retaining walls)

EMRs: Heritage Memorandum

- The Heritage Memorandum sets out how HS2 will record and investigate cultural heritage assets before work on the scheme starts
- It provides a framework for the nominated undertaker, Historic England, local authorities and other stakeholders to work together to ensure that the design and construction of the Proposed Scheme is carried out with due regard for heritage considerations.
- 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

EMRs: Environmental Memorandum

- The Environmental Memorandum sets out the main principles by which future environmental decisions on HS2 Phase One will be taken.
- It sets out:
 - the aims to control and limit the environmental effects of constructing Phase One of HS2,
 - the mechanisms for monitoring the impacts from construction,
 - and the mechanisms for monitoring the post-construction performance of mitigation and compliance with the Bill's environmental provisions .
- A National Environmental Forum has been, and will continue to meet throughout the design and construction period and up to one year post-commissioning

Undertakings and Assurances

- During the passage of the Bill, the Secretary of State has been entering into a range of undertakings and assurances with which the nominated undertaker and his contractors will be obliged to comply.
- A register of all undertakings and assurances is being compiled and will be finalised after Royal Assent.
- Undertakings range from being generic across the entire project to being site specific.

Phase 1 - HS2 draft register of undertakings and assurances - v1.6

U&A ref id	Petition no (where relevant)	To Whom	Type	Date issued	Subject	Geographical Area	Reference	Text (where relevant)
63	n/a	General	Undertaking	04/07/2014	Compliance with the EMRs	Routewide	Transcript of Day 4 of House of Commons Select Committee, paragraphs 107 and 110	Again, the nominated undertaker will be contractually bound to give effect to any such undertakings and assurances. That in turn leads me to give an undertaking that I now do on behalf of the Secretary of State, which is this. Insofar as the Environmental Minimum Requirements are not directly enforceable against any person appointed as the nominated undertaker, the Secretary of State will take such steps as he considers reasonable and necessary to secure compliance with those requirements. This undertaking will go on the register I mentioned earlier. It is an undertaking that applies also in any case where a statutory undertaker is carrying out development for or in connection with the Phase One of High Speed 2 project in reliance on the planning permission enjoyed in consequence of the provision of the Bill of which the marginal note is the extension of planning permission for statutory undertakers. The Secretary of State undertakes to take such steps as he considers are reasonable and necessary to secure compliance with such of the Environmental Minimum Requirements as he considers relate to that development and are not directly enforceable against that undertaking.
1864	H0C0520	Buckinghamshire County Council	Assurance	29/01/2016	Environmental guidelines for roads in the Chilterns AONB	Chilterns AONB	Letter from Roger Hargreaves (HS2 Ltd) to Mr Martin Tett (Buckinghamshire County Council), 15. Environmental guidelines for roads in the Chilterns AONB, paragraph 4	The Secretary of State will require the nominated undertaker to have regard to the principles contained within the "Environmental Guidelines for the Management of Highways in the Chiltern AONB (published March 2009)" within HS2 Technical Standard (Roads).
1939	H0C0104, AP2/0147, AP3/0072	London Borough of Camden	Assurance	04/02/2016	Early engagement on section 6s	Routewide	Letter on Construction noise, vibration and 5.6s consents from Roger Hargreaves (HS2 Ltd) to Mike Cooke (Chief Executive, LB of Camden), paragraph 5.4	5.4 The Secretary of State will incorporate the following text into the draft Code of Construction Practice in substantially the form in which they appear below and the draft Code of Construction Practice will not be further revised so as to make these commitments less onerous on the Nominated Undertaker than the text below. 5.4.1 The contractor will be required to undertake early engagement with the relevant local authority on Section 6s matters. Where reasonably practicable, a draft version of any Section 6s application shall be submitted in advance of the submission of the final version to allow the relevant Local Authority sufficient time to review and comment. 5.4.2 Where works that are to take place in one local authority area are predicted to give rise to noise that could cause disturbance in a neighbouring local authority area, the Section 6s application will be made to the authority within which the construction activities are located and include a noise assessment carried out at locations that represent all neighbouring noise sensitive receptors, and with a copy sent to the relevant neighbouring local authority or authorities.

Undertakings and assurances can be either general or specifically given to an individual or group

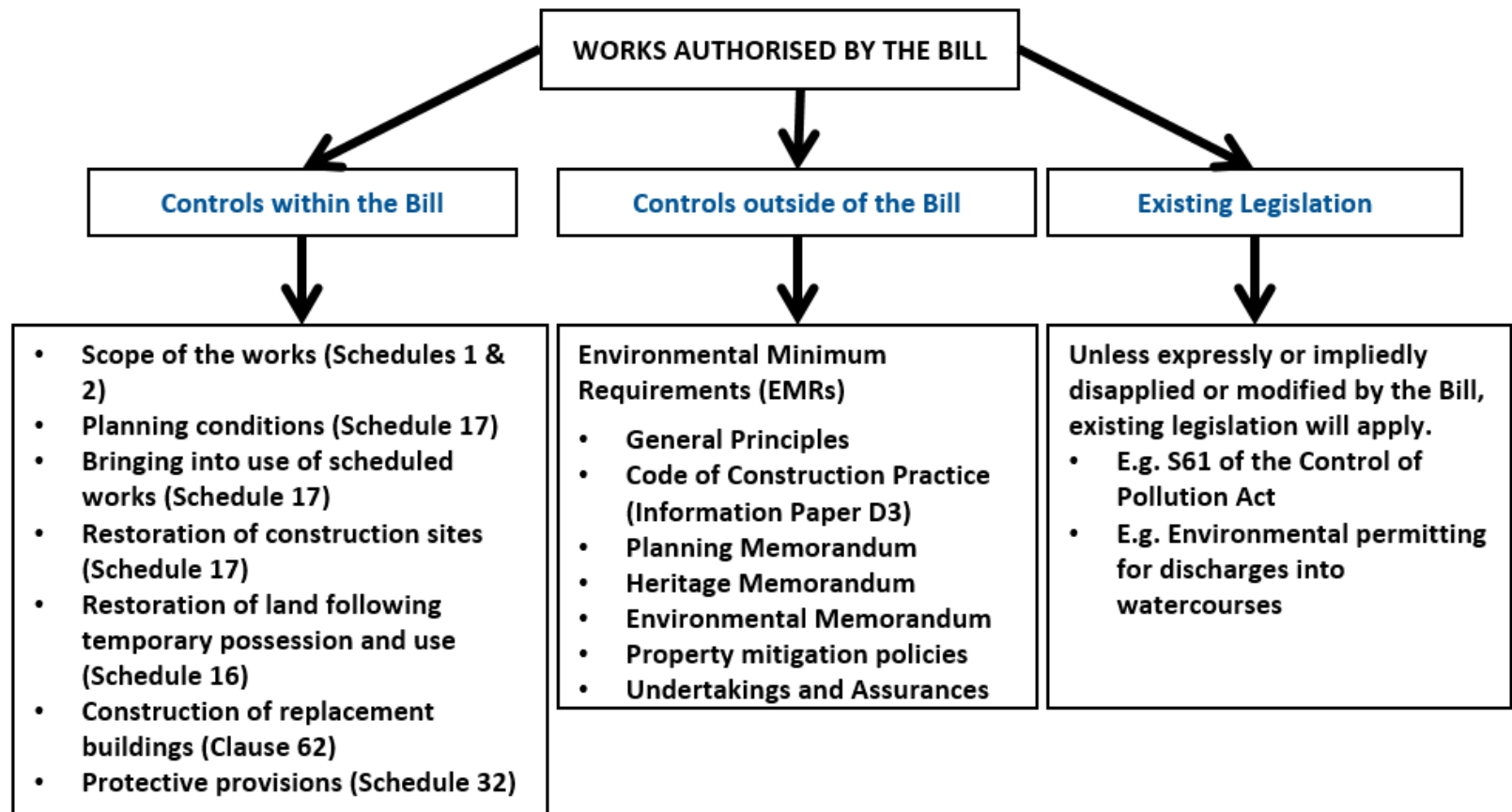
Undertakings and assurances can be routewide or location specific

For example, this undertaking regards the Environmental Minimum Requirements and how the nominated undertaker will be contractually bound to comply with them

Construction - Securing compliance with the EMRs

- **Step 1 – Report to the Nominated Undertaker for remedial action by the contractor.** The nominated undertaker will secure the necessary corrective action from the contractor through contractual arrangements.
- **Step 2 – Report to the Construction Commissioner.** If the complaint cannot be resolved through the nominated undertaker, the complainant can refer it to the independent construction commissioner. This matter is further explained in Information Paper G3.
- **Step 3 - Report to the Secretary of State.** If still dissatisfied, the complaint can be reported to the Department for Transport, which can direct the nominated undertaker to implement corrective action.
- **Step 4 - Report to Parliament.** If dissatisfied with the Department for Transport's response, the issue can be reported to Parliament.

Control of Environmental Impacts: Legal Framework (Information Paper E1)



Other statutory controls: Existing Legislation

- Unless a piece of legislation has been expressly or impliedly disappplied, or modified by the Bill, it will continue to apply to the design and construction of the Proposed Scheme.
- E.g. Section 61 consents under the Control of Pollution Act 1974 in order to carry out work on construction sites
- E.g. Licences for affected species obtained from Natural England issued under the Conservation of Habitats and Species Regulations 2010