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Ref: HS2/draft ES/Response

Sent by E mail

Dear Sir/Madam

### **Comments on Hs2 Draft Environment Statement**

The Chilterns Conservation Board was established by Parliament to promote the conservation and enhancement of the Chilterns Area of Outstanding Natural Beauty.

The Board objects to the development of High Speed 2 because of the significant and irreversible damage it would do to the nationally protected landscape of the Chilterns AONB.

The Conservation Board wishes to remind HS2 Ltd that it is required to comply with the duty laid down by Section 85 of the Countryside and Rights of Way Act 2000. The draft Environment Statement does not provide sufficient evidence that it has done so. The Board advises that the final Environmental Statement should provide a great deal more analysis and specific consideration of the potential impacts on the Chilterns AONB in order to fulfil this duty.

In the view of the Board, it is a reasonable expectation that the draft Environmental Statement should be a close approximation of the final version. However, it is clear that HS2 Ltd was nowhere near ready to publish a full draft. This version is so lacking in detail that it cannot be considered a full draft of the final report. It suggests that HS2 Ltd is not well placed to prepare a sound and highly professional final version within the timetable it has set itself.

In view of the scale, cost and potential impact of this railway it would be better to take more time to gather the data it needs, subject it to full analysis and prepare an assessment report which is convincing and secures general agreement. Not to do so significantly increases the risk of damaging the environment.

Yours sincerely



**Mike Fox**  
Chairman

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### **HS2 draft Environmental Statement**

The following sections comprise the response of the Chilterns Conservation Board

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## **General Comments on draft Environmental Statement for HS2**

1. The design has reached an advanced stage without the benefit of a full environmental impact assessment. A great deal of information which is needed has still not been collected and, until it has been, it will not be possible to undertake a full EIA and prepare a full ES. The design will need to be heavily modified in the light of the final ES. The unreadiness of this draft undermines confidence that the final Environmental Statement will be as thorough and robust as it needs to be.
2. This reinforces the argument that an SEA should have been undertaken as a route has been selected and a detailed design prepared, without a full understanding of the environmental impacts and little, sometimes, no consideration of alternatives which may have avoided significant adverse impacts.
3. The Chilterns is a nationally protected landscape. The landscape quality of an AONB is equivalent to that of a National Park and enjoys the same level of protection. However, whilst the Chilterns status as an AONB is identified there is little evidence that the proposed design or assessment of environmental impacts give the necessary due regard to those special qualities.
4. Unless the final ES is a significant improvement is it arguable that HS2 Ltd, and by implication the Government, will have failed to comply with Section 85 of the Countryside and Rights of Way Act 2000.
5. The minimal number of references to the Chilterns AONB Management Plan is a disappointing reflection of the failure to take into account fully why the Chilterns has AONB status, and how the adverse impacts could have been avoided.
6. The argument that the line is in a tunnel from the southern boundary of the AONB to Mantles Wood near Hyde Heath because it is in the AONB, lacks credibility if the line northwards is, for long sections, on the surface, embankment or viaduct. The so called green tunnel, whilst keeping the line out of sight, nonetheless causes immense environmental damage during the construction phase. This suggests that the tunnelled section has been proposed due to cost considerations and not in order to avoid environmental damage.
7. The Chilterns Conservation Board believes that the only acceptable solution to avoid significant and permanent adverse environmental impacts is for the route to be in a bored tunnel for the entire length as it passes under the Chilterns AONB.
8. The proposed design gives overdue weight to cost minimisation compared to the avoidance or reduction of environmental impacts. This represents a failure to accept or understand the purpose of the

requirement to prepare an Environmental Statement. The requirement to identify potentially adverse impacts is so that options can be considered to avoid them. This ensures that environmental considerations are given considerable weight, as well as those of cost and practicality. The consistent failure to adopt measures to avoid adverse impacts will inevitably result in widespread and avoidable damage to the environment.

9. The Conservation Board is further concerned that the consideration of cost seems only to apply to minimising the expenditure by the Department for Transport. This railway line is being proposed in the national interest, purportedly to deliver benefits to the whole of UK society and economy. These benefits, mostly notional, are given very high values in the business case for HS2. It is only equitable, therefore, that the cost to the whole of society is taken into account. This has not been done. If this more enlightened, some might say fair, approach were to be taken the alignment and design of HS2 might be very different. It would certainly result in the section of line through the Chilterns AONB being put into a bored tunnel.
10. Such a response would also be fully in line with the Government's policies on ecosystem services. Despite the Natural Environment White Paper being published less than two years ago, and the Government and agencies advocacy of this approach, the draft Environmental Statement has not been prepared using these principles; indeed the term does not appear at all in the report - a curious and inexplicable omission. The inevitable consequence is that the draft ES not only fails to identify all the environmental impacts, those it does are understated as the full range of ecosystem services is not acknowledged or valued
11. The Government's own words fully encapsulate the approach the Conservation Board believes should apply when considering the development of this railway.

"Most people rightly believe in the innate value of nature and our strong moral responsibility to protect it. But the value of nature to our economy and society, and to our personal well-being is also clearer than ever. Science, economics and social research have broken new ground, demonstrating that year by year, the erosion of our natural environment is losing us benefits and generating cost."

**Natural Environment White Paper 2011**

**The following comments apply to the Environmental Statement and are not specific to particular assessments or proposed actions.**

1. There is no specific, separate and detailed assessment of impacts on the Chilterns AONB.
2. The precautionary principle must be applied at all times
3. The draft ES fails to take into account cumulative impacts.
4. There is little confidence that the ES or comments on the ES will result in any significant change to any aspect of the alignment and design as HS2/DfT are giving environmental considerations a low weighting compared to cost and practicality (speed of build). This view has been reinforced by the inflexible attitude adopted by HS2 Ltd at the Community Forum meetings.
5. The geographic area assessed for impacts is generally too small resulting in an under stating of impacts, e.g. visual and noise.
6. No weighting is attached to reputational damage which will affect the Chilterns attractiveness to visitors or as a place to live or do business.
7. The ancient historic character of the Chilterns is not recognised. HS2 has attempted to assess impact on individual features only, with no acceptance of the impact on landscape character or the historic importance of the wider landscape.
8. The urbanising effects of the railway, train and structures is not recognised at all.
9. The impacts on the community and local businesses have not yet been adequately recognised. The absence of any meaningful analysis of socio-economic impacts given in the draft statement gives little confidence this will be addressed fully in the final version.
10. Too many important potential effects are not assessed fully, but instead relegated to something that will be covered by the Code of Construction Practice.
11. The document fails to define what is meant by temporary. For some effects if they persist more than a few months they should be considered permanent. For example, disruption to local traffic flows which persist for several years effectively changes how local people use local roads and should be considered permanent. Replanted woodland will take decades to mature so the change to the landscape is, effectively, permanent.
12. The proposed mitigation often have environmental impacts of their own which need to be assessed, but almost without exception haven't been.

13. The hierarchy of impacts is supported, but the Draft ES exhibits almost no examples of the preferred strategy of avoiding adverse impacts.
14. In HS2 Ltd's desire to give a gloss to their plans too often they use language which veers from objective technical description to commentary, even promotion. On other occasions the impacts are under-stated or the benefits of the mitigation over-stated. A repeated mistake is to claim that the landscape above green tunnels will be reinstated. Woodland, including ancient woodland, cannot be re-instated.
15. The impacts of noise are dealt with superficially. The use of average noise levels is wholly unacceptable. It is accepted, as international best practice, for noises event such as passing trains, to use noise peaks (Lmax) and to give weight to the timing and frequency of those peaks. To use average noise levels to disguise these adverse impacts is misleading and unacceptable. There is no reference to the impact of noise generated by night time maintenance.
16. The proposed acceptable noise levels are too high. Laeq 50dB should be Laeq 40 dB as per WHO guidelines. The area assessed should extend beyond 1 kilometre.
17. It is highly likely that much of the proposed new planting, and other landscape and habitat creation work, will be on private land outside the rail corridor. Any such works will require the agreement of the landowner. This is not mentioned. It is important because under such circumstances there can be no guarantee the work will ever take place, will be managed or maintained appropriately or even survive other than for a limited period post construction.
18. The concept of tranquillity seems not be understood or how it needs to be conserved and enhanced.
19. In general the importance of ancient woodland is understated - all ancient woodland is of national importance.
20. The absence of any meaningful statement on the use of spoil and its transportation is a considerable concern. In a nationally protected landscape it is not an acceptable strategy to deposit it on adjacent land. The creation of, so-called, false cuttings are no substitute for genuinely deeper cuttings (some with retained sides) which would provide more environmental benefit. The environmental impacts of the proposed strategy have not been assessed.
21. There is no reference to ongoing monitoring of environmental impacts and subsequent implementation of appropriate measures.

22. The impact on generation of greenhouse gases is inadequate and likely to significantly understate the additional emissions that will be generated directly and indirectly by HS2.
23. In general there is a paucity of data on overall impacts.
24. There is no recognition that after construction there will be many parcels of unwanted, even abandoned, land that cannot be returned to their former uses. This potential impact needs to be recognised.
25. The standards of mitigation must be future-proofed. That means working to standards far in excess of that in place today. Those are the results of past efforts to raise standards and will be regarded as wholly inadequate in the future. The long timescales of this project demand that whatever is put in place stands the test of time.
26. There are opportunities to improve the landscape, biodiversity and amenity of the area. For example, the undergrounding of powerlines and the use of low noise road surfaces. These opportunities should be identified and included in the proposal. None have been.
27. The power lines along the Misbourne Valley should be put underground as a rare example of providing an environmental benefit to the Chilterns.
28. The assessment of impacts on traffic, both that on existing traffic and that generated by HS2, are wholly inadequate, even misleading.
29. There is no recognition of likely impacts on the services of Chiltern Railways and other users of the Chiltern Line; nor the restricted access to railway stations, notably Great Missenden and Wendover.
30. Greater consideration should be given to using local roads less and building temporary tracks for use by HS2 traffic. For example, HS2 traffic should not be using Potter Row or Frith Hill.
31. The use of lanes by walkers, cyclists and horse riders is not acknowledged.

# **Draft Environmental Statement – Volume 1**

## **Introduction to the Draft Environmental Statement and the Proposed Scheme**

### **1. Introduction**

#### **1.4 Environmental minimum requirements**

1.4.4 This section refers to the circumstances in which ‘impacts which have been assessed in the ES’ may be exceeded. The first example given is where impacts ‘result from a change in circumstances which was not likely at the time of the ES.’ This is potentially a massive loop-hole which may allow entirely unacceptable adverse impacts to occur. ‘Not likely’ is far too weak a threshold – the Precautionary Principle must be applied and all impacts which are a possibility must be considered.

The approach set out in 1.4.4 is a particular concern given that so many impacts remain un-assessed at this late stage.

1.4.6 This section refers to a general requirement on the Nominated Undertaker to ‘use reasonable endeavours to reduce further the reported adverse environmental effects , as long as this does not add unreasonable cost or delay ...’ This is an unacceptably weak statement which undermines the value of whatever monitoring is proposed. How will ‘reasonable’ be assessed? Will the assessment be subject to any independent and/ or local review or verification?

### **2. Background to HS2**

#### **2.5 An engine for growth**

2.5.5 Here and elsewhere the ‘Trans-European’ and international context is set. This creates an obligation to use other international standards.

#### **2.7 Managing local impacts**

This important background section acknowledges local impacts and their management only (2.7.1). This is misleading. There needs to be a clear recognition throughout the document, including in section 2 of volume 1, that the scheme will also result in adverse route-wide and/or cumulative impacts. The fact that these have not yet been properly assessed is not an acceptable excuse for making no reference to their existence.

It is also important to be clear throughout the draft ES that some of the impacts described – and here down-played as ‘local’ - are in fact significant adverse impacts on features and/ or sites of national significance for example Scheduled Monuments, Ancient Woodland, Chalk Streams.



## **2.8 Policy and legislative context**

This section should make reference to the following:

- Countryside and Rights of Way Act (2000)
- Natural Environment White Paper
- Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services (2011)
- The Natural Choice: securing the value of nature. Natural Environment white Paper (2011)

## **3. The Proposed Scheme**

### **3.5 Principal features and infrastructure**

Design of features – e.g. bridges and viaducts (3.5.10/ 3.5.11) - described in this section is very basic. Contrary to assertion in section 6 (6.10.4) there is no evidence at all that 'careful consideration has been given to the design, and /or design approach of the many individual elements that will make up the Proposed Scheme, to be sympathetic with the local landscape or townscape environments.' If it is true that such a design approach has been developed, it should be set out in the draft ES.

An independent Design Review Panel should be appointed (Network Rail is subject to such a panel) and clear design principles adopted. This is particularly crucial where the scheme impacts on the nationally protected landscape of the AONB.

Many elements of the scheme appear to have been omitted from the impact assessment. For example 3.5.53 makes clear that balancing ponds, landscape areas and line-side equipment will require access routes, however there appears to be no assessment of impact either of the balancing ponds / landscape areas themselves or the access routes to them.

### **3.6 Construction**

3.6.59 This section refers to monitoring of the impact of construction works, the effectiveness of mitigation and the implementation of any remedial measures. The proposal is for this monitoring to be undertaken by the principal contractors. No independent monitoring appears to be proposed – this is unacceptable. A clear commitment is needed to an independent, adequately resourced, enforceable programme of monitoring with a realistic post-construction time-frame. The Precautionary Principle should be applied when setting the parameters for this programme and it must be recognised that some impacts of construction e.g. impacts on the aquifer – may not be felt for decades post-construction. Recognised best practice environmental monitoring must be adopted.

### **3.6.65 Noise and vibration strategy**

This section refers to the approach to noise and vibration mitigation. It is proposed that in some circumstances consideration would be given to 'the provision and use of noise insulation for relevant properties or the temporary re-housing of residents.' There is no detail of the criteria for noise exposure levels, no definition of 'relevant properties' and no commitment to action even where stated thresholds are exceeded.

### **3.6.66 Waste management and disposal**

This section refers to the principles of the 'waste hierarchy. It contains no proposals for where the waste will be disposed of or how it will be transported, and makes no reference to any sort of plan being produced to deal with these issues.

### **3.6.69 Working hours**

This section outlines the numerous exceptions to the core working hours in which construction, transportation of excavated material, and other related activities will be permitted, in some cases 24 hours a day 7 days a week. The level of disruption to local communities and businesses will be significant and is unacceptable. The Board would expect to see a much more robust commitment to core working hours and minimisation of disruption.

### **3.6.77 Traffic management**

This section refers to traffic assessments, traffic management plans and traffic management strategy, framework construction workers travel plans, and generic and site-specific traffic management measures. The Board would expect to see clear and specific commitments to maintaining a high quality public access network and minimising disruptive effects of construction on the transport network.

### **3.6.83 Settlement**

This section states that a policy is being prepared - no information on proposed approach is provided.

## **4. Environmental impact assessment**

### **4.1 Overview**

*Figure 7 'Preparation of the formal ES'* sets out the process showing the impact assessment preceding the publication of the Draft Environmental Statement. In practice this has not happened. The Impact Assessment is nowhere near complete, and so cannot and does not underpin the draft ES.

4.1.10 This section states that ‘future baseline conditions and cumulative effects are not addressed in the draft ES because the necessary predictive work is continuing.’ An understanding of likely future baseline conditions and cumulative effects is crucial to assessment of impact, and no conclusions on significant effects of the scheme can be reached without this work being completed.

The Board expects full account to be taken of all planned and potential initiatives to conserve and enhance the AONB, as well as to meet required targets over the period up to the line becoming operational. These include meeting of Water Framework Directive targets for Chilterns water bodies including the R Misbourne and groundwater; Biodiversity 2020 targets for condition of priority habitat and species, ecosystems and designated sites; AONB Management Plan objectives and policies for example regarding the undergrounding of overhead cables. The Board would also expect likely future technical advances to be taken into account for example expansion of high speed broadband.

## **4.2 Scope of the assessment**

4.2.1 This section sets out the basis for assessing Impacts and effects. However, these are not consistently set out in each section. In places impacts are summarised within tables under section headings, elsewhere they are included in the body of the text. The Board would recommend a table of all impacts that clearly illustrate the different levels of impacts – this could be colour coded as in the Appraisal of Sustainability.

Of still greater concern is the lack of consistency between reports, with assessment of significance within some of the more detailed Community Forum Area Reports summarised to such an extent within the more general documents ( Vol 2 Report 27 and non-technical summary ) that impacts are overlooked or minimised.

### **4.2.5 Geographic scope**

This section states that the geographic scope of the assessment ‘reflects the distance over which significant changes to the environment are likely to occur as a result of the construction or operation of the Proposed Scheme.’ The Precautionary Principle should be applied here to extend the scope to all localities where significant impacts are a possibility rather than where they are likely.

## **5. Scope and Methodology for environmental topics**

### **5.2 Agriculture, forestry and soils**

The Board notes, with concern, that the study areas proposed in the more detailed topic based sections are not consistent with the approach set out in 4.2.5

There needs to be a clear rationale for the scope of impact study areas – this is currently lacking.

For example, the proposed study area for likely significant effects on agriculture, forestry and soils is a corridor 200m wide measured from the centre of the Proposed Scheme (5.2.3). This is completely insufficient to take account of all direct impacts (e.g. landscape mitigation earthworks, mitigation planting, balancing ponds etc), let alone indirect impacts arising from disruption to farm businesses. For example the mitigation planting adjacent to Jones Hill Wood extends to more than 300 m from the centre point of the line, and the large balancing pond south of Wendover Dean Farm is over 400m from the centre point.

### **5.3 Air Quality**

This section is extremely brief and provides no meaningful information on methodology, receptors assessed, the study area or how significance is to be assessed. No background air quality modelling has been undertaken.

The Board reiterates the points made in its response to the EIA scoping report May 2012, including the following:

- Air quality impacts will be judged as being significant if the proposed scheme causes uplift in concentrations, at relevant locations, where the EU limit values are already being exceeded.
- Consideration should also be given, through a wider spatial scope, to the impacts on a number of locations that are just under the Air Quality Standards. It is these areas that may risk becoming AQMAs as a result of construction and additional development traffic associated with the development of HS2.
- It appears that HS2 Ltd. considers that, because air quality is generally better in rural areas than urban areas, an increase in pollutants is acceptable. These areas should not be seen as having the 'capacity' to becoming more polluted.

### **5.4 Climate**

This is an extremely brief section stating that the climate assessment will be reported in the draft ES. No information is given of the methodology to be used to assess climate change impacts of the proposals, and how the significance of these impacts will be assessed.

The Board advises that the assessment needs to include:

- the impacts of road closures and diversions on local businesses, travel to work and other road use

- extra road travel as a result of disruption to Chiltern Line services, and
- all construction operations including spoil movement and disposal.
- any continued increase in car journeys as a result of road diversion or reduced classic line services, and
- additional road journeys created by people driving to HS2 stations and park and ride facilities.

## **5.5 Community**

5.5.7 This section states that there will be no demand on local community infrastructure unless temporary worker accommodation is present. However, elsewhere, (e.g. CFA report 9, 2.3.16) it states that workers would be expected to use public transport and (CFA9, 10.5.4) that the presence of construction workers could lead to opportunities for local business. It is understood from HS2 Ltd at road shows that HS2 contractors will use local health facilities including GP surgeries and Stoke Mandeville Hospital A&E. All use of local services by construction workers, whether or not accommodation is present needs to be considered as part of the impact assessment.

## **5.6 Cultural heritage**

5.6.2 States that the assessment of impacts on the setting of heritage assets has only been considered within the zone of theoretical visibility. This excludes those areas which may be outside the ZTV but nonetheless impacted for example by noise, vibration and traffic.

## **5.7 Ecology**

5.7.2 This sections states that the approach to the Impact Assessment ‘has been guided by the methodology advocated by the UK Chartered Institute of Ecology and Environmental Management (CIEEM).’ This is not sufficiently clear, and should be replaced by an unambiguous commitment to adhering to the CIEEM standards, or providing evidence that any departure from those standards will result in a more robust ES.

5.7.3 This section describes taking a worst case approach and section 5.7.8 describes developing a formalised precautionary approach with Natural England.

Despite the assertions in sections 5.7.3 and 5.7.8, there is little evidence of a precautionary approach being consistently applied, and references (in Vol 1) to a precautionary approach are restricted to the Ecology section.

The Precautionary Principle - as defined by the European Commission<sup>1</sup> - is widely recognised and it is this Principle which should be adopted throughout the ES.

5.7.9 This section refers to the formal ES providing more detail on potential ecological benefits of landscape planting. The Board would expect to be consulted on principles and details of any mitigation or compensation for adverse ecological impacts relating to the AONB and its setting. The Board would expect such principles to include, for example, a clear commitment to net biodiversity gain from the development, and a commitment to avoiding urbanisation of the AONB.

## **5.10 Landscape and visual**

5.10.3 This section should include a map showing the extent of the proposed landscape and visual study area. The Board would expect that its advice on the approach and area of study would be sought and taken into account. It is suggested that landscape and visual impact has been assessed within around 500m of the Proposed Scheme. This is not adequate in a number of areas for example where there are long views up and down the Misbourne valley.

## **5.11 Socio-economics**

5.11.2 It is not clear whether the assessment includes adverse impacts of construction on employment opportunities, existing businesses and organisations. Such impacts must be included.

## **5.12 Sound, noise and vibration**

5.12.3 This section asserts that sound contours have been calculated 'using proven and verified methods.' No detail is given of what these methods are, other than that 'equivalent continuous sound level' contours have been used. As previously advised the Board does not consider equivalent continuous sound levels to be a sound basis for assessment of impact. The reality is that the peaks in sound levels and their frequency are key to determining impacts.

There is no reference in this section to impacts of noise disturbance on wildlife - this needs to be added.

5.12.10 No assessment of ground borne noise and vibration effects has been included in the draft ES. It is proposed that this will be assessed in the formal ES.

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<sup>1</sup> Communication from the Commission on the Precautionary Principle COM 2000 /01

### **5.13 Traffic and transport**

5.13.5 This section assumes that ‘the impact of construction traffic has been assessed using the assumption that all excavated material from the worksites would be removed by road.’

However, this appears to be in direct contradiction to the assessments carried out and reported in Community Forum area reports – as confirmed in the response to an FOI request. For example, CFA report 9 makes plain that construction vehicle movements have been calculated on the basis of materials required for construction - i.e. they do not include vehicle movements relating to removal of spoil.

Elsewhere (Vol 2 report 27) it is stated that over 96% of the spoil would be re-used in the construction process. The presumption appears to be that very large quantities of spoil arising in the Chilterns will be deposited adjacent to the line within the AONB. This is wholly unacceptable and indicates a lack of sensitivity towards a nationally protected landscape.

### **5.14 Waste and material resources**

This section consists of one paragraph. It states that ‘assessment of secondary impacts and effects arising from the management and transport of both excavated materials and waste.....is undertaken in the respective environmental topics.’

These assessments do not appear to have yet been carried out.

### **5.15 Water resources and flood risk**

5.15.6 This section outlines significant limitations in undertaking the assessment of impact, due to lack of available information. There is no statement about how or whether this is to be remedied, or what approach is to be taken to the assessment in the light of these gaps. A clear commitment should be made to adoption of the Precautionary Principle.

## **6. Approach to mitigation**

6.1.4 This section states that the approach to mitigation is ‘driven by the Sustainability Policy.’ This is a completely insubstantial document covering one side of A4.

6.1.5 This section makes clear how insubstantial the draft ES is with regard to defining mitigation measures, mechanisms or land to be used. There is a high likelihood of substantial change to mitigation proposals and therefore to the environmental impact of the scheme. It is therefore difficult to come to any meaningful conclusions about the assessment of residual impacts as outlined in the draft ES.

### 6.5.1 Agriculture, forestry and soils

There is no information in this section on the approach to mitigation and no clear commitment to what measures are to be considered. 'Hs2 will work with farmers and landowners to assist in mitigating, where reasonably practicable, the effects of the Proposed Scheme on their businesses.'

### 6.7.1 Climate

'The approach to reduction of the Proposed Scheme's greenhouse gas footprint is under development'. The Board would expect a clear commitment to mitigation of greenhouse gas production. It is insufficient and meaningless to state that the carbon footprint of the scheme would be minimised 'as far as practicable.'

### 6.8 Cultural heritage

6.8.2 General principles for design, evaluation, mitigation, analysis, reporting and archive deposition for design and construction of the Proposed scheme have still to be set out.

### 6.9 Ecology

6.9.3. This section talks about the approach to future management of mitigation. The Board would wish to have an input to development of proposals for creation and future management of new habitats. There will need to be strengthened arrangements for funding and management of new habitats.

### 6.10 Landscape and visual

This section makes no reference to the AONB.

6.10.1 This section suggests that measures adopted will seek to enhance landscape resources. The Board would welcome such approaches including, for example, undergrounding of overhead cables and removal of pylons in the Misbourne Valley.

6.10.4 This section states that, 'careful consideration has been given to the design (and/or design approach) of the many individual elements that will make up the Proposed Scheme, to be sympathetic with the local landscape or townscape environments.' Where is the evidence of this careful consideration? What are the design principles which will be applied? Photomontages for example show very basic structures and design having no regard whatsoever for the nationally important landscape of the Chilterns AONB.

6.10.6 The Board welcomes the reference in this section to advance planting and would wish to comment on proposals



## 6.11 Socio-economics

This section confirms that there are as yet no proposals for assisting businesses displaced by the Proposed Scheme.

## 6.12 Sound, noise and vibration

This section refers to the scheme avoiding 'many noise sensitive locations' and asserts that by doing so, and keeping the route as low in the ground as possible, overall impacts have been reduced. There is no explanation of what is meant by 'noise sensitive locations' but it would seem the AONB is not included in this despite being a nationally important landscape.

An assessment of the impacts of proposed noise mitigation measures will be needed and does not appear to have been carried out to date.

## 6.13 Traffic and transport

6.13.1. The list of mitigation measures being considered to reduce impact of construction traffic is extremely vague and does not include any reference to traffic involved in transportation of spoil.

## Water resources and flood risk

6.15.2 This section makes clear that there has been no assessment of predicted future groundwater flows and quality. Trigger levels are still to be established relating to protection of groundwater resources and individual abstraction licenses. There is no reference to trigger levels for protection of river flow/chalk stream habitat and ecology.

6.15.4 This section talks about Water Framework Directive (WFD) status being 'maintained or where reasonably practicable improved.' This is insufficient given the legal requirement to meet WFD targets by 2027 - future baseline WFD status for 2027 should be assumed.

## 7. Strategic and route-wide alternatives

### 7.2 The 'do-nothing' option

This section states that the 'do-nothing option' was rejected in the context of the 2012 command paper. The Board notes that the need to 'do something' was based upon the needs identified in the White Paper *Delivering a Sustainable Railway* for a future rail network to:

- handle double today's level of freight and passenger traffic
- be safer, more reliable and more efficient.
- cater for a more efficient, affluent and demanding population
- have reduced its carbon footprint and improved its broader environmental performance.

Where is the evidence of a robust assessment of the Proposed Scheme against identified needs? Proper consideration of alternative ways of meeting identified needs - including the 'do-nothing option' - is essential if the public is to have confidence in what is proposed.

The option of addressing business and social needs by other means with lower environmental impacts has not been considered at all. The rapid growth in use of IT for communications renders many intercity journeys redundant.

The Board would contend that there is little if any evidence that the Proposed Scheme will meet the identified needs and would advise that a complete re-appraisal is needed of the supposed benefits of the scheme.

The Board notes that there is no consideration of the do-nothing option in the non-technical summary.

### **7.3 Strategic alternatives**

7.3.14 This section states that DfT's working group report in February 2011 found that infrastructure upgrades on the conventional rail network (Scenario B in section 7.3.13) would achieve a BCR in excess of 1.

7.3.23 This section asserts that Scenario B was considered to represent reasonable value for money, but found to perform less well in cost/benefit ratio terms than the Y network. No detail is provided on the assessment here referred to. This information should be included in the draft ES, and be available for comment as part of the public consultation. The BCR for Scenario B is not given. Given the recent announcement of significant cost increases it is imperative that the respective BCRs of the Proposed Scheme and alternatives such as Scenario B are re-visited. The Board understands that expert advice now considers a BCR of 0.3 is a more realistic assessment for the Proposed Scheme.

7.3.24 This section seeks to dismiss the option of upgrading existing networks partly on the basis of the degree of disruption and adverse impacts on reliability and journey time. No reference is made here to the disruption which would be caused by construction of the Proposed Scheme, and no comparison included between the two. It is crucial that a proper comparative assessment is carried out and the report included for full public consultation. It is difficult to see the justification for statements such as 'These costs (the economic costs arising from disruption of upgrading existing networks) further increase the relative attractions of a new-build line over upgrades of the existing network'. Where is the evidence that such costs are greater than those associated with disruption of building a new line?

There is no acceptance or analysis of the additional journeys that will be generated to and from the High Speed 2 railway stations. These are considerable and, if HS2 Ltd demand forecasts are correct, will result in considerable congestion around the stations (affecting all modes of transport)

and be responsible for significant emissions of greenhouse gases and further economic costs. These are likely to be assessed as significant adverse environmental impacts and must be included in the ES.

7.3.40 This section acknowledges that the 51M 'Optimised Alternative' offered a substantial margin of benefits over costs, 'which exceeded that of a high speed London and West Midlands route in isolation' but claimed that the 'scale of benefits would be less than that achieved by the HS2 network'. Again, the evidence behind this assertion is not presented for public scrutiny, and with the recent substantial cost increase for HS2 and announcement by Network Rail that it plans to undertake the Stafford area works it is crucial that the cost benefit ratio of alternative schemes such as the 51M proposal are re-visited.

## **7.4 Alternative specification and routes for a high speed scheme**

### **Alternative Train Speeds**

This section acknowledges that 'designing the Proposed Scheme for lower speeds could ...allow it to avoid sensitive environmental locations' (7.4.5), but concludes rather vaguely that 'overall, the local benefits delivered by lower speeds were not found to be significantly greater than those that could be achieved through mitigation of potential impacts associated with the preferred route'. Given that the detail and impacts (both beneficial and adverse) of mitigation are yet to be assessed in most cases it is difficult to see how this conclusion can have been reached. Proper information on the assessment of each alternative needs to be included and subject to full public scrutiny in the consultation.

The impression is given that environmental considerations have been subordinated to the business case and notional economic benefits.

The EU definition of high speed rail (which actually classifies many existing UK intercity lines as high speed) includes provision for lower speeds due to topographical reasons. Such an argument exists for the Chiltern Hills but has been ignored. It is unacceptable to state that there would be little environmental benefit of a 300 kph line speed. It is entirely possible to design different sections with different line speeds to reflect the conditions for that section. To have a universal speed along the entire length is unreasonable and results in lost opportunities to avoid adverse impacts.

It is noted that the line speed has been reduced to allow route flexibility, and therefore avoid adverse impacts, near Tatton in Cheshire and Meadowhall near Sheffield. The reason why flexibility is possible at these locations but not in the Chilterns is unclear, as it does not appear to be related to geography or topography.

No evidence is presented to demonstrate that the travelling public demands these speeds and resulting journey times. It appears they have been selected

to enable the criteria used to develop the business case to deliver an acceptable Benefit Cost Ratio. This business case has now been discredited, as has the unsound and incredible claim that travellers do not work on trains. If this element is discounted from the business case, as it should be, then the requirement for such a high line speed can be removed.

The extent of the adverse environmental impacts is a direct consequence of the decision to base line speed on the erroneous assumption that time on a train is wasted. The draft ES should have considered the environmental benefits of a lower line speed. In the Chilterns this would enable an alignment which avoids Mantles Wood and Sibleys Copse ancient woodlands, is further away from South Heath and Wendover and avoids the Grims Ditch scheduled monument.

## **8. Local alternatives**

8.1.2 It is highly misleading to suggest that local concerns resulted in the changes to the route which were announced in January 2012. In the Chilterns the majority of changes actually made the impacts worse, and other changes proposed which would have ameliorated impacts, for example lowering the alignment at Wendover Dean were not adopted. Despite this being pointed out at every level from Ministers down to HS2 Ltd officials attending Community Forum meetings, almost no details of the route have been changed. It is clear that political demands to begin construction of the railway as soon as possible and concerns to reduce costs have taken precedent and the impact on the environment have consequently been understated or only subject to modest mitigation.

It is also noted that the changes introduced in January 2012 reduced the cost of the route through the Chilterns by £300 million. This is approximately the cost of extending the bored tunnel from Mantles Wood to Wendover.

## **Draft Environmental Statement – Volume 2, CFAR 7 Colne Valley**

### **2. Colne Valley**

#### *2.2 Description of the Proposed Scheme*

2.2.2 The description includes mention of the construction of slip roads onto the M25. Traffic from the proposed scheme would be joining the M25 at a slow speed which will be likely to lead to significant amounts of congestion and consequent impacts on air quality, at least locally. These matters have not been addressed.

#### *2.3 Construction of the Proposed Scheme*

2.3.20 and 2.3.21 These paragraphs state that the route of the Proposed Scheme would require the diversion of two water courses, one of which is the River Colne. The details for the diversions will not be known until the formal ES is published. Clearly the details should be available now and the impacts of the diversions should have been fully assessed, reported on and subject to full and proper consultation.

2.3.22 This paragraph details a number of utility diversions including the National Grid power line that crosses the line of the proposed viaduct across the Colne Valley. This diversion is not clearly dealt with as part of the map book and it appears that the pylons have disappeared and that the wires may well have been put underground. This would be a sensible thing to do and should be applied to all National Grid pylons and wires that are affected by the Proposed Scheme.

2.3.28 Highway diversions are considered in this paragraph and the text categorically states that diversions ‘will be subject to change’ as part of the development of the design. This is not good enough – if changes are definitely going to be made then these should be fully and properly consulted on now.

Table 4 This table details various rights of way diversions and one public bridleway is subject to both a temporary closure and a permanent diversion without the implications being assessed.

2.3.40 Power supply is dealt with in this paragraph and various structures are mentioned without any consideration being given to the likely landscape and other impacts. The structures include overhead line equipment, feeder stations, connections to the National Grid network and auto-transformer stations.

#### *2.7 Proposals for further consideration*

2.7.1 This paragraph details various further engineering developments to the Proposed Scheme that are being investigated. However, the ES should have been prepared once such investigations had been concluded and the outcomes known. Some alternatives may present a better and more sustainable approach and should receive proper consideration rather than being dismissed for the time being.

### **3. Agriculture, forestry and soils**

#### *3.5 Construction*

3.5.6 This paragraph mentions the temporary loss of best and most versatile agricultural land. It is difficult to conceive how any loss of such land can be temporary, once it is gone it is gone for good, even if the growing medium is stripped and stored it will never be as good as it was before it was removed.

3.5.8 The whole of section 3.5 purports to detail mitigation, without providing any detail about the mitigation that should be provided for the permanent loss of best and most versatile agricultural land.

#### **4. Air quality**

General This section fails to take account of the likely implications arising from what will be significant numbers of heavy goods vehicle movements transporting spoil via local roads and the M25. The resultant traffic from the proposed scheme would be joining the M25 at a slow speed which will be likely to lead to significant amounts of congestion and consequent impacts on air quality at least locally.

#### **5. Community**

##### *5.3 Assessment scope and key assumptions*

5.3.2 The text states that consultation has not been undertaken in relation to all community facilities impacted by the Proposed Scheme and that as a result detailed information is not available. The publication of the draft ES should have been held back until such time as this information was available and the implications had been assessed.

5.4.6 and most of section 5.5 (Construction) The impacts arising from the operation of the Proposed Scheme on the Hillingdon Outdoor Activity Centre have been completely ignored. Should the Centre remain, and this is doubtful, its use will be severely affected by the operation of HS2.

##### 5.5 Construction

General The Proposed Scheme would have a number of significant effects on the Colne Valley, yet these effects are not considered to be residual (despite the fact that they invariably are, particularly with use of the Proposed Scheme and impacts on rights of way for example) and are then ignored.

#### **6. Cultural heritage**

##### *6.6 Operation*

6.6.3 No account has been taken of the cumulative impacts on the historic environment arising from the construction and operation of the Proposed Scheme.

6.6.4 The provision of earthworks and planting close to the proposed viaduct are considered by HS2 Ltd to provide an effective means of mitigating the effects of the Proposed Scheme. The draft ES has failed to take proper account of the impacts on the settings of heritage assets and the fact that many people will visit such places in order to experience the tranquillity that is associated with them.

6.6.5 This section states that there would be no residual effects on cultural heritage assets during operation. Even with the best mitigation the noise and visual intrusion arising from HS2 would not disappear completely. There will therefore be residual effects that need to be taken fully into account.

#### **7. Ecology**

General There are numerous references to gaps in data – the environmental baseline cannot be regarded as accurate or thorough with so much data still to be

collected, analysed, considered and reported on. The publication of the draft ES should have been held back until the data had all been collected and properly considered. The implications of the Proposed Scheme for ecology and ecological networks cannot be known at present.

### *7.5 Construction*

7.5.2 This section talks about the development of an integrated wildlife mitigation strategy. This sounds like the sort of document that should be widely available and subject to full and proper public consultation.

7.5.5 Despite the very long timescales that HS2 Ltd is working to, even these are not long enough to enable the replacement of Ancient Woodland. According to this section, Ancient Woodland is 'irreplaceable in the timeframe of the Proposed Scheme'. Such ludicrous statements should not form part of the draft ES.

7.5.8 Apparently, areas of open water and water margin vegetation would be shaded by the viaduct. However, the effects of this known impact have not been assessed and the draft ES fails to state what would be done to mitigate the impacts.

7.5.26 Various further measures for mitigation are being considered but are not yet part of the design. However, the ES should have been prepared once investigations into such changes had been concluded and the outcomes known. Some alternatives may present a better and more sustainable approach and should receive proper consideration rather than being dismissed for the time being.

## **8. Land quality**

### *8.6 Operation*

8.6.3 This paragraph states that the potential for minor leakage of fluids from the trains exists, but that such leakages are expected to be 'very small and would not lead to any significant contamination'. How can HS2 Ltd be sure about this and should not the precautionary principle apply here?

## **9. Landscape and visual assessment**

### *9.3 Assessment scope and key assumptions*

9.3.2 The landscape baseline cannot be complete and accurate as further surveys are due to take place during 2013, for report in the formal ES.

### *9.5 Construction and 9.6 Operation*

Tables 8, 9, 10 and 11 Despite a significant number of the landscape character areas suffering major adverse impacts during construction (Tables 8 and 9) and the fact that the draft ES fails to address these and provides no assurances about mitigation, the effects during operation have in most cases reduced to moderate adverse impacts. The Board has no confidence in these assessments. This will be compounded by the lack of survey and field data.

## **10. Socio-economics**

### *10.3 Assessment scope and key assumptions*

10.3.3 The assessment scope of this section is limited to impacts on workers with the community implications being considered as part of a separate chapter. This section states that the community chapter (which is stated as being 6, when in fact it is 5)

deals with impacts on the wider community. However, both that section and section 10 fail to take proper account of the implications, and particularly for those people that aren't employed and other users of the area (visitors for example).

### *10.5 Construction*

10.5.2 and 10.5.3 These two sections dismiss the loss of jobs as not significant in socio-economic terms – the loss of the jobs will clearly be very significant to those directly affected. In addition, no account has been taken in the draft ES of the likely impacts on visitors to the area during both the construction and operation phases. The area will suffer significant reputational damage during construction with large numbers of people not wanting to visit an area so badly affected by the construction, thus leading to detrimental impacts on jobs and livelihoods locally. Post-construction the reputational damage will remain so impacts on jobs and livelihoods will continue into the long term.

## **11. Sound, noise and vibration**

### *11.5 Construction*

11.5.6 and 11.5.7 The draft ES once again states that further work is being undertaken, this time in connection with the confirmation of significant construction noise and vibration effects and whether mitigation would be required. Such likely significant effects should be known now and duly assessed and properly reported, and if not known the draft ES should not have been published until such time as the information was available.

### *11.6 Operation*

11.6.8 and 11.6.11 These sections conclude that no significant noise effects have been identified on public rights of way in the CFA. The Board fundamentally disagrees with this conclusion as users of rights of way are invariably highly sensitive and noise is one of the things that has greatest detrimental impacts. All rights of way in the vicinity of the Proposed Scheme are likely to suffer significant detrimental impacts and users of the rights of way will therefore suffer adverse impacts. The claim made in the draft ES cannot be substantiated as section 11.6.11 states that further assessment work is being undertaken to confirm operational sound and vibration significant effects including those at non-residential receptors and quiet areas. The work has clearly not been undertaken and without the results the conclusion that is made in section 11.6.8 cannot be reached.

## **12. Traffic and Transport**

### *12.3 Assessment scope and key assumptions*

12.3.5 This section details a significant number of key limitations in the reporting of significant effects. The draft ES is therefore deficient on a number of counts and should not have been published at this stage without the information that is clearly missing.

## **13. Water resources and flood risk management**

General The construction and operation of the Proposed Scheme could, according to this section, result in many impacts on the water environment. However, the work that would be required to assess what the likely impacts would be has not thus far been undertaken. Until such time as this has been done the likely impacts cannot be assessed. The draft ES should not, therefore, have been published at this



time. When information is available, and the assessments have been undertaken the results should be fully and properly consulted on.

## **Map Book**

General The Chilterns AONB is a key environmental feature yet it is not identified as part of the Map Book.

General The layout of the map books is poor – the maps do not run concurrently from west to east (from left to right as the route is examined) and navigation through the maps is therefore difficult.

General The photomontages that have been included are poor and inaccurate.

General National Grid overhead power lines and pylons – numerous new pylons and lines are introduced in the construction phase but these are not shown on the proposed scheme maps (CT-05-019 and CT-06-019 is just one example), and diversions are mentioned but do not appear to be reflected in the proposed scheme drawings. This leads to inaccuracies in both maps and photomontages such that one photomontage shows that the pylons and lines have gone.

General No design parameters are given for the tunnel portals and no impacts of the portals have been assessed.

General The M25 access routes are described as temporary, but lots of planting is proposed as mitigation. There is little point in introducing new planting if the access routes are removed at the end of the construction phase – this would be a waste of time and money. In addition, traffic from the proposed scheme would be joining the M25 at a slow speed which will be likely to lead to significant amounts of congestion and consequent impacts on air quality, at least locally.

General All viewpoints have been provided with a photomontage. However, very few have been verified and included as part of the map books. In many instances the photomontage chosen is not the best one to illustrate the likely impacts and in some instances the distance from the viewpoint to the proposed scheme is over 1Km resulting in the detail of the photomontage being lost due to distance.

General The sound maps do not appear to deal with ground borne vibration. In addition, the maps show significant lengths of fences and barriers which are not subject to assessment as part of the draft ES.

General No detail is provided about the bunds, planting areas and the numerous water storage areas that have appeared and they are not subject to assessment as part of the draft ES.

Maps CT-05-022-03 and CT-06-022-03 These maps show a massive stockpile of material (CT-05) which is then presumably all placed into a massive embankment (CT-06). These works would have significant impacts which do not appear to have been assessed.

## **Comments on the draft Environmental Statement**

### **Community Forum Area Report 8** **The Chalfont's and Amersham**

**These comments need to be read in conjunction with those in the Conservation Board's comments on the non Technical Summary**

#### **2. The Chalfont's and Amersham**

##### **2.1 Overview of the Area**

###### Settlement, land use and topography

2.1.5 It is misleading to claim that the PS largely avoids a surface route through the Chilterns. Several miles are on the surface.

2.1.8 This section should refer to the Chiltern Cycleway.

2.1.14 This section refers to "A large public park is located on the Shardeloes Estate with a lake and Field Study Centre. No such public park exists. The Field Studies Council Centre is over a mile away at Mop End. This is an alarming mistake and suggests the author is not familiar with the area.

###### Planning Context and Key Designations

This section should specifically refer to the Chilterns AONB Management plan

##### **2.2 Description of the Proposed Scheme**

2.2.8 A reference is made to, "The vent shaft site would have a landscaped perimeter". No description is provided so it is not known what this means or what the design principles to be used will be; nor is the land take given.

The statement refers to "localised road improvements". In what sense will they be improvements? If they damage the road's rural character and locally important features are lost such as roadside trees and hedges, then degradation would be a more appropriate description. The "Environmental guidelines for the management of highways in the Chilterns AONB" have been published jointly by the Conservation Board and local highway authorities. The Board expects HS2 Ltd to follow this guidance.

A reference is made to an overhead electricity line. This will be an intrusive and urbanising feature. Will it be on poles or pylons? It should be put underground.

2.2.9 The statement refers to the lane to Upper Bottom House Farm being widened and improved. See above- in the context of its setting in the Chilterns AONB this would not be an improvement. Every effort must be made to conserve and enhance the character of these lanes.

### **2.3 Construction of the Proposed Scheme**

2.3.3 Reference to a “practicable minimum” are not reassuring. In practice this tends to mean what the contractor is willing to offer and what minimal monitoring and policing is capable of delivering. That is not sufficient to minimise the negative impacts of construction on local people or the environment.

2.3.4 This provides no reassurance to local people and visitors. In practice these sites are likely to be worked on for long hours including weekends. Local people need respite from the immense disruption and inconvenience they will suffer. Working hours in the evening and at weekends must be curtailed.

2.3.14 The Conservation Board welcomes recognition of the need to ensure the fences of the site compounds are designed and constructed to minimise their visual intrusion. It is a pity that little more is said on how this will be achieved.

2.3.15 Why is there a need for these sites to be illuminated at night?

2.3.16 It is wholly unrealistic to expect any significant use of public transport by construction workers. It is essential that adequate parking provision is made for them.

2.3.19 As the railway for this entire section is in tunnel, why is there any need for drainage ponds? None are shown on the maps for this area.

2.3.20 The ES needs to state what will be done with the water pumped out of the tunnels. Reassurance is sought that it will not be allowed to enter local water courses.

2.3.21 It is reassuring that there will be no major utility diversions. As no description is provided it is not known how a major diversion is defined. It implies there will be minor diversions however.

2.3.31 Reference is made to moving spoil directly from where it is excavated to where fill material is required. However, the locations are not identified. It would not be acceptable to move spoil from the tunnel to the section of line between Mantles Wood and Wendover. This represents a potentially significant environmental impact in its own right and needs to be assessed. The draft ES is unhelpful as so little detail is provided including a quantification of the scale of material to be moved.

Where will the crushing and screening take place? Presumably this will not be undertaken at the vent sites.

It is assumed that every precaution possible will be taken to avoid disturbing patients, staff and visitors to Amersham Hospital. A statement to this effect is expected in the ES.

2.3.36 The Conservation Board welcomes the proposal to provide appropriate landscaping. The statement that planting would reflect tree and shrub species native to the Chalfonts and Amersham landscape is bizarre and suggests an inexperienced author. In these circumstances the range of species which might be considered may need to be much wider, and would include exotic evergreen species.

The permanent fencing must be kept out of sight and itself screened using tree planting. The entrance to the vent sites must be low key and in keeping with the rural setting. Signage must be kept to a minimum.

## **2.5 Community Engagement**

The Community Forums were wholly ineffective and not even minor changes were introduced to the alignment or design as result.

## **2.6 Route Section main alternatives**

It is clear than no significant alternatives were proposed or considered.

2.6.2 This paragraph refers to workshops attended by specialists. This did not include anybody from the Chilterns Conservation Board or any local people. Reference is made to achieving the right balance between cost and other considerations. How was this balance achieved? What criteria were used? Who made the final decisions? This is galling for those local people who attended the community forum meetings and whose views were almost wholly ignored by HS2 Ltd.

2.6.5 No explanation is given as to why the design standard for the depth of the tunnels beneath water courses was twice the diameter of the bore. The specification has to be in the context of the nature of the geology and the impacts which need to be avoided. No evidence is provided that HS2 has a full understanding of the complex geological conditions in the Misbourne Valley.

2.6.6 Application of the precautionary principle suggests the tunnel should be deeper still to reduce the risk of affecting watercourses. It would also reduce the potentially adverse impacts on the aquifer.

2.6.14 The retention of the established scrub is essential. This will require careful site management. Any damage to these trees should be made good by immediate planting.

### **3. Agriculture, forestry and soils**

3.5.1 Stripping and stock piling soil quickly results in a loss of its structural qualities. To suggest there will be no substantive reduction in long term productive capability is both optimistic and misleading.

3.6.2 It is essential that all run off is captured, treated or removed. It should not be allowed to run into the R.Misbourne.

### **4. Air Quality**

4.5.2 References to “where reasonably practicable” is no reassurance. Contractors must not have the option of causing any negative effects. If they do there needs to be rigorous monitoring with an effective enforcement of standards to ensure adherence.

Air quality near to Amersham hospital must not be affected. Penalties must be severe to ensure it is not adversely affected.

No description is given of the enclosures which will be used to contain dust emitted from construction activities.

4.5.5 It is doubtful that impact of HS2 construction traffic on local roads will be negligible. This sounds complacent. It is highly likely that HGVs , for example, working at the Amersham hospital vent will cause considerable local congestion.

### **5. Community**

This section should include references to the Chilterns AONB Management Plan.

### **6. Cultural Heritage**

This section should include references to the Chilterns AONB Management Plan.

6.5.2 The aim should be to avoid damage to cultural assets and not just to control any damage.

6.5.3 The references to investigations are welcome. It is imperative that sufficient resources are also provided for collection, analysis, conservation, archiving, cataloguing and presentation.

6.5.4 It is imperative the granary is protected. The possibility of temporarily, or even permanently, moving it to safer location might have to be considered.

## **7. Ecology**

This section should include references to the Chilterns AONB Management Plan.

- 7.3 It would appear that HS2 Ltd does not have sufficient field data to undertake meaningful assessment of likely effects.
- 7.4.6 All ancient woodland is of national value.
- 7.5. Monitoring ground water and surface water is only part of the necessary range of measures. The draft ES fails to state what action would be taken if the monitoring shows declines. Would tunnelling be halted or does HS2 regard any impact as acceptable?

The precautionary principle must apply and work should be halted if monitoring shows any decline which cannot be attributed to natural causes.

- 7.5.5. The draft ES suggests adverse affects will be temporary. The ES needs to consider the possibility that they may be permanent in which case avoidance measures need to be introduced.
- 7.5.7 What monitoring will take place to ensure the impacts are not significantly adverse?
- 7.5.8 Whilst Water Voles are currently not present on this section of the Misbourne, the impact of HS2 is likely to prevent their re-colonisation of the river for some time. This is an example of how the environmental baseline needs to be adjusted to consider what would have happened in the absence of HS2.
- 7.5.9 What does a suitable distance up and downstream mean? The ES should give specific measures.

## **9 Landscape and Visual Assessment**

### **9.5 Construction**

- 9.5.2 Trees should not be accidentally felled or die as a result of construction works. This suggests that management will be inadequate and the level of due care and attention on site will also be lacking.
- 9.5.9 Visual assessment

Nowhere in any of the draft ES documents is mention made of the cranes which will populate every construction site and become by far the most visible impact of the construction of HS2. They should be described and care taken to ensure that the visibility assessment of

each construction sites includes the impact of these cranes which, it is assumed, may be 40 metres or so high.

#### 9.5.14 Viewpoint Table

Views from dwellings looking north-west from the Bottom House Farm Lane (071.2.001). The level of effect to visual receptors should be graded as Major Adverse and not Moderate Adverse.

- 9.6.3 The potential impact of vent shafts is under-stated especially as nothing is said about the design of the buildings, which will never be fully screened. They will remain a blot on the landscape unless the design of the building is sensitive to the location. Reliance on earth bunds and tree planting would be insufficient. It is likely that the wider, more urban, roads leading to the vents will draw attention and urbanise the setting. This wider impact is harder to screen and it is, therefore, vital that the design of the vent building and its immediate surroundings are designed to resemble an agricultural complex without the worst features of modern farm buildings.
- 9.6.4 It is almost certain that the use of exotic conifer species will be needed to provide the necessary level of screening during the winter months.

## 10 Socio Economics

This section should recognise the potentially significant impact of HS2 on the amenity and quality of life of local people and visitors - but it fails to do so.

### 10.5 Construction

- 10.5.1 There is no recognition of the likely disruption experienced by local people during the construction phase caused by HS2 traffic using local roads. The vent site near Amersham Hospital will be a particular hotspot due to its proximity to the hospital and the junction of A413 and A404.

It is noted there is virtually no content to this section and that HS2 does not have the necessary information to assess the socio economic impacts. In the absence of this it would have helped if a statement had been made of what HS2 Ltd was doing in order to satisfactorily prepare this section for the final ES.

## **11 Sound, Noise and Vibration**

11.3.8 It is assumed that the most effective and advanced techniques would be used. It is not reassuring to read that “ground-borne noise and vibration would be mitigated at source in so far as is reasonably practicable”. This is code for uncertainty on the a part of the engineers and a determination to minimise costs by the accountants. The Government claims this will be the finest railway in the world and this tunnel is to be constructed beneath a nationally protected landscape. It is not unreasonable to expect the best noise and vibration mitigation possible and for that to be stated in the ES.

11.4.1 The ES needs to consider the realistic possibility that road noise will be reduced by use of low noise surfacing and continuing improvements in engine and tyre noise reduction. The ambient noise levels attributed to road noise will, therefore, reduce. This needs to be given weight by HS2 Ltd in its assessment of the relative impact of HS2 trains.

## **12 Traffic and transport**

12.3.6 5<sup>th</sup> bullet point

This point makes references to the possibility of “a significant impact” on roads in the vicinity of the South Heath tunnel satellite site compound, including the A413. It is noted that the mass haul strategy is still being developed. That this work has still not been done is of concern.

12.4.5 The limited number and duration of surveys of the public rights of way render them meaningless and no reliance should be placed on them.

The Board believes that the number of vehicle movements to and from the vents sites, and between them, is under-estimated. It is likely to result in local people and through travellers being subjected to considerable inconvenience. The impact of slow moving HS2 traffic on the A roads is not mentioned nor the impact assessed. It is entirely possible that long queues will build up behind slow moving HGVs thus hindering traffic flows. This waste of time has a value which should be included on the overall business case for HS2.

There is no mention of where the HGVs, especially those moving spoil, will travel to. This issue has been raised for more than 3 years and still HS2 Ltd is not able to provide any details of its strategy.



## 13 Water resources and flood risk assessment

13.4.1 History of low flows extends throughout the river, not just the middle reach. Also the perched section vulnerable to particularly low flow extends from Shardeloes lake to Chalfont St. Peter not Amersham to Chalfont St. Giles.

There have been water pollution incidents recorded by the EA in this section of the route. Leaks from the sewer balancing tanks adjacent to London Road waste recycling centre are a chronic problem. Leaks have been reported in 2000, 2001 and in Feb 2007.

13.4.3 As groundwater flows predominantly through fractures in the chalk it is also vulnerable to tunnelling construction which can interrupt flow and cause long term changes to catchment hydrology, with knock on effects to river flow and to public water supply sources.

13.5.6 How has HS2 determined that ground settlement would only have a moderate impact on surface flows in the Misbourne? Ground settlement could lead to total loss of flow along the perched section of river (12.3km between Shardeloes Lake and Chalfont Park lake). It is also not true to say that any flow lost would re-enter the river through springs lower down the river, as groundwater flow in the lower valley does not follow the line of the river. If water were to re-enter the river further down, it would be no mitigation whatsoever for loss of flow further upstream.

There is no mention of the impact of ground settlement on water supply and wastewater infrastructure. There are many supply and waste water pipes that the tunnelled route will cross beneath, including several trunk mains and a major sewer all of which will require strengthening to cope with subsidence.

13.5.7 What mitigation is proposed to address any negative impacts to river flow? Simply monitoring the impact is not sufficient.

13.5.9 It is likely that increased turbidity will also adversely affect the River Misbourne and its ecology. How can 'moderate' impact lead to 'significant adverse effects'? What form would the 'additional' mitigation take? It is likely that public water supply abstraction would need to be shut requiring alternative supply to be found at the cost of HS2Ltd.

13.5.11 What does HS2 Ltd define as a 'moderate value receptor' and how is it possible that a principle aquifer is only a 'moderate receptor'? It is wrong to assert that tunnelling will have a negligible impact on groundwater flow. As recognised in 13.4.3 groundwater flow is concentrated along fractures in the chalk. These arteries of

groundwater flow are concentrated particularly beneath the river valley bottom. If, as seems likely, that the tunnels will intercept arteries of groundwater flow, the impact will be far from negligible.

- 13.5.14 Impacts on Affinity Water's operations will be significant. It is likely that both Affinity Water's public water abstractions (Amersham and Chalfont St. Giles) will need to be shut during construction. It will be necessary for Affinity Water secure water supplies from elsewhere which may have a negative impact on neighbouring catchments (if water is imported from pumping stations in adjacent river valleys) or may require new sources to be secured. There will also be a significant impact on water supply and waste water infrastructure.

If preferential lines of groundwater flow are interrupted or altered, it may take many years for new flow pathways to develop. This could have a long-term impact on public water supply and river flow.

- 13.5.15 How will monitoring of ground settlement and river flows reduce the risk of flow losses? What mitigation is planned to prevent or compensate for loss of flow?

- 13.5.16 Surface water drainage from construction works will be of lower quality than groundwater, even after proposed treatment, and will have a long term impact on water quality.

- 13.5.17 HS2 Ltd should also monitor water quality and ecology. It is not correct to say that impacts on the R. Misbourne and Shardeloes are unlikely. They are highly likely. HS2 Ltd should ensure that mitigation is sufficient to ensure there is no reduction in flow or ecological quality of the Misbourne or quality of groundwater as is required by the EU Water Framework Directive.

- 13.6.1 There is a high risk that the tunnels will create significant hydraulic pathways for groundwater around the outside of the tunnels. This could have long term impacts on groundwater and river flow as well as public water supply sources.

- 13.6.5 This statement is incorrect. What evidence does HS2 Ltd have to back up this claim? Ground settlement, interruption of groundwater flow and drainage from infrastructure will all affect the quality of the Misbourne even once the proposed route is operational.

- 13.6.8 What evidence does HS2 Ltd have to support this statement? It is likely that the tunnels will alter groundwater flow pathways and is likely to provide a conduit for flow round the outside of the tunnels and intercept groundwater along its entire length, not just in the immediate vicinity of the river crossings.

- 13.6.9 What evidence does HS2 Ltd have to support this view? The impact on groundwater is likely to be significant.

- 13.6.10 It is likely that public supply abstractions at Chalfont St. Giles and Amersham are permanently affected by the route long after construction. This could be through contamination of groundwater and reduction in productivity. As a result new sources will need to be found and supported by new infrastructure. Even if these sources are able to re-open after completion of the route, they may be periodically be affected by groundwater contamination from the route, leading to interruption in supply.
- 13.6.12 Major obstructions to groundwater flow referred to in 13.5.13 (e.g. The tunnels and access shafts) will remain after construction and therefore any elevated flood risk associated with these structures will remain also.

#### Likely residual effects

- 13.6.13 HS2 Ltd have provided no evidence in this report to back up this statement.

#### Further mitigation

- 13.6.14 What about further mitigation to prevent damage to R. Misbourne and its ecology?

## Comments of the Chilterns Conservation Board on

### HS2 Draft Environmental Statement – Volume 2, CF 9, Central Chilterns

#### 2 Overview

2.1.4 The description of topography as ‘generally hilly with a distinct ridgeline running south-east to north-west’ is unusual. ‘Undulating plateau above the River Misbourne’ would be more accurate.

2.1.11 Recreational facilities should include Sustrans National Cycle Route, regional and local promoted routes, cycle hire and ‘Weights and Measures’ gym.

2.2.7 Tunnel portal arrangements are not clear in the map book.

2.2.9 Describes temporary diversion of power lines. Opportunities for undergrounding lines should be considered.

2.2.11 It is disappointing that permanent and temporary land requirements are not indicated in this report. These will be important details when considering a wide range of impacts.

#### Working hours

2.3.5 Working hours are effectively 07.00 to 19.00 and other exemptions listed in the CoCP would allow far longer working that could have serious impact on residents, visitors and wildlife.

2.3.10 and 3.16 Will all 140 workers at the South Heath satellite site use public transport or ride-share schemes?

#### Construction traffic and access

2.3.17 **Error** – Bull Baiters Lane will not be upgraded.

2.3.26 The Board does not agree with the suggested footpath diversions. Routing diversions parallel to the PS is not acceptable. Strategic diversion away from the line should be considered.

2.3.34 The Board expects to see robust Phase 1 ecological and archaeological investigations.

#### Green Tunnels

2.3.38 and 40 Mention is made of blending landscaping in with the surrounding area. There is no mention of destruction of ancient woodland.

## Landscaping and permanent fencing

- 2.3.44 The Board would like full details of proposed planting reflecting 'tree and shrub species native' to the Chilterns.  
Planting should reflect current thinking on species and structure diversity to increase robustness to climate change, pests and disease.

## Extended bored tunnel

- 2.6.12 The extra construction impacts at the Wendover area is overstated.
- 2.6.14 Highlighting the visual impact of an escape facility at Durham Farm when the current proposals is a viaduct is questionable.
- 2.6.16 The Conservation Board disagrees with the suggestion that cutting and green tunnel provide effective mitigation for the proposed route compared to the fully bored tunnel.

## 3 Agriculture, forestry and soils

- 3.4. Too much emphasis is placed on Agricultural Land Classification (ALC) and not enough on farm business.
- 3.4.9 Important farming activities have been missed (e.g. Middle Grove Farm) indicative of poor consultation to date.
- 3.4.11 This analysis is far too simplistic. As with many businesses, farming is particularly sensitive to economies of scale. Loss of land and fragmentation both during construction (the length of which may impose serious restrictions on certain enterprises) and operation may threaten the sustainability of a number of farm businesses. Even where arable land is contracted out, levels of rent for areas let out may be reduced and, total loss of area may impact on contracting businesses – there is a finite area of land, contractors using expensive leased machinery based on the area of land farmed, cannot simply find new contracts. Other associated businesses, e.g. those using farm buildings, may also be affected.
- 3.5.1 Describes specific and relevant liaison. None has been received to far.
- 3.5.3 Fragmentation of farm operations is a serious concern in this area.
- 3.5.4 What is the expected timescale for returning land to agricultural use?
- 3.5.6 Loss of ancient woodland cannot be mitigated by replanting in nearby locations – even 20ha. The effect would not be reduced to insignificant when planting matures.

3.5.10 This analysis is poor. Middle Grove Farm, for example, has both equestrian enterprises and hosts community events.

## **4 Air Quality**

4.5.3 and 4.

The construction maps within the map book (CT-05) show route cuttings, other route infrastructure and large 'Materials Stockpile' areas. It is doubtful that the measures identified to control dust emissions will be adequate to justify the assessments of impacts being 'negligible for residential receptors' and 'not...significant' for ancient woodland both of which are either adjacent or directly damaged by the proposals.

## **5 Community**

**PRoW, Access and Enjoyment** - This section does not recognise the importance of quiet local roads and lanes as links to the PROW network and for the enjoyment they provide in their own right to walkers, cyclists and horse riders (see PROW principles).

5.5.2 and 3

There is no assessment of the impact of construction on residential properties other than those identified for demolition. Property blight and other loss of amenity need to be recognised.

To identify the loss of 7 dwellings, 'in the context of the community', as 'minor adverse' and 'not considered significant' is, at the very least, dismissive of the real impact this will have on peoples lives.

## **6 Cultural Heritage**

6.4.9 The importance of historic routeways (referred to in 6.4.2-4 and identified by the Buckinghamshire Historic Landscape Character Assessment), both current roads and PRoW, should be highlighted as important non-designated assets and damage assessed accordingly.

6.6 The impact of potential mitigation (e.g. landscape mitigation earthworks) both on asset setting and potential archaeological remains needs to be assessed.

## **7.5 Ecology Construction**

7.3.5 and 6

Surveys have been very limited in this area. Unless full and comprehensive survey takes place (for some species, such as bats, several seasons can be required to obtain a true baseline), a precautionary principle needs to be adopted.

#### 7.4.4 and 5

Throughout the document too much emphasis is placed on nationally designated sites to the detriment on non-designated sites. For example, SSSI designation was intended to represent a sample of the best wildlife sites and never all of them. Local Wildlife Sites (LWSs) may therefore contain nationally important habitat and notable species. It is, therefore, inaccurate to simply relegate all these to a 'county/metropolitan value'. Several of the LWSs identified are also ancient woodland – also an important national resource.

7.4.6. Ancient woodland is allocated a 'district/borough value' here. Again, this undervalues the resource.

7.5.2 30 ha of new planting will not compensate for 13.9ha of Ancient Woodland loss.

7.5.4. Far more detail on proposed mitigation measures are required. Translocation (especially of ancient woodland species/habitat) is unproven.

7.5.6 Planting will not mitigate for loss of AW.

7.5.7 The Board looks forward to receiving details of coppice stool and tree translocation. To date, no evidence of successful translocation projects (survey/monitoring reports) has been available.

7.5.8 AW cannot be recreated. Reducing loss to county/metropolitan level significance is wrong.

7.5.9 Identifying new planting as having beneficial effects of district/borough level significance, i.e. possibly a little lower than the status accorded to AW loss, is misleading.

#### 7.5.10 and 14

Describing loss of bat foraging and movement corridors as temporary undervalues the significance of this loss. This is defined as the period before mitigation planting is established. This could take several years, even decades to reach prime habitat, by which time populations will have been severely restricted and may even be lost.

7.6.2 The green tunnel at South Heath is identified as a measure to avoid or reduce impacts on ecology. This is overly simplistic and does not take account of habitat establishment. Also, fragmentation of habitat and wildlife corridor is a major concern in this area and the Board does not consider that one length of green tunnel is an adequate mitigation measure. Mitigation should also be in place before habitat and wildlife corridor is lost.

7.6.7 AW effects are residual and should be classed as national.

## 9 Landscape

- 9.2.3 The Board is pleased to see that the AONB management plan is acknowledged here.
- 9.4.4 Land Use Consultants carried out an LCA study for Wycombe and Chiltern Districts on behalf of Bucks CC, signed off November 2011. Reference should be made to this work. Also, the impact on areas beyond those immediately impacted by the route, e.g. views across valleys, needs to be assessed.
- 9.5.1 The Board agrees that 'significant effects' of construction 'cannot be mitigated'. However, in view of the construction timescale, the nature of works and likely establishment period of any landscaping planting, the Board disagree with the assessment of these effects being temporary.
- 9.5.2 This section does not give the Board confidence that protection of the landscape is of high importance. Terms such as 'protection...where reasonably practical', 'trees...accidentally felled' and 'planting...where there is no conflict with construction' suggest that economic and engineering considerations take precedent over protection of this nationally designated landscape.
- 9.5.8 Impacts are classed as major adverse. This assessment should be reflected in 'higher level' documents.
- Impacts on other LCA's (views into PS) have not been assessed.
- 9.5.10 Has construction traffic been assessed?
- 9.5.11 Woodland loss is not considered.
- 9.5.14 Effects will be ongoing and not 'less than the entire construction period'. Levels of effect are generally assessed as major adverse. These should be reflected in higher level documents such as Report 27, the Route Wide assessment. Construction traffic has not been assessed.
- 9.5.15 The duration would not be temporary.
- 9.6.1 Mitigation details are very simplistic. The Board requires sufficient information to confirm that all mitigation is in keeping with current LCAs. The Chilterns Conservation Board is the statutory body with duties to conserve and enhance the Chilterns AONB. The Board would therefore expect to be consulted fully on all aspects of mitigation design, implementation and management.
- 9.6.3 Views from LCAs outside the construction corridor should not be ignored.



- 9.6.12 Levels of effect are assessed as either major or moderate adverse. The Board suggests that in year 1 of the Proposed Scheme, more effects are likely to be major adverse. This should be reflected in higher level documents such as Report 27, the Route Wide assessment.
- 9.6.15 Balancing ponds should not be considered mitigation for this area. The Chilterns Conservation Board expects to be consulted fully on all aspects of mitigation design, implementation and management.

Mitigation details are poor. Few details for planting, earthworks (grade), timescales etc.

## **10 Socio-economic**

- 10.5.1 Reference to agricultural employment should be made here.
- 10.5.2 Evidence needs to be provided to back up the claim that 'impact on the local economy...is considered to be relatively modest'.
- 10.5.4 Suggests potential local business opportunities. Evidence is required.
- 10.6.1 Suggests that 'wider operational employment opportunities could be accessed by residents'. Is this likely? Evidence is required.

## **11 Sound, noise and vibration**

No assessment of the impact of sound, noise or vibration on wildlife has been made.

- 11.4.1 Many of the roads and lanes within this area are not busy – in particular, Hyde Lane, Potter Row and Leather Lane.
- 11.5.2 Further details and impacts of specific mitigation measures are required.
- 11.5.6 Description of 'potential construction noise' is overly simplified. This area will see significant excavation of chalk requiring large machinery, movement and storage of materials, demolition of properties and removal of woodland and belts of mature trees. Such work would have a significant adverse effect on both human and wildlife receptors.
- 11.6.7 This area is popular for walkers, cyclists and horse riders – both for local people and much further afield (including day visitors from London and organised Duke of Edinburgh Award groups). The Board does not agree with the assessment that there will be 'no significant effects'. PRow use is likely to be drastically affected by the change in user experience – not least noise.

## 12 Traffic and Transport

12.3.7 Far more details of forecast construction traffic, including movement of excess excavated material, need to be available and thoroughly assessed.

Map book details suggest that access to the Chiltern Tunnel north portal will not be via an upgraded Bulbaiters Lane.

12.4.5 The Conservation Board would like to study and verify the PRoW levels of use survey results.

12.5.10 and 11

Further details of travel plans and site parking are required.

12.5.14 – 17

The quiet lanes are, in themselves, an important recreational resource for walkers, cyclists and horse riders. Evidence needs to be available to demonstrate that the impact of increased traffic on these uses has been assessed.

(See PRoW principles).

12.6.3 and 4 See note on 11.6.7 above and PRoW Principles.

## 13 Water Resources and flood risk

**See notes for CFA 8.**

Further details of drainage of water and treatment of potential contaminants from the Proposed Scheme are required (drainage channels, design of SuDS attenuation ponds, treatment procedures, discharge sites, monitoring etc.).

### Map Book

- Layout is poor – maps do not run concurrently west/east from left to right.
- The Board understands the difficulty of presenting maps with multiple layers of information but it would be helpful on the construction and proposed scheme maps to see
  - areas of existing woodland, and
  - existing rights of way. Although the CT-6 legend includes 'New or Diverted PRoW', these are not clear. A separate set of PRoW maps may be required.
- Details are absent, e.g. extra planting to the west of Mantle's Wood.
- Details are not explained. E.g.
  - The Board understands that there are different types of balancing pond – these are not identified;

- what is the purpose for including the PRow, GMI/26/1, which is lined with mature trees, within the construction boundary? Is this another construction route to Hyde Heath Rd?
- Representations of planting and landscape mitigation earthworks are crude. The Board understands that these are to be improved. More accurate representations are required to enable a greater understanding of proposals.
- Photo montages are poor and inaccurate.
  - They should be produced in accordance with LI Advice Note 01/11.
  - A greater number are required and these should show clearly where they are taken from and in which direction.
  - It would be helpful if photo montages could give an indication of what can be seen.
  - Currently the pictures are too small and do not represent what the eye sees.
  - panoramic photomontages do not accurately show proposals on plans.

# **Draft Environmental Statement**

## **- Volume 2, CFAR 10 - Dunsmore , Wendover and Halton**

### **Part B: Overview of area and description of Proposed Scheme**

#### **2. Dunsmore, Wendover and Halton**

##### **2.1.19 Planning context and key designations**

The list of key designations in this section omits scheduled monument. The route in this section destroys part of Grim's ditch (scheduled monument) and also passes close to Bacombe Barrows (scheduled monument).

#### **2.2 Description of the Proposed Scheme**

2.2.2. Changes since proposals announced since January 2012 include introduction of a proposed Maintenance Loop south of Stoke, Mandeville. The maintenance loop and HS2 line will be highly visible at this point as it will be on embankment, just north of the AONB boundary. This will clearly have an adverse impact on views from the AONB and on the AONB setting. This needs to be acknowledged in the draft ES.

2.2.6 This section outlines key design features to include permanent access tracks to provide access to ponds - access tracks need to be included in the assessment of impact, not all are shown on the map.

2.2.11 This section states that 'Areas for planting have been identified throughout this section of the route ...' Only 2 areas of planting are shown in this section (see CT-06-035) , one adjacent to what's left of Jones Hill Wood, the other, linear planting near Cottage farm. No rationale is given for location.

2.2.13 Land required for the Proposed Scheme – it is clear from this section that although the maps appear to indicate the footprint of the land required (the construction boundary) in fact this is indicative only. Impact assessment cannot be properly carried out until and unless the total land take (permanent and temporary) is confirmed. Any changes from the proposals in the draft ES must be subject to full public consultation.

## **2.3 Construction of the Proposed Scheme**

### Working hours

2.3.5 There are a large number of exceptions proposed to core working hours. These are likely to cause significant disturbance to local communities and it is important that they are more clearly defined and subject to proper public consultation.

### Fencing and lighting

2.3.12 This section refers to reducing 'as far as reasonably practicable light pollution' in the site compounds during the hours of darkness. This needs clarification – it is unclear why the compounds would need to be lit at all at night. The impact cannot be assessed unless proper information is provided on what is proposed.

### Temporary worker accommodation sites

2.3.13 This section confirms that there will be a main construction site and accommodation site at Small Dean Viaduct. Up to 180 workers will be accommodated at the site (peak workday), up to 120 workers for an average workday with the majority travelling to other sites to work. The associated traffic movements of workers travelling to construction sites needs to be fully taken into account in the assessment of traffic impacts – it would appear to be underestimated in table 12 (12.5.6)

### Drainage and culverts

2.3.16 Locations of drainage ponds have not yet been decided. The impact of such ponds and associated culverts, access roads and fencing has also therefore still to be assessed.

2.3.18 This section outlines a large number of major items of utility infrastructure in close proximity to the Proposed Scheme, however it is apparent that it has not yet been agreed what form the necessary diversions would take. This work will entail substantial disruption and expense, and the relevant information should have been available prior to any impact assessment being carried out. The Board would suggest that it would be appropriate to consider undergrounding of the all National Grid pylons and wires affected by the Proposed Scheme.

2.3.22 This section refers to highway and road diversions and makes it clear that the diversions shown are subject to change. If changes are going to be made these must be consulted on fully and properly.

## Footpath, cycleway and bridleway diversions

2.3.23 There is no discussion of the likely impacts on the users of rights of way and the quality of the alternative routes or diversions.

### *Main construction works – earthworks*

This section makes no reference to the maintenance loop which is partly within this Community Forum Area and will be a major structure with significant detrimental impacts on the landscape and local communities. The impacts of the maintenance loop should have been included and fully assessed as part of the draft ES.

2.3.27 This section states that ‘consideration has been given to the movement of materials’ and reference is made to processing and temporary stockpiling, crushing and/or screening. However, no details are provided. The movement of excavated materials will be a significant issue in the Chilterns with potentially major repercussions. No consideration is given to the effects of these operations. Full details need to be included and consulted upon.

### *Main Construction works – structures Green tunnels*

2.3.28 /29 These sections state that green tunnels ‘have been landscaped to blend into the surrounding landscape’ and that the green tunnel west of Wendover ‘would include a ‘hood at each end contained within the green tunnel.’ These statements are fundamentally inconsistent with the photomontage LV-12 -29 which appears to show an extremely large, intrusive concrete structure entirely out of keeping with the surrounding landscape – this is presumably the perforated tunnel hood.

### *Rail infrastructure fit out Landscaping and permanent fencing*

2.3.35 The specifics of what is proposed regarding landscaping should have been worked out prior to the draft ES, in order that the proposals could be included in the impact assessment. The points made in this paragraph are entirely vague and lacking in substance – for example ‘where appropriate the engineering embankments and /or cuttings would be reshaped to integrate the alignment sympathetically into the character of the surrounding landscape.’ Who is to judge where it is appropriate to do this – and indeed where it would not be appropriate?

2.3.36 Locations for erection of permanent fencing should have been decided prior to the draft ES, and taken into account in the impact assessment.

## **2.6 Route sections main alternatives**

A number of alternative options, including an extended Chilterns bored tunnel, are mentioned in this section. All are dismissed. Full consideration should have been given to all alternative options, with evidence of this detailed consideration provided in the draft ES. This has not happened. It is notable that in many instances - for example the proposal to extend the green tunnel at Wendover - one of the key factors given for not pursuing alternatives proposed is cost, and yet no costings are provided.

- 2.7 Proposals for further consideration are listed in this section, including the potential for an alternative to the Small Dean Viaduct. All of these should have been fully assessed and included as part of the draft ES.

## **Part C: Environmental topic assessments**

### **Section 3 Agriculture, forestry and soils**

#### **3.4 Environmental baseline**

- 3.4.1 The study area used to determine likely significant effects on agriculture, forestry and soils is a 200 m wide corridor centred on the Proposed Scheme. This is completely insufficient to take account of all direct impacts (e.g. landscape mitigation earthworks, mitigation planting, balancing ponds etc) let alone direct impact arising from fragmentation of land holdings with consequent impacts on agricultural operations.
- 3.4.2 How has sensitivity to change in relation to farm holdings been determined? It is asserted that 'In the study area there is one dairy farm, which is of high sensitivity to change, 10 farms of medium sensitivity, and six holdings of low sensitivity', but little information is given about how this conclusion was reached. It would seem reasonable to expect that there would have been assessments of those farm businesses to be affected and likely impacts, but it is unclear that this was the case.
- 3.4.16 This section states that 'there are a number of blocks of non-commercial woodland within the study area.' It should be noted that several of these 'non-commercial blocks' are in fact ancient woodland.

### **3.5 Construction**

#### Assessment of impacts and mitigation

Potential impacts of dust and noise on livestock are not assessed. Only 6 out of 13 holdings within the study area are considered to be likely to suffer residual significant effects of construction. What is the evidence for this? More detail is required on how this conclusion was reached if there an informed view is to be given on the draft ES.

### **Section 4 Air Quality**

#### **4.3 Assessment scope and key assumptions**

This section refers to scope and key assumptions in Vol 1, yet Vol 1 section 5.3 on Air Quality is extremely brief and provides no meaningful information on methodology, the study area or how significance is to be assessed.

This section lists potential receptors. Many potential receptors appear to be omitted, for example, woodlands, livestock, schools, community facilities.

4.5.4 This section talks about carrying out an assessment for sensitive receptors – without any definition of ‘sensitive’. It appears to be talking about those sensitive receptors within 20m of the route. This is completely inadequate, and best practice needs to be followed with regard to methodology and study area.

4.5.7 This section reports that a more detailed assessment of impacts arising from additional emissions on the A143 and B4009 has been carried out and concluded that effects would be negligible. The detail of such assessments should be made available as part of this consultation.

The impact of dust and emissions from traffic carrying spoil must be fully taken into account - it appears this is not the case to date.

#### Likely residual significant effects

4.5.8. It is asserted that no residual effects are considered likely. In the absence of any evidence or data to demonstrate this, it is impossible to comment on this assertion.



## **4.6 Operation**

### Likely residual significant effects

4.6.3 It is asserted that no residual effects are considered likely. In the absence of any evidence or data to demonstrate this, it is impossible to comment on this assertion.

## **Section 5 Community**

5.3.2 This section states that consultation has not been undertaken with all potentially affected community facilities as a result details of future plans and current services is not available.

## **5.5 Construction**

5.5.10 This section confirms that multiple (in combination) effects have not been considered.

5.11 Further mitigation – this section talks about development of specific mitigation measures where required . These should be detailed in the draft ES.

## **5.6 Operation**

This section defers all assessment of impacts to the formal ES. It is therefore not possible to comment as no assessment appears to have been carried out.

## **Section 6 Cultural Heritage**

### **6.4 Environmental Baseline**

There is no detailed listing of the heritage assets within the study area and only nationally designated heritage assets are show on the maps.

Little detail is provided of the impact of the Proposed Scheme on the heritage assets or historic landscapes of the area, and no detail of the mitigation proposed.

### **6.5 Construction**

6.5.4 The Conservation Area in Wendover should be included in the list of heritage assets.

6.5.5 This section does not given sufficient weight to the impact of the construction of the Proposed Scheme on the historic landscape and the setting of heritage assets. For example, the construction of the maintenance loop would impact adversely on the setting of the scheduled monument at Bacombe Hill.

6.5.8 Significant permanent residual effects are identified including destruction of part of a scheduled monument and an ancient woodland but no further mitigation is proposed. Where residual effects are significant, further mitigation should be proposed and included in the draft ES, and subject to a full and proper assessment.

## **6.6. Operation**

6.6.3 Adverse impacts of mitigation works - e.g. bunding, noise barriers, mitigation planting - do not appear to have been taken into consideration.

## **Section 7 Ecology**

### **7.3 Assessment scope and key assumptions**

This section states that field surveys have been limited, that some records have been requested but not received and that surveys are continuing. There is a complete absence of detail regarding what surveys have been carried out, their locations and their findings. Cumulative impacts have not been assessed.

It is clear that the baseline is not currently adequate, and so a full assessment of the impact of the scheme on ecology cannot be undertaken at this stage. It is not possible to provide an informed consultation response on the findings until a proper assessment has been made and the data made available.

Hedgerow and tree survey data provided by the Chilterns Conservation Board is not acknowledged or referred to.

7.4 A hierarchy of sites is adopted in which, for example ancient woodland and BAP priority habitats are considered to be of only district/ borough value. This is not a recognised approach and no rationale is given for it.

### **Construction - Assessment of impacts and mitigation**

7.5.2 Measures proposed to avoid or reduce impacts include translocating ancient woodland which would be lost at Jones Hill Wood. Where is the evidence that ancient woodland can successfully be translocated?

7.5.8 This section refers to the removal of up to 19km of hedgerows and fragmentation of a network of mature hedgerows resulting in a permanent adverse effect. This is not followed through however into the section which lists likely residual significant effects ( 7.5.20)

## **Further mitigation**

7.5.12 This section lists possible additional measures currently under consideration. These include measures to facilitate the passage of species across the route, and alternative roosting habitat for bats. All such measures should be part of the Proposed Scheme and properly assessed.

## **7.6 Operation**

This section concludes that no residual effects are likely at more than local /parish level – it is difficult to see how such a conclusion could be reached given the absence of a proper baseline, and the fact that in combination/ cumulative effects have not been considered.

It is noted that the Ecology section in volume 1 described taking a Precautionary or ‘worst case’ approach. In contrast, CFAR 10 appears to have reached premature conclusions of no significant effects despite an absence of sound data.

## **Section 9 Landscape and visual assessment**

9.3.1 This section lists the AONB Management plan as one of a ‘range of published character assessments and local green infrastructure strategies.’ There appears to be no awareness that the plan is a statutory document which has been through a formal consultation, and there is no indication that the plan has been given due consideration.

9.3.2 This section states that field surveys are not complete and that only an early draft of the zone of theoretical visibility has been used. The environmental baseline with respect to landscape cannot therefore be considered complete and accurate. The Board has no confidence in the assessment provided for this reason.

## **Visual baseline**

9.4.9 This section talks about there being no ‘protected views’ located within the study area- this overlooks the fact that the majority of the study area is within the protected landscape of the AONB.

## **9.5 Construction**

9.5.1 This section acknowledges that the works would be highly visible in many locations and would have the potential to give rise to significant effects which cannot be mitigated. It is suggested that this is normal in such projects, and that the effects are temporary and related to the peak of the construction phase. The

latter statement is not explained, but an indication of likely duration of works in each locality is given in Table 1 relating to duration of use of each construction compound, ranging from 1.5 years to 4 years.

- 9.5.2 This section lists a number of measures which it says have been incorporated in the draft CoCP to avoid or reduce landscape or visual impacts during construction. If these measures have been taken into account in the assessment then it should be possible to provide the necessary information and detail to evidence what is proposed. Instead this reads as a list of vague statements of intent, including a statement about trees which are accidentally felled or die due to construction works.
- 9.5.4. The construction impacts likely to result in changes in landscape character need to be listed in full. The list provided does not include assessment of impacts of road widening, temporary roads, construction compounds – including a main compound, lighting, vehicle movements including removal of spoil etc.
- 9.5.7 This section talks about notable impacts on specific landscape character areas, but focuses in one a small number of particular features and construction activities. There is no reference to the AONB, and no reference to new intrusive features in the landscape such as spoils heaps and construction sites. The impacts of all aspects of construction need to be properly assessed. This includes the impacts of mitigation measures.
- 9.5.11 No assessment of impacts of lighting has been carried out, and no detail is provided of what lighting is proposed. The impacts need to be fully assessed and consulted upon.
- 9.5.8 Table 7 lists significant adverse landscape effects on 9 out of 13 Landscape Character Areas. The draft ES fails to address these impacts and makes no proposals for mitigation. This failure is compounded by the fact that the majority of this CFA is within a protected landscape.
- 9.5.12 Table 8 lists numerous views which would suffer significant adverse effects of construction. It is suggested that these are temporary and reversible. The draft ES fails to address these impacts in any way and makes no proposals for mitigation. There is little point assessing impacts of construction if all significant impacts are then ignored due to being temporary in nature.

## **9.6 Operation**

- 9.6.1. This section lists a number of measures that have been incorporated into the design of the Proposed Scheme. These include vague statements with no detail provided and no acknowledgement that some of the measures proposed may themselves give rise to adverse impacts – for example creation of raised embankments on both sides of the route. The Board is concerned to see the

statement that lost vegetation/ woodland will be replaced on a like-for-like basis, with no further clarification. This is not an acceptable approach and is inconsistent with proposals for biodiversity offsetting. How for example is it proposed this is applied to ancient woodland?

- 9.6.5 This section asserts that only 3 out of 13 LCAs in this area will suffer significant adverse effects during operation of the scheme. There is absolutely no evidence provided to show how this conclusion is reached. This is unacceptable, not least given the area's AONB status. The assessment of landscape impacts should be made available for full consultation.

## **Visual assessment**

Table 10 lists viewpoints considered to be subject to significant visual effects during operation of the scheme, confirming that significant residual effects would remain. The draft ES fails to address these impacts in any meaningful way. There is a brief list at 9.6.14 setting out 4 'measures' being considered. These are extremely vague and include measures which one would expect to be included in the design within a protected landscape as a matter of course – for example that balancing pond features will be 'incorporated appropriately'. Proposals for further mitigation should have been completed prior to impact assessment being carried out and should be available for full consultation.

## **Section 10 Socio-economics**

The assessment of likely impact of construction and operation has not been carried out.

## **Section 11 Sound, noise and vibration**

- 11.5 *Construction* - the assessment of likely impact of sound, noise and vibration and mitigation proposals has not been completed. No baseline noise information has been included in the draft ES. It will be important that impacts of mitigation measures are also assessed once this work is completed.

### *11.6 Operation*

The assessment of likely impacts of sound, noise and vibration arising from operation of the scheme has not been completed, with further assessment work underway. Potential mitigation options are mentioned but have not been properly assessed.

- 11.6.9 This section asserts that there will be no significant noise effects on public rights of way. The Board would argue that users of rights of way are highly sensitive to noise disturbance, and all rights of way in the vicinity of the Proposed Scheme are likely to suffer significant detrimental impacts. No evidence is provided to

support the claim that there will be no significant noise effects on public rights of way.

- 11.6.11 This section states that no significant ground-borne noise or vibration effects have been identified. It goes on to say that further assessment will be undertaken 'to confirm whether the impacts currently forecast are likely to occur.' Vol 1 (5.12.10) makes clear that no assessment of groundborne noise or vibration has yet been carried out. If the assessment has not been done, the draft ES should not be stating that no impacts have been identified.

## **Section 12 Traffic and transport**

### **12.3 Assessment scope and key assumptions**

Baseline forecast traffic flows for future years of assessment have not yet been derived.

Forecast traffic flows do not include traffic movements relating to movement of spoil. These will be significant and need to be included in the assessment.

### **12.4 Construction**

#### **Likely significant effects**

- 12.5.13 This section refers to increase in journey time due to temporary closures/diversions – the effects are considered to be minor significant but no evidence is provided to support that view and no definition of 'minor significant' provided.

- 12.5.14 Likely residual significant effects due to increased congestion have not been assessed and are subject to further assessment.

There is no reference to any likely significant residual effects on journey time or delays to vehicle occupants on the A413 Nash Lee Road, A413 London Road, A4010 Risborough Road, B4009 Nash Lee Road or Potter Row, despite reference to anticipated significant increases in traffic flows ( more than 30%). All likely effects need to be assessed and copies of those assessments made available as part of this consultation.

- 12.5.17 This section refers to considering further mitigation measures once assessments are completed, but gives no indication of what such measures might consist of. This is not acceptable, All proposed mitigation measures should have been identified prior to carrying out the impact assessment.

## **12.5 Operation**

### **Assessment of impacts and mitigation**

12.6.3 The Board does not consider the approach taken to assessment of impacts on public rights of way and promoted access routes to be acceptable. Account needs to be taken of the quality of user experience and not just whether or not there is 'user delay' and/or severance. Proper details must be provided of the user surveys carried out (referred to in 12.4.5) and an explanation of what is meant by 'As appropriate, these covered weekday and weekend use.' The Board notes that the routes impacted in this area include the Ridgeway National Trail, the Icknield Way and the Chilterns Cycleway. There needs to be a proper assessment of impacts of each affected route/ right of way.

12.6.6 Proposed mitigation measures need to be identified and included in the draft ES.

## **Section 13 Water resources and flood risk assessment**

### **13.4 Environmental Baseline**

This section refers to EA forecasts of Water Framework Directive status of water bodies by 2015. This is not the relevant forecast to use as the requirement of the Water Framework Directive is for good ecological status or potential to be reached by 2027.

### **13.5 Construction**

There is a lack of substance regarding the approach to ensuring that potential effects would not be significant. For example 13.5.3 asserts that 'measures defined in the draft CoCP, including detailed method statements, would ensure that there would be no effect on surface water quality or flows associated with construction.' The fact is there are no detailed method statements in the draft CoCP.

There is no evidence produced in the draft ES to support the conclusion reached in 13.5.4 that 'impacts would be negligible on surface water receptors and so the effect is deemed to be not significant'.

13.5.7 This section recognises a potential significant effect on groundwater abstractions. No specific proposals are made for mitigation of this effect.

13.5.8 This section identifies a potentially significant effect of reduction in groundwater flows on Weston Turville reservoir SSSI. Investigation into approaches to mitigation are ongoing. These investigations should have been completed and findings published prior to undertaking the impact assessment.

13.5.9 This section identifies potential risk of flooding but does not assess the likely significance of this effect, and does not propose and specific mitigation.

## **13.6 Operation**

13.6.2 This section states that Best practice pollution control guidance would be adopted 'as far as reasonably practicable'. This is not acceptable, the highest environmental standards need to be adopted and adhered to , particularly in the context of a nationally protected landscape.

13.6.6 This section asserts that although spring flows could be reduced into one of the streams feeding the Weston Turville Reservoir SSSI, 'Mitigation would be considered for construction and would be on-going through operation. Therefore there would be no further significant effect. This is a completely unfounded statement – where is the evidence that 'considering mitigation' would prevent adverse impacts, and what is the form of this mitigation?

13.6.8 The conclusion of this section is that there would be no significant residual effects, yet no evidence is offered to support this conclusion.



# **Draft Environmental Statement – Volume 2, CFAR 11 Stoke Mandeville**

## **2. Stoke Mandeville and Aylesbury**

### **2.2 Description of the Proposed Scheme**

2.2.5 Despite lowering the depth of the northern portal of the Wendover green tunnel the ‘flat alignment’ for the maintenance loops still apparently requires a 3.5m embankment which then results in an increase in the height of the Risborough Road overbridge so that this structure would now apparently be 15m high (2.6.36). This will make it a highly visible and intrusive feature when viewed from the ridge of the Chilterns escarpment. Such a structure is considered to be a major earthwork and, along with the maintenance loop, should be fully assessed. This is not the case at present and should clearly be addressed (2.3.29).

2.2.11 Land requirements will be subject to review as the engineering design and formal ES are prepared. The land requirements and engineering design should already be firmed up in order to be in a position to consult on the draft ES, if they are not then any alterations should be subject to full consultation.

### **2.3 Construction of the Proposed Scheme**

2.3.9 Construction site details and arrangements are continuing to be refined and will be confirmed in the formal ES. Once again insufficient detail has been provided and what detail is in the draft ES is more than likely to change. Any alterations should be subject to full consultation.

2.3.13 Lighting of site compounds would seek to minimise light pollution. The Board wonders why site compounds should be lit at all during the hours of darkness when not in use. Should lighting be required then its use should be fully assessed as part of the ES and this has not taken place at all thus far as no photomontages have been provided of the Proposed Scheme during construction and during dark night periods, particularly in winter.

2.3.21 and 2.3.23

Discussions are ongoing with utility providers to confirm whether plant or apparatus would need to be realigned. These discussions should already have been completed prior to consultation on the draft ES and the results should have influenced the design and the ES.

2.3.27 and Table 4

Footpath and other rights of way diversions are detailed without any discussion of the likely impacts on the use of the routes. There is no discussion about the use of green bridges and the quality of alternative or diverted routes is questionable.

2.3.29 Main construction works – earthworks. These are dealt with in this section without any consideration being given to the maintenance loop and the new Risborough Road overbridge which would both be significant structures that would have significant detrimental impacts on the landscape, local residents and users of the local rights of way.

2.3.31 Some material may require crushing and/or screening – no consideration is given to the effects of these likely operations.

2.3.34, 2.3.36 and 2.3.37

The principal elements of the rail infrastructure are described and include the overhead line equipment, communications equipment and power supply. No consideration is given to the landscape impacts of these features and no consideration is given to other elements of the infrastructure to be provided (buildings, access roads, lighting, fences, bunds, landscaping, balancing ponds, acoustic fencing etc).

2.6.36 Despite lowering the depth of the northern portal of the Wendover green tunnel the ‘flat alignment’ for the maintenance loops still apparently requires a 3.5m embankment which then results in an increase in the height of the Risborough Road overbridge by 4m so that this structure would now apparently be 15m high. With the maintenance loop, associated infrastructure, the Risborough Road overbridge and various access roads the impact on this area would be significant and permanent. The changes would result in elements of infrastructure that would be highly visible and intrusive features when viewed from the ridge of the Chilterns escarpment. These issues have not been addressed at all in the draft ES.

2.6.50 The Proposed Scheme includes an offline replacement of the Princes Risborough to Aylesbury railway line. This would lead to significant disruption to the service provided on that line and this has not been dealt with as part of the draft ES at present.

2.6.62 and 2.6.63

These paragraphs deal with a significant number of further engineering developments and community proposals. All of these should have been fully assessed and included as part of the draft ES.

### **3. Agriculture, forestry and soils**

#### **3.5 Construction**

This section fails to detail any significant mitigation measures despite this being part of the title before paragraph 3.5.1.

## **4. Air quality**

### **4.5 Construction and 4.6 Operation**

These sections fail to deal with the impacts on air quality arising from the numerous vehicles that will have to follow diversions as a result of the Proposed Scheme as well as the congestion caused by the significant roadworks associated with diverted and closed roads. Similarly, no consideration is given to the impacts arising from the huge number of lorry movements on local roads.

## **6. Cultural heritage**

### **6.6 Operation**

#### **6.6.5 and 6.6.6**

These paragraphs state that even with earthworks and planting in place the presence of the scheme would result in significant, and therefore permanent, residual effects on the setting of the registered park at Hartwell as well as Stoke House and Brook House. It could be argued that the same effects would be experienced along the rights of way locally too. However, no further mitigation measures have been identified. If the residual effects are significant further mitigation should be proposed and included in the draft ES, and subject to a full and proper assessment and consultation.

## **7. Ecology**

### **7.3 Assessment scope and key assumptions**

#### **7.3.3, 7.3.4 and 7.3.5**

These sections state that: numerous biological records have not been received; data have been requested; limited field surveys have been undertaken, and surveys will continue. This clearly demonstrates that the Proposed Scheme is, at best, based on a very patchy baseline of data that has yet to be gathered. Such data cannot therefore have been assessed and such assessment would have been expected in order to work out what the implications of the scheme would be for ecology.

### **7.4 Environmental baseline**

7.4.1 This section states that it 'presents the environmental baseline' then immediately goes on to state that 'the environmental baseline .... will be provided in the formal ES'. Either the baseline is there or it isn't. At present the baseline is not adequate and the scheme cannot therefore have been properly assessed in terms of its likely impacts on ecological resources.

Table 6 This table details the value of various ecological resources, but assigns values that are not recognised, for example 'county/metropolitan', 'district/borough' and 'local/Parish'. The description under the 'Rationale' column further demonstrates the lack of data with numerous receptors described as 'may be present' – with proper surveys such statements would not have to be made.

## **7.5 Construction**

7.5.3 Despite acknowledging that the scheme would result in landtake of habitat suitable for reptiles no mitigation is proposed (replacement alternative habitat and translocation of species).

## **8. Land quality**

### **8.4 Environmental baseline**

8.4.6 Data are very sparse for several wells – the data should be acquired and should have informed the ES prior to publication.

### **8.5 Construction**

8.5.12 The stone wall at Harwell Estate is a designated Local Geological Site which could be affected by vibration arising from construction of the scheme. This section states that 'temporary support to the wall could be undertaken'. This should be more positive and state that such measures 'will' be undertaken and that if any damage ensues it is made good.

## **9. Landscape and visual assessment**

### **9.2 Policy framework**

9.2.2 This section fails to include reference to, and an assessment of, Policy CS17 from the adopted Wycombe District Core Strategy which, along with Policy L1 of the Local Plan, also considers development affecting the setting of the Chilterns AONB. This CFAR deals with an area that is firmly within the setting of the AONB.

### **9.4 Visual baseline**

9.4.5 This section fails to include any consideration of views into the area from within the Chilterns AONB and views from the area to the AONB.

### **9.5 Construction**

9.5.2 This section (and therefore the CoCP) should ensure full restoration of worksites to their former condition and use.

9.5.6 The Board cannot understand how the loss and/or degradation of key features can be described as 'temporary'.

9.5.12 An assessment of the effects arising from lighting during construction should already have been prepared and included as part of the draft ES. This section as drafted allows a get out clause for any contractor.

Table 9 No assessment has been undertaken of the effects on users of the rights of way to the south and east of Aylesbury and this should be addressed and the results fully consulted on.

## **9.6 Operation**

9.6.1 This section purports to deal with impacts and mitigation. However, some of the mitigation proposed (raised embankments on either side of the route for example) is likely to have detrimental landscape impacts which should also have been assessed.

9.6.10 An assessment of the effects of lighting during year one of operation will be prepared – this is not good enough and such an assessment should already have been done and included as part of the draft ES.

Table 11 No assessment has been undertaken of the effects on users of the rights of way to the south and east of Aylesbury and this should be addressed and the results fully consulted on.

9.6.13 An assessment of the effects of planting in years 15 and 60 should already have been done and included as part of the draft ES and also shown as a series of photomontages.

9.6.14 and 9.6.15

These sections detail what HS2 Ltd consider to be the likely residual effects and further mitigation. Apparently the Proposed Scheme would lead to significant residual effects remaining, yet no mitigation is proposed to address these effects. All of the possible further mitigation measures (9.6.15) should have been described, fully assessed and reported in the draft ES.

## **10. Socio-economics**

### **10.1 Introduction**

10.1.2 This section fails to address the impacts on local people and visitors (or the reduction in visitors arising from the inconvenience caused by construction or impacts on the local environment during operation).

### **10.5 Construction**

10.5.2 This section presents too narrow a definition of businesses affected – those within land which would be acquired for the construction of the Proposed Scheme. Many more businesses (as well as local people and visitors) would be affected by the scheme and in a much wider area than has been

described. This would have been demonstrated as part of proper studies which should have been undertaken to determine the content of the draft ES.

10.5.3 No mitigation is proposed for the jobs that would be lost arising from implementation of the Proposed Scheme. In addition, no account has been taken of the likely impacts on the Bucks Goat Centre which is immediately adjacent to the scheme.

## **11. Sound, noise and vibration**

### **11.4 Environmental baseline**

11.4.1 This section fails to consider the impacts on more rural areas and on public rights of way. These areas will generally be much quieter and therefore subject to greater negative impacts arising from construction and operation of the scheme.

### **11.6 Operation**

11.6.2 This section states that the scheme includes noise barriers, landscaped earthworks and low level barriers on viaducts. All of these will have landscape impacts which have not been assessed.

11.6.9 This sections fails to deal adequately with the likely significant impacts of the scheme on users of public rights of way. Though the use of a right of way may be transitory, and the train sound may be intermittent, the noise and visual intrusion will still lead to significant detrimental impacts on users of the rights of way, and many of them would normally be there to appreciate tranquillity.

Table 12 This table details further mitigation options which may be considered. The options are invariably 4m or 5m fences or earthworks none of which are subject to any assessment.

## **12. Traffic and transport**

### **12.3 Assessment scope and key assumptions**

12.3.5 and 12.3.6

These sections state that design development is in progress, the transport assessment would be updated and revised and traffic flows do not reflect the Proposed Scheme. This is wholly inadequate and no basis on which to proceed. The most up to date position should have been reported and any subsequent changes subject to full consultation. No account has therefore been taken of likely vehicle movements and the impacts on the local and wider road network.

## **12.4 Environmental baseline**

12.4.5 This section claims that, based on very limited surveys, none of the rights of way would be used by more than 80 people per day. The figure quoted may represent a snap shot in time but the draft ES cannot rely on this as an accurate assessment of the use of the rights of way, which may be significantly more. In any case, the level of use of the right of way is not material to the assessment because one user would be a very sensitive receptor and the impacts on them would therefore be significant.

## **12.5 Construction**

12.5.4 Construction activities would result in road closures. However, the impacts of the closures are not subject to any assessment. There will be impacts on vehicle miles arising from diversions on a temporary or permanent basis, and there will also be impacts of congestions arising from traffic queues due to diversions or closures.

12.5.8 Construction activities would result in significant increases in HGV movements without any consideration being given to the impacts.

12.5.12 This section significantly underplays the impacts arising from the diversion of rights of way ('potentially resulting in impacts') and no consideration is given to mitigation.

12.5.16 This section claims that, temporary diversions of rights of way would result in minor effects on users because of the 'low reported usage'. The lack of data in the draft ES leads the Board to question this assertion. Besides, any data provided represents a snap shot in time, which the draft ES cannot rely on, because this is unlikely to be an accurate assessment of the use of the rights of way, which may be significantly more. In any case, the level of use of the right of way is not material to the assessment because one user would be a very sensitive receptor and the impacts on them would therefore be significant.

## **Map Book**

### **General**

1. The Chilterns AONB is a key environmental feature yet it is not identified as part of the Map Book.
2. The layout of the map books is poor – the maps do not run concurrently from west to east (from left to right as the route is examined) and navigation through the maps is therefore difficult.
3. The photomontages that have been included are poor and inaccurate.

4. All viewpoints have been provided with a photomontage. However, only very few have been verified and included as part of the map books. In many instances the photomontage chosen is not the best one to illustrate the likely impacts and in some instances the distance from the viewpoint to the proposed scheme is over 1Km and any detail associated with the photomontage is lost due to the distance from the viewpoint.
5. The sound maps do not appear to deal with ground borne vibration. In addition, the maps show significant lengths of fence and barriers which are not subject to assessment as part of the draft ES.
6. The Bucks Goat Centre is not recognised as a community resource- it should be.

Electricity sub-stations – no detail is provided about what these facilities will look like, what the impacts are likely to be and what mitigation would be provided. Similarly, no detail is provided in connection with other buildings, fencing, access roads and lighting for example.

No detail is provided about the bunds, planting areas and the numerous water storage areas that have appeared and they are not subject to assessment as part of the draft ES.

Public rights of way            Not all public rights of way have been properly assessed for impacts arising from the scheme. One right of way in the vicinity of St Mary's Church (SMA/5/1 and SMA/5/2) does not appear to have been included at all on the construction phase or proposed scheme plans, on either its current alignment or via a diversion.

CT-05-040    The construction phase map shows a length of 'utility works' (a dog leg that crosses the route just to the north west of a new overbridge) without any description of what this is. No detail is given of the design and implications of the Stoke Grove Auto-transformer Station to the north of Nash Lee Lane.

CT-06-040    No assessment has been made of the large area of planting proposed adjacent to Mill House Farm. No assessment has been made of the significant amount of noise barrier in the same area and no detail has been provided about reinstatement of the right of way in the vicinity of St Mary's Church. No assessment has been made of the numerous balancing ponds in the area of the maintenance loop.

CT-06-043    The Sedrup transformer appears as part of the proposed scheme plan and is within an embankment – this would appear to be a very tricky engineering problem to overcome as the transformer's position could weaken the embankment's structure.

LV-11-21      No photomontage has been provided of any part of the route to the south of Aylesbury and as there are numerous large scale structures with potentially significant impacts this is a major omission.



# Draft Environmental Statement

## – Volume 2, Report 27: Route Wide Effects

### Structure of draft ES statement

1. The Conservation Board strongly disagrees that the “draft ES has been written in a clear and accessible manner”.
2. The document is plagued by:
  - Inconsistencies of approach  
e.g. between assessment of impact in different sections
  - Lack of clarity,  
e.g. some assessments are clearly summarised within tables, others are ‘hidden’ with text;
  - Simplification and minimisation,  
e.g. higher level documents summarise and reduce the weight of impacts identified within the more detailed CF reports.

### **2. The Chilterns AONB**

- 2.2.1 Describes engagement on landscape character areas and visual assessment viewpoints with the Conservation Board. This has been minimal and the Board has yet to be convinced of the quality of both assessment and suggested mitigation measures.
- 2.2.3 The statement that ‘users of recreational routes’ including the Ridgeway ‘may experience visual effects’ is an example of how impacts are minimised within higher level documents and summaries. Users would experience both visual and noise effects and such effects would cumulatively present route-wide effects.
- 2.2.4 Too much emphasis is given to the Misbourne Valley being an ‘existing road and rail corridor’. While the Board acknowledges that the Chiltern Line (services are typically 2-3 times per hours using by short trains rarely with more than 4 carriages travelling at relatively low speeds) and A413 are well used transport routes, the railway has little impact on the valley and the A413 only dominates in specific locations largely between Amersham and Great Missenden. In many locations the topography of the valley hides and disguises the route. The section of HS2 from Mantles Wood to Wendover HS2 is some distance from the A413 and follows a higher elevation route along the skyline and sides of the valley.
- 2.3.5 The Board does not accept the assessment of low to medium tranquillity. Areas of high tranquillity are mentioned and we anticipate far more areas adjacent to the route and even across the valley will be impacted by noise and

visual interruption during both construction and operation of the scheme. The draft ES should have considered the probability that tranquillity in the valley would be much improved by the use of low noise road surfacing.

2.5.1 'Retention and protection...where reasonably practical'.

This should be agreed at a local level (CF and AONB), be subject to independent assessment, challengeable and verifiable.

2.5.3 Removal of 'part of Mantle's Wood (ancient woodland)' cannot be described as having a 'significant temporary local impact' on landscape.

2.5.5. The individual CFA reports describe the construction as having major or moderate adverse impacts on landscape. Why are these not mentioned here? This is an example of minimising impacts within higher level documents.

2.5.6 To say that 'overall, the construction activity would temporarily' alter the landscape is wrong. Many views, besides those mentioned from Coombe Hill, would be affected well into the life of the scheme if not permanently.

2.5.7 This assertion is wrong. For example, Potter Row north of South Heath, offers high tranquillity, is adjacent to the route, will be affected for a long extended period (not temporarily) and would suffer a significant effect.

2.5.8 This assertion is wrong. Changes will not be temporary and local and magnitude of change cannot be described as medium.

**2.6 Assessment of impacts and mitigation during operation.**

The following statements are misleading:

- 'two green tunnels...landscape would be reinstated' - mature woodland populated with climax species cannot be re-instated over a green tunnel.
- 'replacement of...lost woodland' – ancient woodland cannot be replaced.

2.6.2 The Conservation Board disagrees strongly with the statement that the route in cutting would have no significant effect on the character and appearance of the surrounding landscape.

2.6.3 It is inappropriate to identify the Wendover Dean and Small Dean viaducts as having only localised significant effects. They are large instructive structures in a nationally protected landscape and their impact cannot be mitigated.

2.6.4 The Board has yet to see evidence that the design of portals and vent shafts will mitigate their impact. Photomontages do not offer any encouragement.

2.6.6 This report on route wide effects should state that bridges and other structures would have a potentially significant adverse effect. A visualisation

looking along the line would show how dramatically the landscape will change in a way which cannot be mitigated.

- 2.6.7 The Conservation Board believes that the PS would significantly affect the landscape and that effects would be more than localised.
- 2.6.8. The Board disagrees with the assertion that the PS would not diminish tranquillity to a significant extent. Up to 36 trans per house will run along this section of railway with additional night time working. The light pollution will be significant and the visual intrusion considerable. The cumulative impact will result in a significant loss of tranquillity.
- 2.6.9 This should be described as moderate adverse.
- 2.6.10 The Board does not accept that the impacts will be significantly mitigated after only 15 years of growth of landscaping adjacent to the line.

### **3. Agriculture, forestry and soils**

- 3.1.1 The Board does not accept that there would be no effects across the scheme especially when 3.2.3 states that the permanent loss of agricultural land is considered significant.

### **7. Cultural Heritage**

The Conservation Board disagrees strongly that when heritage of national designation status is lost or damaged, the effects can be considered to be of no more than local significance.

- 7.1.4 The Board agrees that loss of part of Grim's ditch and historic hedgerows have an overall heritage significance which should be classified as major adverse.

### **8. Ecology**

The Conservation Board welcomes the use of a precautionary approach as identified in Volume 1, i.e. assessment of worst case scenario unless clear evidence indicates otherwise.

However, the Board cautions against reliance on designations such as SSSI. SSSI designation was only ever meant to provide a representative sample of high value nature conservation sites. Designation was never meant to represent all high value sites worthy of protection. As such, Local Wildlife Sites and other non-designated sites might contain habitat and species of national and even international importance.

- 8.1.14 Stating that the PS might have beneficial effects in the context of connectivity is questionable. Any mitigation has to be seen to address significant adverse effects on fragmentation of wildlife habitats and corridors.

Also, it is not acceptable to simply claim beneficial effects once new habitats are established. Mitigation to address loss of biodiversity should be designed to provide connectivity before existing corridors and linkage are lost

**10. Landscape and visual assessment**

10.1.1. To state that there are no significant route-wide effects on landscape and visual receptors is wrong. Such statements suggest a basic lack of understanding of national landscape designation (AONB status).

**11. Socio-economic**

It is not helpful that a mix of number of jobs lost and person years employed in construction is used.

**12. Sound, noise and vibration**

The statements that there will be no significant route-wide effects during construction and operation are not credible. (See traffic and transport below).

**13. Traffic and Transport**

This section does recognise that the 'combined effects of disruption to local areas may affect overall route-wide severance'

**14. Water resources and flood risk assessment**

This section is incomplete. The precautionary principle must apply

**This report is the response of the Chilterns Conservation Board to:**  
**HS2 Draft Environment Statement Non-Technical Summary**

Comments are provided on each section as it appears in the report. Comments are restricted to those issues which affect directly the Chilterns Area of Outstanding Natural Beauty or on those route-wide issues which may have an impact on the Chilterns AONB.

**General comments**

1. The consultation process has been flawed. The requirement to submit comments within 8 weeks has been a challenge for the Conservation Board and has been near impossible for those with fewer resources and expertise. For a programme of this scale, cost and potential impact it would have been reasonable to provide a longer consultation period. The process itself was further hampered by the slow distribution of printed documents. It is not reasonable to expect those affected or concerned to either read these documents and maps on a PC screen or to print copies themselves.
2. The Chilterns AONB Management Plan is given as a reference but there is no apparent attempt to link it to specific issues. This plan is the single most important document to ensure the conservation of those special qualities which give rise to the area's designation as an Area of Outstanding Natural Beauty. The failure to refer to it in the draft ES, and absence of a detailed analysis of the Chilterns AONB as an entity, leaves the Government open to the challenge that it has failed to comply with Section 85 of the Countryside and Rights of Way Act 2000.
3. The summary and commentary given in Volume 2 Report 27 Route-Wide Effects, does not attempt to describe in any detail or to quantify, the impact on the AONB and cannot be regarded as a satisfactory assessment of the likely impacts on the AONB as the CROW Act 2000 requires.
4. In view of the likely significant overall and individual impacts, many of which are irreversible, the entire programme should have been designed using the pre-cautionary principle. This approach makes even more sense in view of the lack of data on which to assess so many of the potential impacts. It is a noticeable characteristic of this draft ES that it often attempts to minimise the impacts and, on occasion, reverts to promotional rather than technical language. The public needs to have confidence in this assessment and it is imperative it is based on good quality information, which has been objectively assessed using accepted methodologies that the Government can demonstrate have been applied according to the principles of best practice.

5. The public would, quite reasonably, expect the Government to apply its own policies and methodologies. It is therefore, surprising that this document does not refer to Ecosystem Services even once. A programme as large as HS2 is precisely the sort of proposal for which the ecosystem services approach was developed and which the Government should be applying. Not to do so leaves it open to the accusation that it is not practising what it preaches. It cannot, then expect others to do so.

## **Foreword**

1. This document cannot, in any sense, be considered to be a draft of the final ES as so much is missing. HS2 Ltd was clearly not ready to publish a draft ES and it is, therefore, inadequate in many important respects. It is unfortunate that so much effort has to be spent by respondents commenting on a partial assessment of a design which was frozen nearly nine months ago.
2. In general not enough emphasis has been given to avoiding damaging impacts. Instead the emphasis tends to be given only to reducing impacts or mitigating the effects. This suggests that HS2 Ltd is not, sufficiently, adhering to its own hierarchy of relative impacts.
3. Environmental Impact Assessments have to be based on good quality data, application of accepted methodologies and evidence based analysis and conclusions. In the absence of so much data it is perhaps not surprising that HS2 Ltd cannot apply this necessarily rigorous approach. Sometimes it refers to ongoing work but on other occasions makes statements without supporting evidence - that can be considered as no more than commentary or opinion. Some might argue it is little more than promotion and marketing. This has no place in an ES.
4. There has been insufficient consideration of alternatives - at all levels, which might have enabled avoidance of damaging impacts rather than reduction or mitigation. In particular consideration should have included alternative alignments, depths and the flexibility that a marginally reduced line speed offers. In particular insufficient weight is given to the benefits of a longer tunnel.
5. It appears that costs minimisation is given overwhelming weight rather than the benefits to the environment or society. In general the cost to society has not been taken into account and simply the cost to the Department for Transport to construct the line. One of the main reasons for the requirement to undertake an ES is to ensure that the impact on environment is given due weight and that the lowest cost option is not always chosen by preference.

6. There are an extraordinarily large number of references to ongoing and further work - the draft is deficient in many respects and, in the view of the Conservation Board, was not ready for publication.
7. The Conservation Board members and staff participated in all of the Community Forum meetings held in the Chilterns. There is little evidence that any concerns or ideas raised at those meetings have been taken into account. Many of the proposals which have appeared in the draft ES were not presented to the forums including: the use of spoil, appearance of vents; line-side landscaping; balancing ponds; traffic /transport strategy; and the reinstatement of public rights of way. The ineffectiveness of those forums has undermined confidence in the process and the willingness of either HS2 Ltd or the Government to listen and respond to the concerns of those affected. This is an additional reason why the Environmental Statement must be an evidence based, rigorous and objective report untainted by superficiality, opinion and unsubstantiated promotional statements.

## **1. Introduction**

1. A deal of this section can only be described as spin and PR- which has no place in an Environmental Statement
2. It is surprising there is no reference to the lessons learned from HS1.
3. There should be a reference to the discontent over the effectiveness of the community forums.
4. There is almost no discussion about ways to avoid or reduce impacts, or to provide community benefits. The public can have little confidence that the ES will show any sensitivity to local concerns or willingness on the part of the Government (and Parliament) to adjust designs to take on board local ideas and worries.
5. In general, far too much is deferred to the Code of Construction Practice. Activities and aspects of the design which, potentially, could have a significant environmental impact should be addressed directly and fully in the ES.

### **1.1 Approach to the environment**

1. The Board welcomes the hierarchy in which avoidance is given the highest priority. For each impact identified an option should have been assessed and reported on that would have avoided that impact and, if not accepted, how and why this decision was arrived at.
2. There is an unwise and undue reliance on the Appraisal of Sustainability which was poor and widely criticised. The AoS identified

a large number of significant adverse impacts. If it had been given any weight, HS2 would have been cancelled or a different route chosen.

3. The claim that the design seeks to avoid or reduce potential impacts on sensitive areas is not borne out in practice. The most obvious example is that the nationally protected Chilterns Area of Outstanding Natural Beauty will be significantly and irreversibly damaged in many respects, including destruction of ancient woodland and ancient hedgerows, the excavation of several million tonnes of spoil, the temporary and permanent closure of Public Rights of Way and the construction of several bridges including two long viaducts.
4. Claims that preference to avoid effects do not stand up to scrutiny. Many options to avoid impacts appear not to have been considered or have been rejected, instead preferences with higher impacts but lower associated costs have been selected.
5. A reduced line speed would have provided much greater flexibility on alignment, both vertical and horizontal, but was rejected because of the impact on journey time (minimal) and by implication, the business case - which now appears to be unsound and widely criticised not least by the Public Account Committee (June 2013)
6. The report erroneously claims to have reduced impacts by changes in vertical alignment, i.e. putting the railway into cutting rather than running along the surface. The opposite happened in the Chilterns where the track bed has been raised by 5 metres and thus the train and gantries are now above the existing ground level. The use of artificial cuttings is not appropriate in an AONB. The rhetoric is not matched by action.
7. The provision of links across the route to allow safe passage of wildlife are minimal. A green tunnel is proposed for South Heath but no other crossings for wildlife. The extensive use of security fencing - not mentioned directly in the DES - is a significant barrier to the movement of wildlife. This impact is not assessed in the DES, but should have been.
8. The Board recommends widening all footpath and farm track bridges to a minimum of ten metres to allow vegetation to develop which would both enhance the experience for walkers and also provide crossing points for wildlife. There are increasing numbers of badgers and deer, in particular Muntjac and increasingly Roe and Fallow. In the absence of specific crossing points they will range along the fence lines increasing the browsing impacts and be confined to using unsuitable crossing points.
9. The design places an undue emphasis on the use of earth mounding and planting to screen views. There is no discussion or assessment or qualification of whether this is appropriate or the best solution - it is not



in the AONB, as has been pointed out by the Chilterns Conservation Board, and those attending the community forum meetings. The basic principle in the AONB is that the design of the railway, using the natural landform, should be designed so that it cannot be seen, heard or felt.

## **1.2 Consultation and Engagement**

1. The public engagement has been poor and almost wholly ineffective.
2. The national Environment Forum has had no noticeable impact on design. Given its remarkably narrow membership (largely Government departments and agencies), this is not surprising. However, to infer it has provided balanced guidance on environmental issues would not be credible.
3. County based Planning forums - in Buckinghamshire there have only been three meetings which have achieved little. It would be quite wrong to imply they have been an effective part of the public engagement process.

## **6. Background to HS2**

1. In response to the consultation on the route, the public overwhelmingly rejected what was proposed, but was ignored by government. Much of this section is spin and PR and should not be included in an ES, which is a technical document.

## **2.3 Enhancing Capacity**

1. Other, better, more cost effective and rapid ways exist to enhance capacity. Published records of loading factors have undermined claims that the services are already full. Peak services from London to Euston are operating at 54% capacity. Forecasts of demand for long distance intercity travel are unsound and already proving to be optimistic. The most recent passenger user data shows a 2.4% decline over the preceding 12 months. The opportunity exists to use an incremental approach to enhancing capacity which offers much more operational flexibility and a significantly lower cost.

## **2.4 Engine for Growth**

1. There is no evidence to support this claim; a point recently made by the Public Accounts Committee. This should not form part of an ES.

## **2.5 Controlling Greenhouse Emissions**

1. This potential impact has not been properly assessed nor has the option to reduce emissions by, for example reducing line and operating

speed. There is a growing body of evidence and opinion that high speed rail will increase the emission of greenhouse gases. Insufficient weight has been given to the additional emissions associated with large numbers of additional journeys to and from the high speed railway stations.

2. There is no recognition or assessment of alternative scenarios to the de-carbonising of the national grid or the marginal impacts of increased energy demand. Neither is impact of modal shift assessed. What if aircraft take off and landing slots freed up by modal shift to HS2 results in short haul flights being replaced by long haul? The direct consequence of HS2 will be a significantly increased level of green house emissions. Currently there is no emissions trading scheme or cap to prevent this from happening, nor can it be assumed they will be in place by the time HS2 begins to operate.
3. The national priority should be to reduce the need to travel especially for business purposes by encouraging more efficient and environmentally acceptable practices. Rapidly increasing use of IT makes this a realistic possibility, even probability. Recent data showing a noticeable decline in business rail travel supports this argument. The deliberate encouragement of new journeys “because HS2 exists” is wholly environmentally damaging. It actually represents a cost to the country both financially and environmentally.

## **2.6 Managing local effects.**

1. The document misleadingly states that, “A major consideration in choosing the initial route in 2009 was to minimise the adverse effects on people and the environment”. This is simply not true. Ministers and the then chairman of HS2 Ltd both stated that the route was chosen to minimise journey time to gave the best benefit cost ratio. No in-depth assessment or comparison of impacts on people and the environment was published at that time. At a later stage the AoS showed the chosen route had a very large number of significant negative environmental impacts. If any weight had been attached to that assessment this route would not have been chosen. In other words a decision was made to proceed with this route despite the known and significant damaging impacts on people and the environment.

### **3. Description of the scheme**

#### **3.2 Route**

1. Where HS2 will run along side or across the Chiltern line the impact on Chiltern Rail services needs to be identified and the impacts assessed. Any disruption will cause inconvenience and financial loss in the Chilterns; there is a high probability it will generate additional car journeys.
2. It is essential that the ES always distinguishes between a bored tunnel and cut and cover tunnel. They have entirely different impacts. It is misleading to suggest they are the same. Therefore, the route description for the section between Little Missenden and South Heath should refer to a cut and cover tunnel, similarly for the section adjacent to Wendover.

#### **3.3 Other components of the scheme**

1. There is a reference to a typical minimum width but no reference to the extent to which it will be wider. For example, none of the section through the Chilterns is as narrow as 19 metres. This is essential to help establish the land take and extent of landscape impact.
2. There is little reference to the impacts of the associated infrastructure which will have a significant visual impact on the landscape and should be assessed as part of an ES.
3. This is supposed to be a summary document but almost no summary statistics are provided to describe the scheme. An ES is a document of facts and accepted methodologies to ensure impacts are objectively identified and assessed. Regrettably, information is presented selectively in this non technical summary which, in many respects, is more of a promotional document than an integral part of a professionally produced ES.
4. There are no overall figures given for environmental impacts such as the total area of land take for the rail corridor or for associated land needed on a temporary or permanent basis to enable its construction. Nor is there any analysis of the overall environmental impact on biodiversity or other ecosystem services - this approach has been entirely eschewed by HS2 Ltd despite it being government policy.
5. The number and length of public rights of way extinguished or diverted should be given.

## **Bridges and Viaducts**

1. These appear in some photomontages, but it is not stated whether these are actual designs or just illustrative of the type of structures proposed.
2. The design principles should be given and the impact of the viaducts clearly identified and assessed.
3. No montages are provided of views along the line. Visualisations should be provided for all structures and where significant change can be anticipated.
4. It is vital the individual and cumulative impacts of so many new structures are taken into account. The bridges and viaducts must be designed for their setting. The disastrous use of brutal, universal designs adopted for HS1 must not be repeated. Local people must have a great say in the selection of the final designs as they have to live with them every day. HS2's passengers will never see them.

## **Tunnels**

1. The summary fails to mention the need for additional structures to diffuse the effect of the trains passing into and out of the tunnel. They are significant and intrusive structures in their own right and need to be mentioned; and for their environmental impacts to be identified and assessed. This has not been done in this draft ES.
2. There is no discussion about the merits of a longer bored tunnel under the Chilterns AONB. This would provide considerable environmental benefits.

## **4. Construction and operation of the Scheme**

### **4.2 Construction Management**

1. Working hours seems excessive and, in practice, will result in significant levels of activity along the route 7 days per week. Whilst there is a trade off between the levels of activity each day and the total length of the construction phase, local people would prefer a slightly longer construction phase if the impact during each day, especially during evenings and at weekends, is reduced.
2. The Local Environment Management Plans will be significant documents. Experience suggests that simple consultation, in this case with local authorities, is not sufficient. Local authorities must have the power to require particular standards to be adhered to. Presumably many others will also be consulted.

3. The interests and well-being of local people must be paramount and not subjugated to the commercial interests of contractors.

#### **4.4 Maintenance**

1. There is no mention of maintenance of the track and associated infrastructure. There is likely to be an issue of night working for maintenance purposes, but this has not been included in the draft ES - it should have been as it, potentially, has significant environmental impacts.

### **5. Environmental Impact Assessment**

1. This chapter is not even one page long. Some may interpret this to mean that a low level of importance has been attached to assessing and avoiding environmental impacts.
2. The Board welcomes the statement “where likely significant adverse effects are identified, the ES will identify measures to avoid, reduce or manage effects (referred to as ‘mitigation’).”
3. For nearly all adverse impacts no option to avoid the damage is put forward. This should be an integral part of the ES. Instead a lesser and usually cheaper option to mitigate is put forward.

N,B. The official definition of mitigation (Chambers and OED) does not include avoidance. Mitigation is accepting the action and seeking to lessen its impact. This seems to typify the HS2 Ltd approach to adverse impacts. Rarely does it seek to avoid an impact but instead settles for relatively ineffective, almost certainly, lower cost mitigation.

4. To give reassurance and create confidence in the willingness of HS2 Ltd to listen to informed comment and criticism and respond accordingly, the Non Technical Summary should have referred to the outcome of the consultation on the Scope and Methodology report - it was widely criticised as inadequate. It appears little notice has been taken of those comments and many issues are inadequately addressed or the methodology used is unclear and, in some cases, unsound.
5. Similarly the Non Technical Summary should have stated that HS2 Ltd has been unable to collect sufficient data to prepare an environmental condition baseline. This is confirmed by frequent references to ongoing and further work. Quite simply, in many respects, e.g. impacts on biodiversity, HS2 Ltd did not have sufficient data to satisfactorily identify likely significant impacts and be in a position to propose appropriate action. The route has been chosen and designed despite not knowing. That is the point of the legislation and requirement to prepare an ES. To demonstrate that the design proposed has been prepared having identified the likely significant environmental impacts.

That can only have been done when in possession of the relevant information.

6. It is a requirement of an ES to consider cumulative impacts - this has not yet been done.
7. The requirement to consider future environmental conditions without HS2 has not been done - further evidence that this draft ES has been published before HS2 Ltd was ready. For example, if low noise road surfacing is installed on the A413, for which there is strong argument, the ambient noise levels would be lower still, and the relative noise impact of HS2 would be greater.
8. This section does not contain any references to Ecosystem Services or that it is now government policy to use this approach to assess the value of ecosystems services when considering any major development. In the Chilterns this would include assessment of the value of the impact on wildlife, agriculture, forestry, tourism, public water supply and the landscape.
9. The failure to refer to Ecosystem Services or the National Ecosystem Assessment methodology is surprising given it is Government Policy to use this approach, to ensure all environmental impacts are properly assessed and valued in order to give them due weight in any development proposal. This new approach is essential to ensure that developers, in this case the Government itself, do not downgrade environmental impacts compared to more readily quantified economic and financial costs.

## **6. Strategic and route-wide alternatives**

1. In the absence of an SEA the consideration of alternatives and their relative impacts has been superficial. This proposal reads like a justification for the chosen route despite the identified adverse impacts, If there has been a considered and rigorous comparison with alternatives then they have not been referred to. To provide the public with sufficient reassurance, and to meet the requirements of an EIA, this is essential. The outcome of the AoS clearly identified that the number of significant adverse impacts should have resulted in the rejection of this route.
2. Too much of this section is PR and should be excised from the final ES.
3. There is no acceptance or analysis of the additional journeys that will be generated to and from the HS2 railway stations. These are considerable and, if HS2 Ltd demand forecasts are correct, will result in considerable congestion around the stations (affecting all modes of transport) and be responsible for significant emissions of greenhouse

gases. These are likely to be assessed as significant adverse environmental impacts and must be included in an ES.

4. It is ironic that the location of airports outside the cities they serve is denounced as a disadvantage, when that is precisely what HS2 is doing at Birmingham, Sheffield, Nottingham and Derby.
5. The dismissal of the option to upgrade existing networks is wholly unacceptable. As has been shown, upgrading the existing routes and services can readily provide considerable increases to capacity between the cities served directly by HS2 and at much lower cost - a cost largely borne by those who use the railway and not every taxpayer - as HS2 demands. Such a strategy provides huge environmental benefits compared to the building a new railway.
6. Upgrading the existing networks can be done more quickly and in response to changes in demand. To claim that a key reason for discounting this option is the disruption to users of roads and rail is preposterous when compared to the disruption that HS2 will cause over a much longer timescale, affecting many more people. Nor does such a comparison take into account the adverse impacts on the environment, communities and property
7. HS2 Ltd has been unable to provide any evidence that there is demand from the travelling public for significantly faster train journeys between the cities to be served by HS2 Ltd. In fact surveys by Passenger Focus consistently show it is one of the lowest priorities. The relative advantages of the modest time saving on door to door journeys cannot be used to justify the level of cost and environmental impacts.
8. The option of addressing business and social needs by other means with lower environmental impacts has not been considered at all. The rapid growth in use of IT for communications renders many intercity journeys redundant. It is notable the recent (2013 Q2) rail user data suggests that demand for long distance rail travel is in decline. A similar pattern is now being experienced by the TGV in France.
9. The evidence to support HS2 Ltd's assertions should be published and subject to public scrutiny and comment.

### **6.3 Route-wide alternatives**

#### **Alternative Train Speeds**

1. The refusal to consider a lower line speed as the route passes through the Chilterns is unfortunate as it would help avoid many of the adverse impacts - this is a stated objective of HS2 Ltd but this opportunity to take avoiding action has been rejected. This suggests environmental considerations have been subordinated to the business case and notional economic benefits.

2. In view of the modest gains in journey time the demand for HS2 services is unlikely to alter much if it takes a few minutes longer. In practice, for example, if the line speed was reduced to 280 kph through the Chilterns the impact on the journey time between London and Birmingham would be seconds. It is DfT's insistence of very high speeds that directly results in such severe impacts on the environment and local communities.
3. The EU definition of high speed rail (which actually classifies many existing UK intercity lines as high speed) includes provision for lower speeds due to topography. Such an argument exists for the Chiltern Hills but has been ignored. It is unacceptable to state that there would be little environmental benefit of a 300 kph line speed. It is entirely possible to design different sections with different line speeds to reflect the conditions for that section. To have a universal speed along the entire length is unreasonable and results in lost opportunities to avoid adverse impacts.
4. It is noted that the line speed has been reduced to allow route flexibility, and therefore avoid adverse impacts, near Tatton in Cheshire and Meadowhall near Sheffield. The reasons why flexibility is possible at these locations but not in the Chilterns is unclear as it does not appear to be related to geography or topography.
5. No evidence is presented to demonstrate that the travelling public demands these speeds and resulting journey times. It appears they have been selected to enable the criteria used to develop the business case to deliver an acceptable Benefit Cost Ratio. This business case has now been discredited, as has the unsound and incredible claim that travellers do not work on trains. If this element is discounted from the business case, as it should be, then the requirement for such a high line speed can be removed.
6. The extent of the adverse environmental impacts is a direct consequence of the decision to base line speed on the erroneous assumption that that time on a train is wasted. The draft ES should have considered the environmental benefits of a lower line speed. In the Chilterns this would enable an alignment which avoids Mantles Wood and Sibleys Copse ancient woodlands, is further away from South Heath and Wendover and avoids the Grim Ditch scheduled monument.

### **Birmingham Terminus**

1. The report falsely claims that returning Curzon St to a railway use is the best way to re-develop that part of Birmingham. Plans to re-develop that area were already well advanced, led by the university. Those plans have now had to be shelved thus delaying economic regeneration of that area. Similarly the proposed HS2 maintenance



depot in Birmingham would create only 400 largely, low skill jobs, when it was scheduled for business use and an estimated 7,000 skilled jobs.

2. Some may argue that such unsupported, even misleading claims, are evidence of the weak case for HS2 - they do not belong in an Environmental Statement.

#### **6.4 Local alternatives considered prior to January 2012**

1. It highly misleading to suggest that local concerns resulted in changes to the route which were announced in Jan 2012. In the Chilterns the majority of changes made the impacts worse. Despite this being pointed out at every level from Ministers down to HS2 Ltd officials attending Community Forum meetings, almost no details of the route had been changed. It is clear that political demands to begin construction of the railway as soon as possible and concerns to reduce costs have taken precedent, and the impact on the environment has consequently been understated or only subject to modest mitigation.
2. It is also noted that the changes introduced in January 2012 reduced the cost of the route through the Chilterns by £300 million. This is approximately the cost of extending the bored Tunnel from Mantles Wood to Wendover.

### **7. Summary of environmental effects by area**

1. It is disappointing that the analysis of the overall impacts on the Chilterns AONB is superficial and the detailed analysis broken down into community forum areas. By adopting this approach it is difficult for HS2 Ltd to demonstrate whether it has complied with the duty placed upon it by Section 85 of the Countryside and Rights of Way Act 2000.
2. For each section there should have been some attempt to quantify the effects to give a better indication of the scale and intensity of impacts.

#### **7.8 The Chalfonts and Amersham**

##### **The scheme**

3. A visualisation of the proposed vents would have been helpful. A general comment is that the visualisations are of poor quality and are often misleading in their perspective and detail. In the absence of any useful detail it is difficult to assess their likely impact on the environment and, in particular, on the landscape. They are large structures and in open countryside near impossible to hide, screen or disguise other than as an agricultural building. It goes without saying that to be disguised as a modern agricultural building would be no improvement. To avoid disfiguring the landscape they will need to be very well designed to fit into the immediate locale.

4. The simplistic landscaping proposed would not be sufficient; there is no explanation as to why native species only would be used. It would seem the need to screen these intrusive structures and their surrounds necessitates the use of a wider range of species to ensure effective all year round screening.
5. The rural character of the approach road to Upper Bottom Farm must be conserved and where it cannot be, that which is built adheres to those characteristics to avoid imposing a new urban road into a rural setting.
6. The immediate surrounds to accommodate parking, vehicle access and associated infrastructure are likely to be urbanising and ugly. Again a visualisation would have been helpful.

### **Environmental effects**

7. This section includes a passing reference to socio-economic effects. These effects should be included in their own section. It is noted that the socio economic effects are currently being assessed and are not reported in the draft ES.
8. There are a large number of references to ongoing or further work indicating that HS2 Ltd was not ready to publish the draft ES, but felt it had to do so due to political pressure to accelerate the development of HS2, despite the evident state of unreadiness. This does not provide confidence that the railway is being properly planned or designed.

### **Agriculture, forestry and soils**

9. The land needed for construction at Ashwells Farm is recorded as a significant effect - but the actual effect and the reason for it is not given, nor what options were considered to avoid this significant effect.

### **Cultural Heritage**

10. It is not credible to state that the construction works would affect the setting of the Grade II listed granary, (presumably that Upper Bottom House Farm) but once operational the setting would not be affected. The vent is bound to affect the setting as would the road and so called road improvements.

## **Ecology**

11. It is noted that the impacts on the River Misbourne are not known and assessment work is ongoing. Similarly the impacts on the aquifer and Shardeloes Lake are not known, but could be significant.
12. It is noted that mitigation will be considered only once water levels have been observed to have changed. This is too late. The precautionary principle must be employed. What are those mitigation options being considered?
13. There is no mention of impacts on water quality. This is a major public water supply and HS2 cannot be permitted to affect either availability or the quality of supplies.
14. There is no mention of the impact on essential infrastructure including water supply networks. If supplies have to be sourced from elsewhere there will be environmental impacts, which this ES needs to consider.
15. It is stated that vents are being designed to fit into the landscape. The present tense suggests this work is taking place now. Who is being involved in the design and who will be consulted? Presumably the local authorities, Conservation Board and the public - this should be stated.

## **Sound, noise and vibration**

16. Although not stated the environmental impacts on potentially affected properties will be significant. Will those who might be affected be contacted prior to work taking place; and before and after surveys undertaken (at HS2 Ltd's expense) with a compensation scheme in place for those affected?
17. The potential impacts on sensitive receptors such as Amersham Hospital are of particular concern but are not mentioned specifically.
18. It is noted that HS2 Ltd does not yet know if any properties will be affected significantly by operational noise and vibration effects.

## **Traffic and Transport**

19. The significant adverse effects due to use of locally important routes is mentioned, but the scale and impact on other road users or those living nearby is not mentioned. These are especially significant environmental effects and should be included in the final ES. It is not acceptable to downgrade these impacts by stating they will be covered in the Code of Construction Practice.
20. It is essential the ES includes all forms of traffic generated by HS2. The consequences need to be addressed including the possibility that local

traffic will choose to use other routes due to HS2 created congestion along their preferred routes.

21. The effects on Chiltern Railway services needs to be identified and assessed for any impacts.
22. The impacts on the character of local roads needs to be assessed, especially those with particular rural and ancient features. The impact on other non-vehicle road users needs to be assessed. Many local roads are well used by walkers, cyclists and horse riders.

### **Water Resources and flood risk assessment**

23. The potential for significant impacts on the aquifer River Misbourne and Shardeloes Lake are identified but there is no mention of options considered to avoid or mitigate these impact. One option that the Board would expect to have been considered is for the tunnel to be so deep it is below the strata used for water extraction and the potential to damage the river and lake are further reduced.
24. There may be a need for water supplies to be sourced from elsewhere, in which case those options need to be assessed for their environmental impacts. This has not been done nor is there any indication that HS2Ltd recognise it needs to be done.
25. The visualisation used for this section is so poor as to be useless. It is vital that the final ES uses photos which are helpful to the readers and, in particular, those who might be directly affected. The paucity of those used suggests that HS2 Ltd is trying to disguise a problem.

### **7.9 Central Chilterns**

1. There is no mention of the 29 reservoirs and balancing ponds shown on the maps. These are alien features in the Chilterns and have an environmental impact of their own which should be assessed. As they are not typical landscape features found in the Chilterns AONB they represent a significant adverse effect and HS2 Ltd should have considered options which avoid their creation.
2. The design of structures such as bridges could have a major and possibly adverse impact on the landscape and should be mentioned and assessed. This is another serious general failing of the draft ES that the impact and design of built structures is not addressed in any meaningful way.

### **Local Alternatives**

3. It is deeply regrettable this section did not adequately deal with the alternatives which might have avoided or minimised the environmental impacts on the Chilterns AONB.
4. The Conservation Board believes the best way of avoiding damage to the environment and local communities is for the line to be in a continuous bored tunnel for the full distance under the Chilterns. This should be accompanied by a TSI report to establish the need for, and nature of, any intervention facility. If a full impact assessment had been done of the alternatives it would have shown that this full length bored tunnel provided most benefits and fewest dis-benefits.

### **Environmental Effects**

5. It is not credible to state that all potential effects in terms of air quality and land contamination arising from construction can be effectively managed under provisions in the CoCP; or that no significant, air quality or water quality effects will arise from the operation of the HS2 services.
6. It is inconceivable that such large quantities of spoil can be adequately controlled so close to villages and other houses to avoid significant impacts from time to time.
7. Similarly if no significant water quality effects have been identified, why are 29 balancing ponds deemed necessary. Self evidently there are significant issues which require their construction. It is stated in this draft that several will require specific treatment and management as they may well contain pollutants. In view of the Chilterns geology and importance as an aquifer it is essential the precautionary approach is applied. Similarly if many of these 29 balancing ponds are to be constructed to contain the problem, these will have their own environmental impacts which themselves must be assessed. This has not been done.
8. The massive environmental impacts of the Mantles Wood portal, South Heath green tunnel, cuttings, viaducts and embankments are not adequately assessed and their impacts are either ignored or understated.
9. It is noted that the socio-economic effects are still being assessed.
10. It is regrettable that reference is made to employment opportunities but there is no acknowledgement of employment losses. An Environmental Statement needs to be a balanced, objective technical document. It is arguable that this draft is being mis-used for PR purposes.

### **Agriculture, forestry and soil**

11. There has been no attempt to quantify the significant effects. Neither is it acknowledged that reinstatement itself is unlikely to be better than patchy and likely to take many years to revert back, if it ever does, to its previous condition or state. There is a high likelihood that several areas, currently actively farmed, will not be returned to agriculture. The environmental impacts of this change of use should be considered.
12. No significant effects are anticipated during operation. This suggests there will be no restriction on use of adjacent land during operation. This is not the case. It is known that some farmers do not believe it will be viable to continue to farm some areas affected. The loss of viability during the construction phase may well result in the permanent cessation of farming. There will inevitably be restrictions preventing landowners planting trees along side the line.

### **Community**

13. The effects will be considerable especially for Hyde Heath, South Heath and the ridgetop villages, but this is not adequately covered. As the business case for HS2 Ltd is based, in part, on the value of time saved for travellers, so the cumulative impact on time wasted by local people coping with the disruption caused by HS2 should be balanced against this notional gain. That should then be considered as part of the assessment for what is regarded as appropriate avoidance or mitigation measures.
14. There is no acknowledgement of the loss of amenity to all affected communities residents and visitors.

### **Cultural Heritage**

15. There is no acknowledgement of the historic landscape character of the Chilterns. The Chilterns HLC is not even referenced suggesting that HS2 Ltd has not examined or used this published work. The Chilterns is more than the sum of its parts. It is a complex mosaic of land uses, landscape and heritage features and patterns which give it time-depth depth. This is a fundamental aspect of its cultural heritage. HS2 Ltd has made the simplistic mistake of regarding cultural heritage as individual features or sites.
16. It is unacceptable to relegate the impacts on cultural heritage to a matter of concern only in the CoCP. It is particularly alarming that in the draft ES it is stated, "measures within the CoCP would control potential damage to heritage assets". It should state that is a fundamental principle of the ES that damage to heritage assets will be avoided and not just controlled.
17. Reference is made to mature planting to mitigate the effects during operation. What does HS2 Ltd mean by "mature planting". Planting

may mature, but this suggests something different. If it means planting using heavy standard or semi-mature trees more commonly planted in parks, for example, then this would be an inappropriate approach to landscaping within the Chilterns AONB. Such planting is nearly always less successful, even in the short term, than a more naturalistic approach.

## **Ecology**

18. The report euphemistically refers to removal of ancient woodland - which suggests it is intact and can be moved. The report should be quite clear – ancient woodland will be destroyed. It cannot be removed or re-located. Once destroyed it is lost for ever. The report should clearly give the area of lost woodland so that readers can understand the scale of the impact.
19. The report should state what the mitigation of the impacts on bats will be.
20. There is no mention of Great Crested Newts which are known to be present in this area
21. This lack of information in this section betrays the lack of information which HS2 Ltd has on the biodiversity of the area. This should have been acknowledged and a statement made to describe how this shortcoming is being addressed or whether it can be addressed.
22. There is no mention of the impact on the movement of wildlife in general and, in particular, of mammals and how the railway and its security fencing will restrict the movement. It is essential that all bridges are designed to facilitate the movement of wildlife.
23. There is no mention of hedgerows, field margins or significant trees - all of which will be lost and much of which will not be re-instated.

## **Landscape and Visual Assessment**

24. The options to avoid and mitigate impacts on the landscape are not covered. A long bored tunnel would avoid or minimise impacts and this should have been mentioned.

## **Sound, noise and vibration**

25. The options to reduce the impacts of noise are not covered. The noise barriers themselves will have adverse impacts on the landscape and amenity of the area. These impacts should have been assessed but have not been. They would be ugly and intrusive in the AONB and their use should be avoided.

## **Traffic and Transport**

26. The effects of HS2 construction traffic are under-assessed. There will be considerable delays and congestion on all affected roads including the A413. It is unacceptable to issue a draft ES without assessing the impacts of likely traffic volumes and the routes they will affect. This report has attempted to conceal those impacts. The draft ES contains no suggestions to avoid or mitigate the impacts, which should only then be referred to the CoCP.

## **Water Resources and flood risk assessment**

27. The point of an Environmental Impact Assessment is to assess likely impacts. It would appear from the wording and tone of this section that the likely impacts on the aquifer and water courses are unknown. No avoidance or mitigation options are offered. The impact of the balancing ponds, some of which are proposed to help control the flood risk, is not assessed nor alternatives proposed.

### **7.10 Dunsmore, Wendover and Halton**

1. All of this section lies within the Chilterns AONB, not part of it as the introduction to this section incorrectly states.
2. The impacts of the construction of the line and associated site compounds will have a massive adverse effect on this part of the Chilterns.

### **Local alternatives**

3. The benefits of a long bored tunnel have not been given adequate consideration. To date HS2 Ltd has simply compared direct construction costs which would have to be borne by HS2 Ltd. It has failed to consider the wider benefits to society.

### **Environmental Effects**

4. It is not credible to state that all potential effects in terms of air quality and land contamination arising from construction can be effectively managed under provisions in the CoCP; or that no significant, air quality or water quality effects will arise from operation.
5. It is inconceivable that the environmental impacts of moving and storing such large quantities of spoil can be adequately controlled so close to villages and other houses to avoid significant impacts from time to time.
6. Similarly, if no significant water quality effects have been identified why are 29 balancing ponds proposed? Self evidently there are significant issues which require their construction. It is stated in this draft that



several will require specific treatment and management as they may well contain pollutants. In view of the Chilterns geology and importance as an aquifer it is essential the precautionary approach is applied. Similarly, if many of the 29 balancing ponds are to be constructed to contain the problem these will have their own environmental impacts which themselves must be assessed. This has not been done.

### **Agriculture, forestry and soils**

6. It is surprising that no mention is made of the demolition of Durham Farm.
7. The area of farmland temporarily and permanently lost is not given.

### **Community**

8. It is noted that effects have not been assessed. However, the loss of the cricket ground is reported.

### **Cultural Heritage**

9. The impacts are understated and insufficient gravitas is attached to the damage to Grims Ditch. The word “removal” is a deliberate euphemism. Part of a national scheduled monument will be destroyed and what survives is massively devalued. It is noted that the adverse impact on its setting is identified but there is no reference to consideration of options to avoid this damage.
10. Similarly the loss of part of Jones Hill ancient woodland devalues that part which survives.
11. Many of the lanes which will be closed, modified or destroyed are ancient routes. Their character and historical integrity will be destroyed by HS2. Measures to avoid or reduce these impacts should be considered and adopted.

### **Ecology**

12. The statement, “About half of Jones Hill ancient woodland could be lost which could cause a significant effect”. Such loose language and lack of precision and certainty does not inspire confidence in this draft ES. There will be a significant loss of ancient woodland which would be a significant, adverse effect. What survives will be much diminished and its setting devalued.
13. There is reference to 60 hedgerows but no indication of the length; or those species for which they are important; or whether they are ancient. The statement refers to, “Further measures to reduce these effects are being considered”. This is an imprecise and unsupported statement. What alternatives exist to a hedge?

## **Landscape and Visual Assessment**

14. The impacts will be massive, long lasting and adverse. The intended use of spoil and noise barriers also bring significant adverse impacts which should have been assessed, but have not been.
15. There is no reference to the loss of tranquillity due to the intrusiveness of the light pollution from sparking between the pantographs and power lines or illuminated carriages.
16. Virtually all the affected character areas lie within the Chilterns AONB.
17. The view of the Chilterns from the north appear to have been given little consideration.
18. There is a reference to design refinements to reduce the impact of the tunnel entrances - but the impact of the tunnel entrances is not specifically described or assessed, nor is there any indication what these design refinements might be.
19. Noise barriers are ugly and will be an intrusive and alien feature in the landscape. What options are being considered to avoid their use? Why have the impacts of the barriers themselves not been assessed?

## **Traffic and Transport**

20. HS2 Ltd appears not to anticipate any impacts on users of the A413 or Ellesborough road the main routes to the west and south of Wendover- this is not a credible. There are no references to the possibility, even probability, of disruption to the services of Chilterns Railways or the additional difficulty of accessing the railway stations. These main arterial routes are used for emergency services based as Stoke Mandeville Hospital.

## **Water Resources and Flood Risk Assessment**

21. The impacts on groundwater are supposed to be identified in an ES and measures to avoid or mitigate proposed and, in turn, their impacts assessed. The superficial statement in this draft, about the impacts on groundwater suggest that HS2 Ltd does not know what the impacts will be. Simply monitoring impacts is insufficient. The precautionary principle must apply and a strategy of avoiding adverse impacts adopted.
22. The failure to refer to the many reservoirs and balancing ponds including new water courses is inexplicable. There must be significant problems anticipated to require their construction. They too will have significant impacts which need to be assessed.

## **8. Summary of route –wide environmental effects**

### **8.2 Chiltern Area of Outstanding Natural Beauty**

1. In preparing the assessment of impacts on the Chilterns AONB, HS2 Ltd failed to consult the Chilterns Conservation Board, the body created by Parliament to promote the conservation and enhancement of the natural beauty of the Chiltern Hills.
2. As a result it has failed to assess adequately the impacts on the special character and qualities of this nationally protected landscape, and has understated the impacts it has identified. In several instances it has proposed superficial mitigation and scarcely any measures which would have avoided adverse impacts. As such it is the view of the Chilterns Conservation Board that unless the final Environmental Assessment is a great deal more comprehensive the Government (in the form of HS2 Ltd) has failed to comply satisfactorily with the duty placed upon it by Section 85 of the Countryside and Rights of Way Act 2000.
3. HS2 Ltd concludes its assessment by stating that the many new features, almost always urbanising, together with a significantly altered topography and the destruction of ancient woodland, “would not significantly affect the character and appearance of the landscape within the AONB as a whole”.
4. It goes on to assert, wrongly, that after only 15 years the tree planting would have matured to such an extent that it would have further reduced the adverse effects on the character of the landscape. This is remarkably flippant - the planting will not have matured in only 15 years. Many of the new features cannot be hidden, ever, by planting and taller climax tree species cannot be planted in close proximity to the railway in any event. The intrusiveness of a railway on the skyline and in places where there are only minor country lanes can never be mitigated.
5. The only satisfactory way to avoid so many significant adverse impacts is to put the railway in a bored tunnel under the Chilterns.
6. The failure to quantify any of the overall impacts on the Chilterns AONB or to consider cumulative impacts renders this draft incomplete in important respects. In general, it is an unsatisfactory assessment of the environmental impacts of HS2.
7. It may not have been a requirement for HS2 Ltd to publish a draft Environmental Statement, but having chosen to do should have ensured it was complete in its coverage with credible supporting data in

a form that enabled meaningful analysis of the potential environmental impacts. It should have been published in a format to facilitate public understanding of what was proposed and its impacts; and to help them make comments with a reasonable expectation that those comments would be taken into account and acted upon. This draft Environmental Statement, and the way it has been published and distributed, fails those basic tests.

8. The draft ES incorrectly describes the effects of the proposed impacts north of the bored tunnel and either side of the South Heath green tunnel as having “no significant effect.” This is simply not credible. The Chilterns is a nationally protected landscape and HS2 will involve: digging a cutting up 20 metres and more deep and up to 90 metres across ; disposing of several million cubic metres of spoil on adjacent land; building many bridges, almost certainly of concrete with spans of 100 metres or so, creating 29 balancing ponds where there are currently no water bodies; diverting the locally important road between Great Missenden and Chesham; erecting high noise barriers; destroying sections of several ancient lanes; destroying ancient woodland and ancient hedgerows. It is inconceivable that this can be described as having no significant effect.
9. To describe the impact of major viaducts in a nationally protected landscape as only having a local significant effect is to misunderstand and understate the importance of an AONB and the scale of the impact.
10. It is not possible to reinstate the landscape above a green tunnel especially with climax woodland.
11. This following statement is not credible; “Overall these features would not significantly affect the character and appearance of the landscape of the AONB as a whole.” This is a regrettable attempt to play down the impact of HS2. The AONB covers 833 sq. kilometres. Attempting to relate the impacts of HS2 to the whole AONB is meaningless. However any development which involves the construction of viaducts and embankments extending to 1.7 kilometres with a further 5.7 kilometres in cutting much of which is less than 8 metres deep must be assessed as having a significant impact. Most of these structures are in open countryside which is not characterised by extensive woodland cover. Much of the woodland that does exist alongside the line will be destroyed or damaged by HS2.

### **8.3 Agriculture, forestry and Soils**

12. Reference is made to high and poor quality of land. The ES should refer to the grade of agricultural land lost and not rely solely on an informal description.
13. Once again it is clear that HS2 Ltd does not know what the impact will be on soils and the spoil it intends to re-use. Typically soil loses its

qualities rapidly once it has been stripped and stockpiled. The ES should be clear on the impact on soils and the land across which the spoil is spread. Experience elsewhere shows that the value of adjacent land declines once it has been subject to compaction and other damaging effects of the construction work, and then covered with soil which has been stockpiled.

14. The adoption of an Ecosystem Services approach should result in greater weight being given to the impact on soils.

#### **8.4 Climate**

1. This section is so brief as to be meaningless. This is a major transport project and has the capacity to generate a significant amount of greenhouse gases. Given that high speed trains will use significantly greater amounts of energy than conventional intercity trains today, HS2 trains will result directly in higher levels of greenhouse emissions. Even if the national generating capacity is converted to emit lower levels of GHG, HS2 will still directly result in higher levels of emissions than conventional speed trains would.
2. Whilst there may be a modest modal shift from plane to train, probably lower than HS2 Ltd forecast, unless that results in fewer flights there will be no reduction in greenhouse gases. If those slots are used instead for long haul flights the level of greenhouse gases may well increase significantly.
3. HS2 Ltd predicts very high levels of use. As very few people live within walking or cycling distance of the HS2 train stations nearly all HS2 journeys will generate additional connecting journeys. In total these will generate significant levels of additional greenhouse gases, often in locations where there are already air quality issues. These potential impacts have not been identified let alone assessed for their impacts.
4. The construction of the railway will result in a significant level of greenhouse gas emissions primarily due to construction activities and the carbon embedded as a result of the construction and manufacturing processes.
5. The construction process will cause in considerable traffic congestion along the line and around the new stations. These additional emissions need to be considered.
6. No doubt there will be some modal shift from car to train, but many of those journeys are likely to require a connecting car journey due to the high reliance by HS2 on out of town parkway stations and hard to access city centre stations. It may actually increase the number of car journeys overall, even if some of the intercity journeys result in a switch to rail.

7. The rapid decline in the emissions of greenhouse emissions by cars needs to be factored in and HS2 should not compare HS2 to current car emission levels but those which are more likely to be typical in future, say 20- 30 years ahead. It is not fanciful to suggest that per passenger km emissions from cars might compare well with electric trains before even HS2 comes into service.
8. The emerging consensus seems to be that HS2 Ltd will increase the overall demand for energy and, even with some de-carbonising of the grid, will result in higher levels of emissions.

### **8.5 Cultural Heritage**

1. It is noted that 81 lengths of historic hedgerow would be affected. Why is the total length of historic hedgerow affected not given? Inexplicably there is no reference to loss of ancient hedgerows of where they are in the community forum area reports. It suggests this information is being withheld when it is an important consideration of the impact along each section of the route.
2. The report incorrectly states that only 19 ancient woodlands will be affected. A much higher number will be destroyed, fragmented, or be adversely affected by construction. Nowhere in the draft ES are they identified - the reader has to examine all the individual maps to locate them. It is impossible to gain an overview of the individual and cumulative loss.
3. The impact on ancient hedgerows and woodland should be in the section on ecology not cultural heritage.

### **8.6 Ecology**

1. Due to the unconventional way this report is written this section on ecology makes no reference to the loss of ancient woodland and hedgerows or mature and veteran trees.
2. This section includes the statement that, "At present there are no route-wide significant effects on habitats caused by the construction or operation". This extraordinary claim represents a failure to recognise that HS2 will result in the largest loss of ancient woodland arising from a single development in the UK for several decades. This facile attempt to understate the impacts can only undermine any confidence the public might have had in the objectivity and professionalism of those who prepared this report.

## **8.7 Socio-economics**

1. This section places too much emphasis on the potential job creation of HS2. The purpose of an Environmental Statement is to identify the impacts on society and the economy as it is now. The draft ES includes a rough assessment based on partial information which, nonetheless, reports potentially significant job losses. Surprisingly no assessment is made of the value of that lost economic activity. This figure should be included in the business case for HS2 to balance the claimed wider economic impacts.
2. The claims that jobs will be created is misleading. It is believed many of those will not be new jobs but personnel transferring from CrossRail as that construction work ends.
3. This section fails to mention the loss of asset value due to blight or the impact on tourism. The Chilterns will suffer general reputational damage which will affect tourism over a wider area than the rail corridor.
4. A great deal of this section is nothing more than PR and has no place in an Environmental Statement.

## **8.8 Traffic and Transport**

1. This section is incomplete and inadequate in almost every respect.
2. The route wide effects must include the cumulative impacts of local effects. The total scale of disruption and congestion will be significant and must not be played down by HS2 Ltd.
3. Based on HS2 Ltd own optimistic forecasts it is essential that the journeys to and from the HS2 stations are calculated by number and mode and their impacts assessed. This is not referred to at all and should have been.

## **8.9 Waste and Material Resources**

1. This section states that 96% of material generated will be beneficially re-used in the construction process. The definition of beneficial is not provided nor is there any consideration of the environmental impacts of how this is to be used. Dumping spoil on land adjacent to the line has its own negative impacts which have neither been acknowledged nor assessed. The minimisation of spoil generation, presumably for cost reasons, has been given a higher weighting than the benefits, for example, of deeper cuttings which would reduce the landscape and noise impacts.
2. In the Chilterns the route changes announced in January 2013 resulted in shallower cuttings. These cuttings have been made even shallower

since. Despite the requests made by the Community Forums for deeper cuttings their wishes have been ignored as have the environmental benefits this would have provided.

3. The Draft ES fails to state where the spoil will be moved to, or how. Nor does it address the impacts of its disposal strategy.
4. There is no mention of where the aggregates and ballast will be sourced from for the construction, with their attendant environmental impacts.
5. This section refers to “a strategy for the sustainable on-site placement of surplus excavated materials has been developed”. As this is written in the past tense it is assumed it is completed, but it isn’t available to the public nor is it included as part of the Environmental Statement. There must be many issues arising from this strategy which should be subject to environmental impact assessment and, therefore, covered by the Environmental Statement. It appears they have been deliberately excluded.
6. Although HS2 Ltd proposes that 29 balancing ponds be constructed in the Chilterns alone, and identifies that several may contain pollutants, this section makes no reference to them. This polluted water should be covered in this section as it is a waste product



# **Chilterns Conservation Board**

## **Draft Environmental Statement – Draft Code of Construction Practice**

### **Introduction and Background**

1. Although the Chilterns Conservation Board is a statutory body it was not consulted directly about the Code of Construction Practice. Nonetheless it considers it appropriate and necessary to provide comprehensive comments on the Draft CoCP.

### **Summary**

2. In summary the Board believes that the CoCP will not be sufficiently robust for a programme of this scale and potential impact. Insufficient information has been presented at this stage (particularly in connection with the Chilterns AONB), loose terminology is used throughout, no reference is made to using the best practice and highest standards and no detail is given about what actions will be taken when breaches of the CoCP occur.

### **General comments**

3. The main thrust of the responsibility for delivering the requirements of the Code have been placed on the Nominated Undertaker and there is little or no reference to its enforcement role or the future role of HS2 Ltd, or that of the County and District Councils and the exercise of their statutory duties and obligations.
4. The Board is concerned that loose terms such as ‘as far as reasonably practicable’, ‘as soon as reasonably practicable’ and ‘appropriate’ are frequently used in the draft CoCP and that these will lead to lower standards being applied, and random and vexatious application of the Code and decisions will be dictated by expediency and cost.
5. This is not acceptable and should be addressed so that the best practice (via best practicable means) and highest standards are applied throughout the CoCP. Industry best practice and best practicable means can at least be measured against other similar projects in sensitive areas. Current industry best practice will have to be improved upon where HS2 transits the Chilterns AONB.
6. The Board would prefer to see throughout the document greater reference to ‘agreement with’ and ‘approval by’ Local Authorities and other consenting bodies, rather than just prior consultation and notification by HS2 Ltd or the Nominated Undertaker regardless of the powers conferred by the Hybrid Bill.
7. The many monitoring sections contains insufficient detail, particularly in connection with how problems or any breaches in the CoCP will be dealt with, what actions will be taken, and what remedies will be applied

8. The relationship of HS2 Ltd with the Nominated Undertaker is not clear, nor which organisation will regulate and control it.
9. The Code as currently drafted, and the general requirements described in it, is applicable to the whole route from Euston to Curzon Street in Birmingham. The Board considers that the landscape and biodiversity of the Chilterns AONB are sufficiently different from the rest of the route as to require a Supplementary Code which is designed to address the specific requirements of the AONB. The Chilterns Area of Outstanding Natural Beauty (AONB) is a national, not a local, resource. It is an area deemed to be of such outstanding natural beauty that it has a statutory designation for the purpose of conserving and enhancing the natural beauty of the area. The Supplementary Code must ensure that the greatest possible weight is given to minimising damage to the Chilterns AONB's land forms, ecosystems, biodiversity and natural beauty during construction and subsequently during remediation.
10. This is referred to in the report: *Response to the surface route Draft Environmental Statement and a commentary on the proposed continuous tunnel* (PBA/CCB, July 2013) at section 3.
11. As part of the production of the Supplementary Code it will be necessary to ensure that appropriate information is scoped into the consideration of the likely effects. The Board's evidence base includes the following: the Chilterns AONB Management Plan 2008-2013 (incorporating Strategic Environmental Assessment); the Draft Chilterns AONB Management Plan 2014-2019; the Chilterns State of the Environment Report 2012; the Environmental Guidelines for the Management of Highways in the Chilterns 2009; The Making of the Chilterns Landscape 2010 and the Ancient Woodland Inventory for the Chilterns 2012.
12. The Government's evidence base includes, but is not limited to the following: The Natural Choice: Securing the value of nature (the Natural Environment White Paper 2011); the UK National Ecosystem Assessment (understanding nature's value to society, United Nations Environment Programme World Conservation Monitoring Centre, 2011) and The Environmental Valuation Reference Inventory (a web-based searchable storehouse of empirical studies on the economic value of environmental benefits and human health effects).
13. The Local Environment Plan site controls will be provided after the Bill Submission has been made in support of the Hybrid Bill. Any comment which local authorities, the Conservation Board and the community wish to make on this will have to wait until then, which will be an expensive and difficult task; and for many an impossible task.
14. The Board considers that monies should be provided to local authorities and other statutory bodies to allow the employment of sufficiently qualified and experienced staff to ensure compliance with the CoCP at the local level.

15. The Board considers that the CoCP must be a legally binding document which holds HS2 Ltd accountable and responsible. It must provide the legal mechanisms for ensuring that the impacts of construction and subsequent remediation are avoided or mitigated.

**Comments are provided on a section by section basis.**

Please note that the following comments are based on the information contained in the Draft Code of Construction Practice. Though every attempt has been made we cannot guarantee that all issues have been addressed. The Board expects there to be future consultation and negotiation between itself and HS2 Ltd which may help to resolve any omissions from this response.

## **1. Introduction**

### General

1. There are numerous references to documents being developed in the future, many of which have direct implications for the proper management of the project.
  2. The Board previously commented that, because of the national importance of the Chilterns AONB, a Supplementary Code should be prepared and agreed for the Chilterns AONB. This has still not been included as part of the Code of Construction Practice (CoCP) and the Board reiterates its previous comment.
  3. Many requirements are subject to a caveat that states 'as appropriate', which would give the opportunity for contractors not to do something on too many occasions. If something is required it should be explicitly referred to.
  4. There are many instances where fencing and hoardings would be erected, without any consideration given to the wider landscape implications of this.
  5. All staff employed for any aspect of work, whether this is construction, monitoring or enforcement of the CoCP should be appropriately qualified and suitably experienced and this should apply throughout the CoCP.
- 1.0.1 States that the Nominated Undertaker is the body appointed by the Secretary of State responsible for delivering the scheme. This does not say who the Nominated Undertaker will actually be, and who will take overall control and responsibility for ensuring that the CoCP is adhered to.
- 1.0.4 The CoCP will apparently evolve and be subject to 'refinement, amendment and expansion' as the design develops. Any changes should be subject to further public consultation and agreement with relevant bodies, including local authorities and not just via the various HS2 Ltd forums as mentioned, as these have no credibility.

## **2. Purpose of the Code of Construction Practice**

- 2.1.1 States that the CoCP shall be applied by the Nominated Undertaker and its contractors – no detail is given about these bodies and later sections of the CoCP also refer to principal and sub-contractors. The CoCP should be applicable to all contractors and such sub-division is not considered to be necessary.
- 2.1.2 References to guidance documents are not intended to be exhaustive – this leads to significant concern as it is quite probable that if the list is not exhaustive then significant documents will have been missed.

#### Figure 1

This shows the production schedule for various documents. A number of key documents are to be prepared very late in the process and apparently without any input through public consultation. Of particular concern are the production of the Principal Contractor's Environmental Management System and the Contractors' Method Statements (both at the start of the construction period).

### **3. Policy and environmental management principles**

- 3.1.1 This paragraph mentions the development and implementation of a Sustainability Policy which is referred to in appendix 3. This is not an appropriate policy for works of this magnitude and many features of the design already run counter to this. The surface route across the Chilterns AONB for example is an example of this.
- 3.2.1 The CoCP will be annexed to the ES submitted to Parliament and will form a component of the HS2 Environmental Minimum Requirements (EMRs) which will set out the high level environmental and sustainability commitments that the Government will enter into through the Hybrid Bill process. This paragraph also mentions that the EMRs will consist of a suite of framework documents. What are these, where is the detail and how will we be able to comment on them? The EMRs are likely to be very important documents which will apparently not be subject to public scrutiny.
- 3.2.3 The EMRs are likely to be formed of various documents (including the CoCP) which have not yet been prepared. Some of the documents are to be agreed with local authorities and others, but should also be subject to wider public scrutiny.
- 3.3.1 The Nominated Undertaker will develop an environmental management system (EMS) – this should already exist and it not should be prepared and then subject to full and proper public consultation.
- 3.3.2 The Nominated Undertaker will require each of its principal contractors to have a certified EMS – this does not appear to cover all contractors and the requirement should rest with the Secretary of State rather than the Nominated Undertaker.

### **4. Implementation**

- 4.1.1 The provisions of the CoCP will be passed by the Nominated Undertaker to the principal contractors by means of works contracts. This requirement should apply to all contractors and any enforcement should be undertaken by the Secretary of State rather than the Nominated Undertaker.
- 4.1.2 This paragraph mentions construction contracts. The construction contracts will include both a variety of general requirements and also construction site specific requirements. The latter are likely to extend over seven years or more in many cases with significant impacts on the locality and its population, the environment, and the regulatory and enforcement resources of the local authorities, the Environment Agency and similar organisations. These site specific requirements should be given more weight in the document, as a framework for future development, and recognise the consequences and mitigation requirements in a local context. This paragraph also states that the general requirements referred to above will be supplemented by Local Environment Plans for each community forum area. For the Chilterns AONB this means three different areas covering the route across the area. The Board considers that this should be one unified Local Environment Plan.
- 4.2.2 Local Environmental Management Plans (LEMPs) will be developed after engagement with local communities, authorities and stakeholders. Though this is welcome the Board is concerned that, based on the experience of the on-going Community Forums, such engagement will not produce any meaningful dialogue or changes to draft documents. Therefore, the results should be agreed by all parties and this is not mentioned.
- 4.3.1 Principal contractors will undertake monitoring – this should be undertaken by the Nominated Undertaker at least and should also involve local authorities or other independent appropriate expertise.
- 4.3.3 The Nominated Undertaker and its contractors will be responsible for identifying the training needs of their personnel. The Board expects all staff employed for any aspect of work, whether this is construction, monitoring or enforcement of the CoCP to be appropriately qualified and suitably experienced.
- 4.3.4 The Board considers that the Considerate Constructors Scheme is unenforceable in this instance.
- 4.4.1 The Nominated Undertaker's contractors will set out the procedures to be followed for construction operations in method statements – this gives no confidence that the statements will be rigorous and are certainly not independent. They should be assessed by independent experts prior to agreement and adoption.
- 4.4.2 Contractors' method statements are dealt with in this paragraph. These will define any specific control measures. No detail has been provided at present. The Board wonders how they will be reviewed and updated and accepted by the Nominated Undertaker acting as both judge and jury.

4.5.2 A contact person will be identified – however, this paragraph does not tell anyone how that person could then be contacted.

## **5. General requirements**

5.1.1 The Nominated Undertaker and its contractors will produce and implement a stakeholder engagement framework and provide appropriately experienced community relations personnel to implement the framework. Though this is welcome we are again provided with no detail and no doubt a need to comment at short notice. In addition, HS2 Ltd ‘will take reasonable steps to engage with the community’. The Board considers that this is hardly sufficient and it leaves the question of what the alternative unreasonable steps would be and who or which organisation decides on this and what are the tests for reasonableness. Once drafted any framework should still be subject to public scrutiny and agreement.

5.1.2 The Nominated Undertaker must ensure that advance notice of works is properly dealt with and in a timely and thorough manner. ‘Where practicable’ should be deleted from the penultimate line.

5.1.4 A construction operations website will be maintained – this should also be widely promoted along with a landline or freephone number for contact purposes.

5.1.7 A small claims procedure would be established by the Nominated Undertaker and modelled on previous examples – the best and most widely accepted models and examples should be used to define the procedure for such claims.

5.1.9, 5.1.10 and 5.1.16

The small claims procedure would cater for claims related to damage to property arising from the construction of HS2 up to £7,500 (which is not likely to be adequate for many claims in connection with property) and if a claimant considers an award is inadequate then they will be able to write to the Complaints Commissioner to request resolution and settlement. This is likely to be a complex and onerous procedure that will, no doubt, put many people off claiming.

5.21 to 5.2.9

Working hours – Paragraphs 5.2.1 to 5.2.9 deal with working hours. The section starts (paragraph 5.2.1) by stating that core hours will be from 0800 to 1800 on weekdays (excluding bank holidays) and 0800 to 1300 on Saturdays. This seems to be acceptable. Unfortunately, the following 8 paragraphs then detail a series of get-out clauses which would allow a vast amount of wriggle room for contractors thus resulting in likely working patterns for most operations of 24 hours a day, 7 days a week for most weeks of the year. The Board is very concerned about the likely impacts on the tranquillity and enjoyment of the Chilterns AONB should this happen, and this concern is

compounded when paragraph 5.2.5 also talks about taking advantage of daylight hours – during the summer months this could be up to 17 hours a day. Greater care is needed in connection with working hours and this section does not reflect the need to take full account of the likely impacts on the Chilterns AONB.

- 5.2.2 Guidance on variations to core working hours will be included in LEMPs following consultation with local authorities. This should also involve the agreement of the local authorities to any variations.
- 5.3.1 The fifth bullet point mentions the maintenance of wheel-washing facilities without the requirement that they are actually used.
- 5.4.2 Lighting is dealt with in this section and it fails to give reassurance that the detrimental impacts of on-site lighting will be properly dealt with as lighting management plans will be developed in the future as part of EMSs.
- 5.5.2 This paragraph mentions the use of high perimeter fencing. This should only be used if absolutely necessary, particularly in and within the setting of the Chilterns AONB, and should be so placed as to allow maintenance of the use of public rights of way without hindrance.
- 5.6.3 Hoarding will be 2.4m and raised to 3.6m and possibly altered in form to enhance acoustic performance in specific locations (details will be in the LEMPs). The detail should be provided earlier and subject to public scrutiny involving various bodies including local authorities and the Board.
- 5.7.3 This section deals with unexploded ordnance and states that an emergency response procedure will be prepared to respond to the discovery of unexploded ordnance. It would be much more sensible to have such a procedure agreed and in place well in advance so that any discovery is dealt with in an appropriate and timely manner.
- 5.8.1 This section deals with temporary living accommodation. Great care will be needed in the choice of locations for such facilities and the standards that need to be complied with should be detailed in order to provide some degree of confidence for local people who are rightly concerned about the likely impacts.
- 5.9.1 All reinstatement will be completed in accordance with the requirements of the Hybrid Bill. It will be necessary to ensure that all requirements are included in the draft Bill.
- 5.10 This section details a series of measures that will be adopted to manage the risk of pollution incidents. The Board considers that the Environment Agency and other environmental bodies should be directly involved in the development of the CoCP.

## **6. Agriculture, Forestry and soils**

- 6.1.1 Identifies areas to be considered by the Nominated Undertaker. It is not clear that the impact of farming/forestry practises and operations will be assessed, some of which will be seasonal in nature, e.g. the movement of combines during harvest and the movement of stock.
- 6.1.2 Reinstatement of agricultural land (second bullet point) should be to its former condition and this should be explicitly addressed.
- 6.2.2 Prior to works commencing surveys will be undertaken to record the quality of land which will be returned to agricultural or forestry use. Such surveys should already have been undertaken in order to feed into the Draft Environmental Statement.

## **7. Air quality**

- 7.2.1 The section does not address the impacts of vehicular movements on site and also fails to address the implications of waiting vehicles (both noise and emissions).
- 7.2.3 Although loads will be covered on entering and leaving the site there is no requirement for loads to be covered whilst moved around the site, this should be changed. The impacts arising from any movements would be similar whether on or off site and this should be explicitly referred to here.
- 7.3.1 Inspection and monitoring procedures will be implemented and local authorities will be consulted. Local authorities should also be required to agree to any measures that are the subject of consultation.

## **8. Cultural Heritage**

### 8.1.1 and 8.1.2

The Nominated Undertaker will manage the impact of construction works on cultural heritage assets in accordance with accepted industry practice and guidance. No detail is provided about how the impacts will actually be managed and this should be detailed. Furthermore, though accepted industry practice may be applicable this cannot always be guaranteed and the best practice should be applied in all instances.

- 8.1.3 Monitoring of compliance should rest with local authorities and other independent experts and not with the Nominated Undertaker and its contractors.
- 8.1.4 Measures and procedures are to be developed in consultation with English Heritage. Such matters should already be in place.
- 8.1.11 Heritage Agreements      ‘The hybrid bill will seek to disapply the various legislative provisions’ which are to be replaced with locally agreed ‘Heritage Deeds’. This may be standard procedure but progress with the proposals to date does not fill the Board with confidence. Sufficient weight and resources



must be given to 'Local Planning Authorities, English Heritage and other relevant parties' to ensure robust protection of heritage assets.

- 8.2 Unexpected discoveries It is generally accepted that only 10% of archaeological remains have been discovered (based in part on findings from HS1). The provisions as stated within the CoCP are therefore considered light and minimal.

## **9. Ecology**

- 9.1.4 Describes 'plans for all known areas of nature conservation interest'. The precautionary approach mentioned in volume 1 (5.7.3, 7 and 8) indicates that where there is insufficient evidence (survey records etc.) to say otherwise, all areas should be regarded as having nature conservation interest. Also, individual habitat or species management plans are mentioned. There is insufficient detail to assess measures addressing habitat disruption and fragmentation. Volume 1 (6.13.3) describes measures to complete new highway crossings over the PS prior to closure of existing roads. We expect a similar approach to be taken to protect/replace wildlife corridors and habitat linkage – sufficient and established replacement corridors (green bridges or other means) being in place prior to the destruction of existing linkages. Furthermore, no detail is given about who will be consulted in connection with habitat or species management plans.

- 9.3.1 A programme for undertaking ecological surveys prior to and during construction will be defined by the Nominated Undertaker. Such surveys should inform the baseline and then later verify the baseline and should already be in place and completed prior to re-survey should the proposal be approved.

## **10. Ground Settlement**

### General

Sensitive watercourses (e.g. River Misbourne) should also be covered in this section.

- 10.2.1 A settlement policy is being prepared and further details will be included when it is issued. This is an unacceptable position and should be rectified. Full public consultation should be undertaken on any policy produced.

## **11. Land quality**

11.3.2 Groundwater and surface water monitoring plans will be prepared as appropriate by the principal contractors as part of the EMS. Such plans should be prepared in consultation with, and subject to the agreement of, statutory undertakers, local authorities and other relevant bodies and this should be addressed in the CoCP.

## **11. Landscape and Visual**

### General

The Board considers that due to the national importance of the Chilterns AONB, a Supplementary Code should be prepared and agreed for the Chilterns AONB.

12.1.1 This section states that controls will include ‘the sustainable management of landscape issues’ – this sentence is meaningless and needs to be clearly stated in plain English. Any controls to be implemented should be subject to the involvement and agreement of local authorities and other appropriate bodies. This section should also require the adoption of the highest standards and the very best practice. Any maintenance of existing and new planting should be for the long term and this should be explicitly expressed. No detail is provided about how prevention of damage to the landscape and landscape features will be achieved.

12.1.1 and 12.2.3

Measures to prevent compaction (low ground pressure matting etc.) should be used in the vicinity of trees and other sensitive locations and habitats.

12.2.1 All consultants should be appropriately qualified and suitably experienced.

12.2.5 This section mentions felling of trees that were not identified within the ES. The Board considers that all required felling should have been identified in the ES and that no further felling should be necessary. Any felling that takes place should be subject to mitigation and adequate replacement planting which should be subject to a full consultation and agreement with relevant bodies. All specialists should be appropriately qualified and suitably experienced.

12.2.6 Within a rural environment, we would not recommend using large mature or semi mature trees achieving a ‘close resemblance’ (size) of lost trees. Planting and stock - here and elsewhere, measures need to be taken to ensure an adequate supply of native trees, plants and seed. This relates to both origin and provenance (where material is grown on). Planting also needs to take into account current recommendations for specie and structural diversity to increase robustness to climate change, pests and diseases.

12.3.3 The Board should be specifically included in the list of consultees for landscape and planting proposals. Furthermore, such proposals should also be subject to agreement.

12.4.1 and 12.4.3

The maintenance of landscaping and planting and seeding works should be on a long term basis (post construction) and this should be explicitly referred to in the text.

## **12. Noise and vibration.**

### General

Despite specific reference in the ecology chapter (9.2.1) that noise effects on wildlife would be assessed under this chapter heading, there is no reference to protecting wildlife from noise. Wildlife can suffer severe disruption from noise and vibration (e.g. bird nesting, bat foraging) and protective measures need to be taken.

13.2.1 BPM includes measures that are 'reasonably practicable'. Such measures should be agreed at a local level (CF and Local Authority), be subject to independent assessment, challengeable and verifiable.

13.2.2 Noise and vibration mitigation must be provided (not 'considered' and 'may be offered').

13.2.8 Noise assessments should also be subject to the agreement of the local authorities and this should be expressed in the text.

13.2.12 10 days out of 15 (66% of the time) would seem a very high level to trigger noise insulation and other measures.

13.2.14 The Nominated Undertaker should do better than to 'seek to agree' with the local authorities a noise and temporary re-housing policy. The text should refer to consultation (with the local authorities and other bodies) and agreement of such a policy.

13.2.15 The Nominated Undertaker should not be the sole arbiter of applications for noise insulation or temporary re-housing, this decision should be taken with the full input of independent experts.

13.3.3 Proposals for noise monitoring will be set out in each LEMP – locations should be agreed with local authorities and relevant CFs.

### **13. Traffic and transport**

#### General

No details are given of likely traffic volumes and sources on which the CoCP can base its suggestions.

- 14.1.1 This section mentions that highway works required to accommodate construction traffic will be identified and that a framework construction workers travel plan will be produced. These should already be provided and subject to full consultation and agreement with the relevant local authorities and other bodies.
- 14.2.2 Generic measures should also be agreed by the appropriate authorities and this should be explicitly referred to. Such generic measures may include 'permitted access routes and accesses for construction traffic' (7<sup>th</sup> bullet point) – what are these and what does this involve?
- 14.2.3 Although routes for construction traffic may be subject to approval of the relevant planning authority, the text does not deal with volumes and type of traffic and the likely implications.
- 14.2.4 Traffic management plans should also be subject to highway authority agreement.
- 14.2.5 Site specific traffic management measures should also be subject to the agreement of highway authorities. Any repair and reinstatement of damaged verges (and other roadside features which should also be mentioned) should be to the condition prior to the start of the scheme's construction (14<sup>th</sup> bullet point).
- 14.2.6 Hardstandings at access and egress points should be cleaned at regular, as well as appropriate, intervals.

### **15. Waste and materials**

- 15.1.1 The volume of spoil and subsequent likely number of lorry movements should be detailed and subject to public comment.
- 15.2.4 The Board considers that all excavated material should be handled and used in accordance with relevant and appropriate environmental permits and that no exemptions should apply.
- 15.2.5 Excavated material may be used for other projects – these should be specified and subject to full environmental assessments and detail should be provided about the likely level of material to be disposed of.
- 15.2.15 The storage of waste over any aquifers is not dealt with in this section and this should clearly be addressed.

## **16. Water resources and flood risk**

16.2.1 This section describes numerous procedures that are to be identified and drafted then implemented. Such work should already have been completed and referenced accordingly. This section states that 'in so far as is reasonably practical' good working practices in the 'EA's pollution prevention guidelines will be followed' – the Board does not consider that this is adequate or acceptable.

16.2.6 This section mentions the storage of oil below ground – why would this be necessary?

16.4.1 Full consultation should take place on, and agreement be given for, surface water and groundwater monitoring plans.

16.4.2 Describes 'pre-construction monitoring' for water quality. The Board would expect liaison with local bodies to determine the suitability of monitoring locations.

16.4.4 This section mentions that appropriate actions will be taken where pollution risks are unacceptably high. Who will take action and what mitigation will be put in place?

### **Appendix 1 Glossary of Terms**

BPM The PS is not due to open before 2026. The Board does not consider that it is acceptable to base 'Best Practical Means' on legislation from 1974 and 1990.

### **Appendix 2 Local Environmental Management Plan template**

#### General

The LEMP template concerns the Board as it is very general and contains little in the way of detail.

General requirements – site lighting should be controlled and requirements for this should be included.

Landscape and visual – control measures should be identified to reduce impact during construction, but no details are given and no idea is given of what the impacts are likely to be.

### **Appendix 3 HS2 Ltd Sustainability Policy**

This one page statement does not detail an adequate sustainability policy (which is actually only 9 lines of text and 7 bullet points) and makes bland overarching statements.



### **Public Rights of Way impacted by HS2**

1. Rights of way should not be diverted to run alongside the HS2 railway, alternative routes should be sought.
2. These alternative routes need to provide suitable links into the rights of way network. The alternative routes may be some distance away from the HS2 route. It was recognised that cross field routes are not favoured by landowners- field boundaries being a better alternative. The responsibility for negotiating such routes should lie with HS2.
3. When considering the impact of the HS2 route on access, it is necessary to think beyond the railway corridor. The rights of way do not exist in isolation; they are part of a wider network linking pubs, villages, communities and attractions. In addition to the designated rights of way there are permissive paths and other informal and promoted routes.
4. Many of the quiet lanes in the area are heavily used by walkers, cyclists and horse-riders irrespective of whether there is an official public right of way along them. The physical access they provide as well as the quality visitor experience must be considered in the same way as if they were rights of way. New road bridges need to be designed with these recreational users in mind. Where lanes used by walkers will also be used for construction traffic (e.g. Potter Row, Hyde Heath Lane and the track to Mantles Wood LMI/17/2), a segregated lane for recreational users should be considered.
5. Where rights of way are re-instated on road crossings (e.g. the Ridgeway National Trail on Small Dene Lane) careful consideration needs to be given to the type of crossing used.
6. The character of rights of way should be conserved. Many of the rights of way are ancient paths, some are sunken lanes and they fit the landscape. It would be completely inappropriate to replace these with urban-style paths with hard surfacing, handrails, curbs, metal signs etc. Replacing a path characterised by open vistas with a fenced corridor must be avoided. Likewise the character of quiet lanes should be maintained.
7. When identifying suitable new routes, the type of route and use should be identified so that any structures (ramps, steps, bridges, surfacing

with accessibility in mind etc.) are designed appropriately – sympathetic to existing landscape and wildlife interest and to the level and type of use possible. It would not, for example, be appropriate to introduce DfT standard urban ramps and handrails for a linking path in an area of ancient woodland where the connected footpath already has steep gradients.

### **New Structures and Design principles**

8. It will be necessary to assess the location and design of footbridges in detail and understand the overall impacts on the landscape as they can be unsightly structures which dominate the landscape. Will the footbridge be visible from far away, will it be obtrusive or sympathetically designed within the landscape? Will the value of having the footbridge in that location outweigh the negative aspects?
9. Footbridges and road bridges must be of a high design standard in keeping with a protected landscape.
10. Green bridges would have great environmental benefits as wildlife corridors, connecting habitats severed by the HS2 route. Consideration needs to be given to the design of all bridge crossings to incorporate elements that would allow free and unimpeded crossing of wildlife. It is unlikely that such multi-functional bridges (human and wildlife access) would mitigate, sufficiently, the fragmentation to wildlife habitat and corridors and 'wildlife only' green bridges/tunnels will need to be investigated.

### **Works traffic and road diversions**

11. Many of the roads beside the route are quiet and rural and well used by walkers, cyclists and horse riders. Such enjoyment will be severely curtailed and potentially very dangerous if heavy vehicles use the roads during the construction period. Heavy goods vehicles need to identify the least damaging and shortest possible route from the work site to a main road. Construction vehicles should be monitored (web-based tracking might be an option) to make sure they adhere to routes agreed through the Local Environment Management Plans, part of the Construction Code of Practice.
12. Careful consideration needs to be given to how and where road traffic is diverted during construction. Diverting traffic onto narrow roads with poor sightlines such as Chalk Lane and Hyde Heath Road would be dangerous.
13. It might be preferable to have temporary roads put in place from the A413 to the rail corridor during construction which could then be removed once the route was complete. Such options need full investigation.