

MINUTES OF ORAL EVIDENCE

taken before

HIGH SPEED RAIL COMMITTEE

On the

HIGH SPEED RAIL (LONDON – WEST MIDLANDS) BILL

Monday 13 July 2015 (Evening)

In Committee Room 5

PRESENT:

Mr Robert Syms (Chair)
Mr Henry Bellingham
Sir Peter Bottomley
Geoffrey Clifton-Brown
Mr David Crausby
Mark Hendrick

IN ATTENDANCE

Mr Timothy Mould QC, Lead Counsel, Department for Transport
Mr Timothy Straker QC, of Counsel

Witnesses:

Mrs Bettina Kirkham, Kirkham Landscape Planning Ltd
Ms Catherine Murray, Chiltern District Council

IN PUBLIC SESSION

INDEX

Subject	Page
<u>Chiltern District Council, Buckinghamshire County Council, Aylesbury Vale District Council, The Chilterns Conservation Board (Cont'd)</u>	
Comment by Mr Straker	3
Mrs Kirkham, examined by Mr Straker	6
Ms Murray, examined by Mr Straker	49

1. CHAIR: Order, order. Are we alright to go, Mr Straker?

**Chiltern District Council, Buckinghamshire County Council, Aylesbury Vale
District Council, The Chilterns Conservation Board (Cont'd)**

2. MR STRAKER QC: Yes, sir, we're perfectly alright to do. Sir, what I would like to do, with the Committee's leave, is just before I call Bettina Kirkham, just to say a word, if I may, and to give the Committee a document about the £510 million we were discussing just before the short adjournment.

3. CHAIR: Okay.

4. MR STRAKER QC: Because there is scope for misunderstanding here, which I would like to clear out of the way as rapidly as possible, and I know that HS2 were anxious to see something put down on paper. What you've been given, sir, is an extract from the advice note, to which I referred earlier on, dated December 2012, and in particular, the executive summary, which I obviously do not read to the Committee, but which draws attention to the fact that...

5. SIR PETER BOTTOMLEY: Just to –

6. MR STRAKER QC: Of course.

7. SIR PETER BOTTOMLEY: Are we the local decision makers, are you, or are the promoters?

8. MR STRAKER QC: For this context, you would be the local decision makers. The executive summary describes how the notes have been used and how this approach has been used.

9. Annex A is the annex which describes the landscape values and I just want to, if I may, draw to the Committee's attention the fact that at A3, page 21, last bullet point, describes that it's not merely landscape which is here being described under that heading, but will also include external benefits of recreation biodiversity and so forth. So, one has to be careful about the headings and one also has to note, as is said on the top of the table, at page 22, that what one's being presented with is a value over an infinite time horizon, so that what one's not being asked to contemplate is anything other than an exercise which is saying the landscape is affected for good and all and

therefore, we have to look over that time horizon.

10. Doing that exercise, these various figures were produced for value and what has been done here, has been set out in the manuscript note, so that first of all, the Annex A has described landscape values, next the land types are described. These land types include natural and semi-natural...

11. SIR PETER BOTTOMLEY: So, just to illustrate – this may not be quite in order of what you're going to say; I take the penultimate one, agricultural land intensive?

12. MR STRAKER QC: Yes.

13. SIR PETER BOTTOMLEY: Infinite period, £29,000?

14. MR STRAKER QC: Yes. Per hectare.

15. SIR PETER BOTTOMLEY: Which is pretty close, actually to the value of the land commercially as well?

16. MR STRAKER QC: That would be so, or maybe so. The point here, of course, goes to the point as to how does one ascribe a value to land in the AONB and the starting point has been that there's no land type described by reference to AONB, and therefore, one's got to alight upon something which they ones alighted upon have been natural and semi-natural land...

17. SIR PETER BOTTOMLEY: Isn't it common ground that most of the land being affected through the Chilterns is land under food production?

18. MR STRAKER QC: Yes.

19. SIR PETER BOTTOMLEY: At £29,000 per acre – hectare?

20. MR STRAKER QC: Land, for the purpose of a sale between you and...

21. SIR PETER BOTTOMLEY: No, from this – table 1, landscape value, penultimate, agricultural land intensive, value per hectare, 100.3, infinite period, 2010 prices, £29,000?

22. MR STRAKER QC: Correct.

23. SIR PETER BOTTOMLEY: Which is about one-fortieth of the over £1 million pounds we were talking about before the break?

24. MR STRAKER QC: Well, it's very significantly less, but of course, that fails to take account of the fact that on any version, the land with which we're concerned has to be counted as special, and for it is in the AONB. And so one gets back to that point, that one is concerned with, and if one is concerned with a landscape value, then one does that.

25. Now, I appreciate there are going to be all manner of categorisations that one could adopt, but it would seem rather perverse, if I may respectfully say so, to suggest that one should adopt the agricultural land intensive as a general proposition, which would cover land throughout the entirety of England, with no special designation whatsoever, and then look at this and say not. But what we've done, is to say, 'Well, that wouldn't be right', therefore one looks at natural and semi-natural land or rural forested land amenity and so the value therefore, becomes a simple mathematical exercise, and so you'll see at paragraph 7 of the note, loss of 200 hectares permanently, 170 hectares temporarily. That goes back to becoming agricultural land extensive, which has been given a value, and then the mathematics has been done, leading to the £510 million on the foot of the page.

26. SIR PETER BOTTOMLEY: This may helpful, I'm not certain it's conclusive.

27. MR STRAKER QC: Well, yes, in the sense that nothing, in a way here, is conclusive because what one sees from the table, and what one sees from any table in this case is an assignment of a word to land, which word, by definition going to embrace all sorts of things because the particular parcel of land one's talking about is always going to be unique.

28. SIR PETER BOTTOMLEY: I think we should thank you for this.

29. MR STRAKER QC: Well, I'm grateful for that, sir. Anyway, that's –

30. MR HENDRICK: If these valuations are what would be expected to be acquired in the event of compulsory purchase?

31. MR STRAKER QC: No, that wouldn't be right, sir, because these are being used

for a different purpose; these are not the compulsory purchase values. The compulsory purchase value would be the value between a willing seller and a willing buyer, and a willing buyer would not, I readily accept, purchase land at this sort of figure. These are an attempt to say how does the nation value this bit of land, what's its value to the nation, as opposed to a willing buyer and a willing seller. And those considerations are simply market prices.

32. CHAIR: Right, Mr Straker, I want to listen to Bettina now.

33. MR STRAKER QC: Thank you very much, sir. I'm very grateful to that, can Mrs Kirkham come forward then please? And can we, sir, with your leave, go through some of these slides at a degree of pace, because, what you'll be seeing in certain instances, will be pictures and you had, in a number of instances of course, a site visit, in any event.

34. Sir, I introduce through 1181(1), Bettina Kirkham to the Committee, landscape consultation with Kirkham Landscape Planning Ltd. And in the next slide you set out the purpose of your evidence, and 1181(3) answers that question, to show how the surface route proposed from Hyde Heath to Wendover results in irreparable harm to the special landscape and visual pointers of the AONB. And you then travel through the suggestion, 1181(4), an additional provision, and 1181(5), you talk about the whole of the Chiltern AONB landscape being of the highest value for its outstanding natural beauty by Parliament and the European Union, not just the eastern half.

35. Just pause there, if you don't mind, on this one. There have been suggestions which have been touched upon, which go to the following effect: 'Ah well, HS2 only goes through numerically, a comparatively small part of the AONB and therefore, one should view this petition and these petitioners in that light'. Do you have any observation on that, to help the Committee please?

36. MRS KIRKHAM: It's a particularly important actually, an aspect of this, and this is supported by Natural England, the whole of the AONB matters, every part of it matters. And if I try to do an analogy, it's if you have something like the National Gallery, you've got a beautiful collection of paintings, so by Constable in one room; if one is trashed, that's not acceptable, even if you've got 99 left. So, in the same way, this part of the AONB is as much as outstanding natural beauty as any other part and that

part is made up of those parts; they are made up of all the different aspects, woodland – whatever it might be, to make what makes it outstanding natural beauty. You can't disaggregate the landscape and you can't say that just because you're only affecting 3%, it doesn't matter because every part of the AONB matters, in equal part.

37. MR STRAKER QC: Thank you. And then if we look on, having referred to the highest value being attributed to the AONB, you asked the question at 6, why HS2 has only put 46% of the route through the AONB and tunnel, and you say you can't answer this question, HS2 have never answered it, and then, if we look on 1181(7), you draw attention to the surface route and the tunnel section. Perhaps you could just say a word or two on this slide please as to what is being shown here?

38. MRS KIRKHAM: The purpose of this slide is, as you're aware, sirs, that there's a tunnel going through part of the Chilterns, part of the Chiltern Hills. Actually, the part that's on the surface route is just as hilly but what's interesting is it's not only hilly, but it's extremely undulating, so that, you can see on that side, from where it says Hyde Heath, if the lines of the contour lines, and you see how they wave in and out where the line of the surface route goes. You can see how the surface route cuts through the plateau, through those upper slopes, down the lower slopes, into the valley bottom, when you get to Wendover. So this is a very hilly landscape, and that is really what's caused one of the severe problems, because there's endless need for tunnel portals, embankments, cuttings, because you're cutting through that topography.

39. MR STRAKER QC: Thank you. And then, if we go on, please, you asked the question, what are the special qualities which will be adversely affected by – and the surface route, and you answer that question on the next slide at 1181(9), those special qualities being set out in the Chilterns AONB management plan.

40. MRS KIRKHAM: That's just to refer back to the documents that – apart from going out there and having a look for it yourself, are actually recorded as being of value, particularly in the AONB.

41. MR STRAKER QC: And this plan shows, in its – the various chalk dip slope and chalk escarpment, and so forth, are all recorded upon there.

42. MRS KIRKHAM: Yes, there's – it's really to show the character areas that go

through, that the route goes through, this – it's fairly self evident, yes.

43. MR STRAKER QC: Thank you. And then we go to number 10, you record the landscape being of outstanding scenic beauty, and at 11, how you could give a large number of examples, your restraint being that you've given a sample of the panoramic views.

44. MRS KIRKHAM: That's correct, yes. Because one of the key characteristics obviously, are these panoramic views.

45. MR STRAKER QC: Just pausing there, on 1181(12), is that broadly speaking, where you have, in the examples that you're giving to the Committee, taken your panoramic viewpoints from?

46. MRS KIRKHAM: There's exactly where I took them, yes.

47. MR STRAKER QC: Very well.

48. MRS KIRKHAM: They're taken by myself.

49. MR STRAKER QC: And so, let's go through them, and we'll go through them with reasonable expedition, if you don't mind...

50. SIR PETER BOTTOMLEY: What's that wiggly line between the route and the viewpoints? Is it a road or a railway?

51. MRS KIRKHAM: It's – the red line is the road, and the – I think that's – yes, and the black line, which you can see to the west of it, is the railway.

52. SIR PETER BOTTOMLEY: Thank you. So you see those from those view points?

53. MRS KIRKHAM: Sorry?

54. SIR PETER BOTTOMLEY: You can see those – the road and the railway, the existing railway, from those viewpoints?

55. MRS KIRKHAM: Not very well, no, because they're tucked down the bottom, and screened, because they're on the flat valley floor, the trees...

56. SIR PETER BOTTOMLEY: Okay – yes, yes.
57. MRS KIRKHAM: Sorry, I'm not sure how much explanation –
58. MR STRAKER QC: Very well. Then we get to 1181.13, please, so this is the first of the views, so this is from Coombe Hill, or near Coombe Hill is it?
59. MRS KIRKHAM: It's up on the top of Coombe Hill and on the ridgeway, looking down the Vale of Wendover, and where the arrow is shows you where the junction with the A413 and Nash Lee Road is. The white arrow is indicative of the – it's indicative and accurate from HS2 information, but it's obviously just a white line.
60. MR STRAKER QC: Thank you. And then we look on where we get to a view from a footpath at Little London, over the Chiltern Hills to the surface route through the AONB, and you've done a similar exercise there.
61. MRS KIRKHAM: Yes, it's just to give you a flavour of how nice these panoramic views are and where the route will be visible.
62. MR HENDRICK: Could I ask as well – I mean, there's no dispute as to how beautiful the pictures are and the view is, but are the – is the HS2 line, if it were to go through there, likely to be any more visible than the road or the existing railway that's there?
63. MRS KIRKHAM: Much more visible.
64. SIR PETER BOTTOMLEY: Because –?
65. MRS KIRKHAM: Because the road and the railway line actually fall down in the bottom of the valley, whereas HS2 cuts up from the bottom of the valley, up through the hillside, up onto the plateau, so you're constantly cutting and embankments, and then you've got spoil dumping going on.
66. SIR PETER BOTTOMLEY: It's the cuttings that will be visible –
67. MRS KIRKHAM: The cuttings will be visible; if you're –
68. SIR PETER BOTTOMLEY: Sorry, will the railway be visible?

69. MRS KIRKHAM: The actual track? I'm sorry, perhaps –
70. SIR PETER BOTTOMLEY: Railway, you can interpret as it could be the track, it could be the gantries, it could be the train when it goes past.
71. MRS KIRKHAM: Yes. It would be visible obviously, on the viaducts and as they come out on the – they come out on embankments. But depending on your angle of view, so if you're looking at – up into the cutting, you'll see the track as well as the cutting.
72. SIR PETER BOTTOMLEY: And you want to avoid giving the impression to us that you'll see a continuous railway. If I stood at the top of Maiden Castle and looked at Dorchester, I don't see the Dorchester Western bypass for more than about 200 yards.
73. MRS KIRKHAM: Okay.
74. SIR PETER BOTTOMLEY: The road actually goes for a mile and a half.
75. MRS KIRKHAM: Yes, I understand.
76. SIR PETER BOTTOMLEY: But it's not visible for a mile and a half. Is that roughly the situation we might take from any of your viewpoints, for HS2, were it built as proposed?
77. MRS KIRKHAM: What you will get is intermittent parts of it visible, from any of those viewpoints.
78. SIR PETER BOTTOMLEY: Just so long as we get the right impression.
79. MRS KIRKHAM: Yes, I don't want to – I didn't want to suggest that white line was continuously –
80. SIR PETER BOTTOMLEY: Thanks.
81. MRS KIRKHAM: If we can go back to your question, it will be much more visible than the existing road.
82. MR HENDRICK: Has the existing railway line got overhead electrification, or not?

83. MRS KIRKHAM: I don't think it has. No.

84. SIR PETER BOTTOMLEY: If someone who's a board member of the Area of Outstanding Natural Beauty for the Chilterns doesn't know, it can't make the biggest impression, can it?

85. MRS KIRKHAM: It's always the case of a double take, isn't it? You think, is it or not? But no, no.

86. MR STRAKER QC: If we then go to number 15, we see another panoramic view, with once again, diagrammatically, the HS2 line shown; now, help if you may, it maybe that this photograph provides part of the answer to the question just given as to whether one's got intermittent views, because you've got the white in various places, but not in some others.

87. MRS KIRKHAM: Yes, there is – yes, sorry.

88. MR STRAKER QC: Is that part of it?

89. MRS KIRKHAM: That's part of it. There is a reason why I've stopped because the railway – the line goes behind those two woods, you can see one is labelled, 'Woodlands Park', and you can see the other one – I'm afraid I can't remember the name of, and it goes behind those two woods, so you won't see it at that – but as it comes back out, because it has to do a lot of cutting away of the landscape, it's much more visible, certainly for a good time until it matures – you know, planting might mature.

90. MR STRAKER QC: Then if we go on, 1182(1) please, Leather Lane to Mantles Wood, the line runs there and one sees the dipping character of the landscape, with the train running across it.

91. MRS KIRKHAM: Yes, more or less. I mean, it's the same point, you will not see a continuous track. I'm not arguing that; I'm saying this...

92. SIR PETER BOTTOMLEY: We've walked – not the route, we've walked around.

93. MRS KIRKHAM: Yes, I know, you've seen me, sir. Yes, I'm not arguing that,

I'm just saying it will become very visible.

94. MR STRAKER QC: Very well; 11822, you identify that you, that you produce a selection of photographs of some of the landscapes along the surface route that will be lost or irrevocably damaged, and we see, in the next slide, do we, the key as to where these viewpoints have been taken from, so you've moved closer to the line.

95. MRS KIRKHAM: I've specifically moved to where there will actually be an impact from HS2 surface route, so I haven't included any photographs of anywhere that won't be affected.

96. MR STRAKER QC: So you've stood where the railway will actually be running?

97. MRS KIRKHAM: Yes, that's exactly right.

98. MR STRAKER QC: Take the pictures. And the first one of which is 11824.

99. MRS KIRKHAM: And you've probably seen that several times; that's the view of the woodland that will be cut to put in the portal and the cutting for the portal and as the train goes off, as the line goes off to the left hand side.

100. MR STRAKER QC: And then 1182(5), east of Hyde Lane.

101. MRS KIRKHAM: That's a view back to Hyde Lane there; this is a particularly lovely bit of dry valley, where there's a high overbridge and deep cutting going in, in the middle of that view there. We're on a footpath. These are all taken from public viewpoints, not private ones.

102. MR STRAKER QC: 1182(6), the dry valley further east of Hyde Lane.

103. MRS KIRKHAM: That's looking back the other way; so the first one's looking west, the second one's looking east. That little copse is shown on HS2's plans in the middle of a large area of soil disposal and mounding. And the line cuts straight through across your line of sight there.

104. MR STRAKER QC: And then 1182(7), open plateau, east of South Heath.

105. MRS KIRKHAM: Now, this is an exception; this is a view of where the new junction's going in on Chesham Lane, at the top there. Because obviously, one of the

impacts of this route is not just the railway line itself, it's the ancillary development that goes with it. I'll come back to that a bit more later.

106. MR STRAKER QC: Very well. Next one, eight – 1182(8), looks from Leather Lane to Grim's Ditch, the scheduled monument.

107. MRS KIRKHAM: And again, you've probably heard already that Grim's Ditch is going to be affected and the line comes through, where the little chap is on his buggy, through the ditch, as you can see there. So, all of these are taken from points where you will see the new line.

108. MR STRAKER QC: 11829 looks down to Durham Farm, site of the viaduct.

109. MRS KIRKHAM: This is one of several views from footpaths that descend down into this valley, so the viaduct itself cut across there, that picture, just above where those buildings are.

110. MR STRAKER QC: Then 1182(10) looks from Rocky Lane to the south of Hartley Farm, site of raised land form, soil dumping and autotransformer station.

111. MRS KIRKHAM: So, all those elements...

112. SIR PETER BOTTOMLEY: I think we call it sustainable placement nowadays, but –

113. MR STRAKER QC: Yes, leave was given by Mr Mould to call it 'dumping'.

114. MRS KIRKHAM: Yes. From a landscape point of view, it's not sustainable, it's only via other reasons, yes. So all that is going on in that view, so you will basically lose the view of the woodland, and instead of these fields, it will be filled with those particular elements.

115. SIR PETER BOTTOMLEY: Are you prepared to face a question now? Whether if the thing goes ahead, it's better to lose the view, or to see the train occasionally?

116. MRS KIRKHAM: I think it depends what view your losing, so some of this part of the Chilterns, they have marvellous views, across the valley and to the hills on the other side, and there are examples in here, where you lose that completely, and I think

you probably, you might say, 'Yes, we see the train occasionally, it might be better', but I think, you know, to make a judgement, case by case.

117. MR STRAKER QC: And then number 11, please, the view to Bacombe Lane, site of one of the Wendover green tunnel portals and road diversion.

118. MRS KIRKHAM: So here, Bacombe Lane is there, you've got the report, comes out and bends round the green tunnel portal is just the other side of that arrow, and there's a sort of land raising around the top of that portal, and then it does actually go on underneath, as you go to the left.

119. MR STRAKER QC: And then the last in this little sequence, is number 12, from Wendover Vale, Bacombe Hill, Chiltern escarpment.

120. MRS KIRKHAM: Yes. This is just east of Coombe Hill. It's part of the sequence of views up at the top of the escarpment. The route there comes out in a sort of mound... It's coming from here. And a sort of low mound that goes over the top; it says it's a tunnel, but it isn't actually, it's a green hump over the top of the train.

121. MR STRAKER QC: But you're just describing that area there, where I'm running the pencil along now.

122. MRS KIRKHAM: Yes, that's right, thank you very much, yes.

123. MR STRAKER QC: There.

124. MRS KIRKHAM: And then obviously, after that, it's at surface, as it passes Nash Lee Road junction.

125. MR STRAKER QC: Then we get to number 13 please, where you describe the landscape case for the Chiltern long tunnel, and you run through the special qualities which led to the Chiltern hills being designated, topography, landscape pattern, integrity of the landscape, chalk land geology, hanging plateau woodlands, sunken lanes, conservation areas with a relationship with the natural landscape, recreation, tranquillity and beautify views.

126. MRS KIRKHAM: Yes.

127. MR STRAKER QC: And those are just in that order, but it's not an order of priority?

128. MRS KIRKHAM: Not at all, it's just a list, and then I'll just go through one by one. What I would say that is they together matter, not as individually, so you need to look after them all to retain the quality of the AONB.

129. MR STRAKER QC: So then we get to the topography, you start to talk about, 14, the topography being distinguished by the relationship between the main Misbourne valley, its smooth undulating valley sides and dry valleys, plateau tops and the escarpment, and you ask yourself in the next slide, 11831, how HS2 impact will – how will HS2 impact on the natural topography.

130. MRS KIRKHAM: Because we've got this particular topographical features, which are particularly pronounced in this valley, when you start cutting and filling, putting false cuttings in and embankments, you start creating a totally unnatural landscape down that valley, and however hard you try to disguise it, you can't really get rid of that; people will – you'll see it, but actually, you've just change the landscape completely from what it was once before.

131. MR STRAKER QC: And then if we look on, 1183(2), you pose the question, why does this affect the natural topography? And this touches upon a matter that you've already discussed with Mr Hendrick, and you refer to the HS2 surface route not being in a valley and involving, and then you specify certain matters.

132. MRS KIRKHAM: Yes, why I was saying it does this harm, and as I said, I think before, it's because you have to keep cutting through the landform, of crossing, entry and exit and you need these large new landforms to – in order to do that, and on top of that, you've got this – I think that actually probably covers most of that.

133. MR STRAKER QC: Yes. But then we look at 1183(3) and I think that's similar to one we've seen before, and the point has been well made about the topography and the non use of the valley floor by HS2 and then we get to an example of that at 1183(4).

134. MRS KIRKHAM: Yes, there's a series here, is where we've got a photograph of me indicatively showing where that element is, and then a little illustration of what is in

the HS2 books, the little arrow, with a spot on the end of it, is the location of the viewpoint. And it's just to give you an idea of where these intrusive new landforms will be totally in conquest of the receiving landscape.

135. MR HENDRICK: Sorry, could I ask if the existing railway is not intrusive in respect of the beauty of the area, is the existing railway in use, if so, how much and is it perhaps the case just – just trying to find out, not being facetious, is it not a case for perhaps the HS2 route going alongside the existing railway?

136. MRS KIRKHAM: It only goes alongside it for a short section.

137. MR HENDRICK: No, I'm saying if the route was changed.

138. MRS KIRKHAM: Oh, I see. It'd be – I might be straying out of my area of expertise, but as I understand it, the HS2 – the old line is much curvier, so it can follow the contours much better because it's an old railway line. HS2, by necessity, has to be quite straight, in order to go nice and fast. So, I – you end up perhaps having to do more, but it may work better down valley, yeah, I – I think it was explored once by HS2 but I can't recall the answer, why it was discarded.

139. MR HENDRICK: Okay.

140. MR STRAKER QC: But just to pursue that slightly further, if, and I appreciate that HS2 have something to say about speed and so forth, but if it could follow the curvy line of the present Chiltern railway, I think Mr Hendrick was enquiring whether that would be from a landscape point of view, better than the straight lines breaking through the topography as present proposed?

141. MRS KIRKHAM: Yes, it would be.

142. MR HENDRICK: The reason I ask is whether or not that line was still in use, if it was, for example, a disused line, then there may be a better case for it going through.

143. MRS KIRKHAM: You're absolutely right, yes.

144. MR STRAKER QC: It's not disused line, sir, it's the Chiltern railways.

145. MR HENDRICK: Okay.

146. MRS KIRKHAM: But if it were, yes, you're quite correct, yes.

147. MR CLIFTON-BROWN: How do you rate damage to the landscape by HS2 compared to a new motorway, say the M40?

148. MRS KIRKHAM: How do I – how do they...

149. MR CLIFTON-BROWN: How would you rate it in terms of damage to the landscape?

150. MRS KIRKHAM: Well, I would say that in some places, the M40 did a lot of damage to the landscape, like the M40 cutting; it comes out of the Chilterns and there's a huge cutting there that's taken some time to –

151. SIR PETER BOTTOMLEY: Where you see the red kites.

152. MRS KIRKHAM: Yes, where you see the red kites. Well, not the only place to see the red kites. But I think some of the – well, I know the M40 quite well, because I work for the company that was actually looking after for it for some time, and in some ways, it has healed itself quite well. It's obviously more curvaceous than HS2's going to be and I also accept it is wider as well, isn't it? But I think, to be honest, that doesn't – I think the motorway can have a lower impact than HS2, partly because the alignment its going through and – now, obviously, you could do just as much harm with the motorway, there's no doubt about that, and possibly more. So I think there's a lot of – are very comparable in some ways, yes.

153. SIR PETER BOTTOMLEY: A motorway can change its vertical and horizontal alignment far more easily than the railway.

154. MRS KIRKHAM: It can, that's correct, exactly.

155. CHAIR: Keep going.

156. MR STRAKER QC: 1183(5) please, another example shown where a cutting destroys the natural topography and we here have some slopes at Jone's Hill Wood, a deep cutting and raised embankment.

157. MRS KIRKHAM: And I particularly show that one, because of the particularly

prominent view; there are several views of poor old Jone's Hill Wood, where the bottom of it's just sliced away by the cutting.

158. MR STRAKER QC: Well then we move on to 11836, and we're now looking at historic landscape pattern, because we can remind ourselves that you identified certain qualities, topography being the first, we've looked at landscape pattern being the next, and so here one notices field sizes and shapes, field boundaries, woodland patterns, settlement patterns and ancient route ways, and you record, on 11837, that the surface route will sever the surviving landscape pattern, and you give an example of surviving 18th century field landscape pattern that would be severed, 11838 please.

159. MRS KIRKHAM: Yes, it's rather nice that. You can see there, I've indicated where Jone's Hill Wood and you can see it's exactly the same shape as it is now. Durham Farm is shown – I know it's very difficult, I do apologise. We tried to get the existing, so you could compare them directly, but it all got illegible, but you can just about make – that's Durham Farm and you can see where Chesham Lane is, very clearly, and a lot of those field patterns are – it just cuts through something that actually is very old, and Catherine Murray when she comes to give her evidence on heritage, will actually give other examples of the same thing, and even older field patterns that are going to be damaged by being severed basically, by HS2, and of course, my point is, that you've still got bits left, but you've lost that relationship between the fields and the field boundaries and it's quite extraordinary that they have survived for so long.

160. MR STRAKER QC: And then 1183(9) please, we have a photograph of a view of the landscape pattern from a particular footpath, lost or severed by the surface works.

161. MRS KIRKHAM: That's near Park Farm, I think, and you can just – that's looking for a good example, you get several examples of that. You can see there are small fields and layers of hedgerows that will be lost.

162. MR STRAKER QC: And 1183(10), ancient sunken lane, Bowood Lane, remodelled into an overbridge.

163. MRS KIRKHAM: You'll probably see several photographs of Bowood Lane, but I've tried to indicate here, that white line is the point where the road will have to be changed, as it goes up and over HS2, so all of the sunken lane part of it disappears. And

obviously, it takes decades, centuries, to get back to something like this, if you are able to put it back.

164. MR STRAKER QC: And then 1183(11), I think you put in tabular form the measurements, the measures length of hedgerows taken and so forth, that one can therefore see.

165. MRS KIRKHAM: Yes. I've done my best with this because it's a bit of an unknown quantity. All I can find from HS2 is the land within the temporary construction areas will go back to farmland, so we assume some of that will go back. So, I'm afraid that's why I have got total unknown there. It's not – just going on the information, I couldn't find any more out about that. And then the others are taken from HS2 figures that I've taken, mostly from the ES.

166. SIR PETER BOTTOMLEY: Just to talk aloud. Four hundred hectares seem to be open agricultural land, just going back to your previous conversation.

167. MR STRAKER QC: Well, that's under that heading, sir. It doesn't of course remove it from being in the AONB.

168. 1183(12), you identify the impact on the landscape pattern along the surface route being particularly high, and you identify a number of reasons why that should be so, large land take because of the scale of works, Chiltern Hills being very well vegetated with ancient landscape features, semi-natural woodland, ancient, being 400 years old and being irreplaceable, native beech, oak and ash trees, upwards of – how many years? It seems to be a blank there.

169. MRS KIRKHAM: Oh, yes, sorry about that – 25 years.

170. MR STRAKER QC: Five years – just five?

171. MRS KIRKHAM: Twenty five.

172. MR STRAKER QC: Twenty five.

173. MRS KIRKHAM: Upwards of. I mean we've been talking up to sort of 200 years, sometimes.

174. MR STRAKER QC: And then 1183(13). This is a continuation, veteran trees being unique and irreplaceable, hedgerows take a considerable time to acquire maturity, diversity and character, and then a new woodland, 35 hectares under offer, won't conserve and enhance the special characteristics of the AONB.

175. And then I think you turn, do you, in 1183(14), to the geological resource, bearing in mind that was the third special feature that you identified. And you quote at 14 from the management plan, referring to the global scale chalk being a rare form of geology. And can we then look at how the surface route will harm the perception enjoyment of that chalk land geology? Fifteen please.

176. MRS KIRKHAM: I would particularly draw your attention, sirs, to the perception and enjoyment of it, because this area, the chalk is not exposed, that's what – smooth landscapes and what actually, HS2's doing, is producing an actual quarry, long linear quarry, where it's taking the cut out, and exposing the chalk as a result of that, which – so it is a perceptual thing, it's – it's no harm to the geology itself, it's just actually how people perceive the geology; it's not in keeping with the character and also that's actually just a major excavation exercise and that's really what I'm referring to there.

177. MR STRAKER QC: Thank you. And then we go 16, and we see a photograph of the M40, which was canvassed in conversation a few minutes ago, and has been 28 years or so, has it, since the M40's been in place?

178. MRS KIRKHAM: Well, it's – that photograph is when it was taken in 2002, at that time the cut was 28 years old. That section – because obviously, it was built in sections, that section was opened 28 years prior to this photograph, and of course, it's quite interesting to see how exposed the chalk is still. And I think it's important to compare that with some of the HS2's photographs, where it's all looking lovely and vegetated down at HS1, because it's like that here, because it's steep and it's difficult for the vegetation to take hold, but also, it's the nature of the chalk, so that you grow trees readily on a gentler slope, which is perhaps on a clay soil, but to do that here is impossible, so it takes much, much longer to it to be covered.

179. MR HENDRICK: Very probably the car fumes don't help.

180. MRS KIRKHAM: Sorry?

181. MR HENDRICK: The fumes from the cars probably don't help either.
182. SIR PETER BOTTOMLEY: The fumes from the cars.
183. MRS KIRKHAM: Oh, no, no, sorry.
184. SIR PETER BOTTOMLEY: Alfred Stern showed at Highdown in the South Downs you can grow quite a lot in chalk, but it does help to have it more level than vertical.
185. CHAIR: And you're are saying it's a bad thing to show the chalk?
186. MRS KIRKHAM: I'm saying it's the perception of the chalk – when it's younger, it's very stark, and I think the general consensus, it's not attractive feature at all, and I would say, even at this stage, it's not looking – it's not doing too badly now, but of course, we're now another 13 years on, so we're talking...
187. SIR PETER BOTTOMLEY: The alternative is of course, to take out a few more hectares and make it –
188. MRS KIRKHAM: Well, this is the danger. If we...
189. SIR PETER BOTTOMLEY: It's a choice.
190. MRS KIRKHAM: It's – it's a choice, but of course, it's – by virtue of that, you actually – there's' other impacts by going further afield.
191. SIR PETER BOTTOMLEY: Indeed.
192. MRS KIRKHAM: So it's a bit of a – which is why we want a tunnel because you avoid it.
193. MR STRAKER QC: Well, 1183(17), moving from the M40, we move to the hanging plateau woodlands, which you've mentioned as of special quality and you indicate as to where they may be found, and you get to 1183(18), with a plan showing important but fragile, hanging plateau, ancient semi-natural. They're fragile because –?
194. MRS KIRKHAM: They're fragile partly because they're ancient semi-natural woodland, which you can't replace. It's like any heritage thing, once it's gone, it's

gone. But as you can see, there's actually not a lot of them on that stretch. They're on the slope and because of that, they're very prominent. You probably saw that in the photographs, but they're not a lot of them. It's not like you only – you're only nibbling at the edge of it; HS2 keeps cutting through these fragments that are left. That's why I say that.

195. MR STRAKER QC: And then 1183(19), irreparable harm to the historical woodland which defines the character of the Chiltern Hills, and you have identified direct and indirect impact on seven prominent woodlands, removal of 18 hectares of woodland, sequential damage along the whole surface route and exposure of woodland edges, rendering them vulnerable through windblow, to further losses.

196. MRS KIRKHAM: Yes, that's right, yes.

197. MR STRAKER QC: And then you've got some examples in your pictures, 1183(20) please.

198. MRS KIRKHAM: That is actually taken right where the new route would go. It's a beautiful bit of woodland, bluebells in at the time I was there. Second one is Jone's Hill Wood, we looked at that earlier, which I showed you the left hand end of it gets sliced through. There are both ancient semi-natural woodland.

199. MR STRAKER QC: And then we go over to 1183(21), Sibley's Coppice and Farthings Wood?

200. MRS KIRKHAM: Yes, Sibley's Coppice, where you are standing is on a public right of way, it – that doesn't get affected but you will see the new route through those trees, it's not – if you stood there you'd see it. May not, obviously, the photograph is small. The same as Farthings Wood, that's where – after it's left the portal, it comes through Farthings Wood.

201. MR STRAKER QC: Thank you. Well, one of the other special qualities you identified was recreational value, you refer to the management plan, visitors enjoying over 2,000 km of public rights of way and 1183(23), you show many of the routes being of national and regional importance and all of high recreational value.

202. MRS KIRKHAM: Yes.

203. MR STRAKER QC: I think you've also shown the line of HS2 cutting across at least some of them.

204. MRS KIRKHAM: I have, that's right yes. So I would particularly note, because I notice HS2 perhaps slightly underestimate it, is there are several national and regional trails and Sustrans route, and another cycle route, which would be affected in addition to all the little local footpaths. And they are affected either directly or indirectly but where their view is being affected.

205. MR STRAKER QC: Thank you. And then 1183(24), you ask the question about how will those recreational routes being affected by the surface route.

206. MRS KIRKHAM: This goes back to my point. It's really noticeable, which you would have got a flavour of. If you walk up and down the valley, there's extensive network, where you will keep seeing parts of the new HS2 surface route and because people have memories, they will remember seeing it, a sequential exercise. Some very valued views from footpaths will be lost. I have an illustration coming up of that, and obviously, several are almost severed or diverted, so they won't be quite as enjoyable, so instead of being lost in a lovely dry valley, or of a hill, you suddenly have to cross the railway line.

207. MR STRAKER QC: And then 25, please? The scenic beauty, you draw attention to the fact it's enjoyed by a high number of people, both local and visitors. And the views being wonderfully varied and sequential. And we can pass, I think then, to 26, where we get into some illustrative photographs, don't we? 26 being of the Hale?

208. MRS KIRKHAM: Yes. It's from the east of the route. Hale is just a, sort of, get your focus in. And you can see the location of the Small Dean viaducts, right down at the bottom there, you see that there is a building there? It's behind that building. And then there's, that's a good example of where you see it and then it disappears; because you can see the line and it goes behind the woodland to the left, but obviously, you're still looking at part of it, even though you can't see all of it.

209. MR STRAKER QC: And that's the proposal. And then we get to 1183(27), please? And we see the proposed railway with the line drawn.

210. MRS KIRKHAM: This is from the Chiltern rail trail which is also a cycle route, which is the location of the Wendover Dean viaduct crossing, roughly where that line is, over the top of the valley.

211. MR STRAKER QC: And then 1183(28)?

212. MRS KIRKHAM: 28 is the view I was telling you about earlier, where the existing footpath has got this lovely view across the valley to the woodland and the other side. That just disappears. Because, as you can see, the spot where I took the photograph from is in a cutting and the footpath is closed.

213. MR STRAKER QC: 29.

214. MRS KIRKHAM: 29 is back at Hyde Farm, near Hyde Lane, we're here where you're looking at actually one of the more intimate spaces. We've got lots of big open spaces, but, this is actually a really nice view as you cross through a dry valley, which will be completely damaged by the works that are going on in that space which you can see in the little illustration.

215. MR STRAKER QC: Thank you. And then we come to tranquillity, 30, another particular quality. You refer to the management plan. And you draw attention in 1184(1) to extracts from the Buckinghamshire Landscape Character Assessment, a similar plan to ones we've seen before, drawing attention to certain particular features.

216. MRS KIRKHAM: Yes. In the landscape character assessments, they look at each aspect, whether it's woodlands or tranquillity. So, these are quotations that reinforce the fact that actually the route that the surface route is taking is actually noted for its tranquillity. I would say obviously when you get down to Wendover and you've got the railway line on a road and major, small and the larger settlement, it's obviously less. I acknowledge that. But, when you get away from all that, up into the slopes, you're actually in a very pleasant, tranquil landscape.

217. MR STRAKER QC: Thank you. Then 1184(2), please?

218. MRS KIRKHAM: The main point of this is actually to show you that although they put the HS2 into a tunnel for the eastern end, it's actually less tranquil. As you can see from that. There's much more sense of bright lights and intrusion. The first one

covers things like the effect of roads and railway lines and stuff. So, there's no logic, on a tranquillity argument, for saying, actually, no, it doesn't matter if we do it on a surface route for the section that we're concerned about.

219. MR STRAKER QC: Very well then, 1183 –

220. MR HENDRICK: This concept is quite a new thing for me. Could you explain the two diagrams?

221. MRS KIRKHAM: Yes.

222. MR HENDRICK: This concept of tranquillity is quite a new thing for me, obviously, being a new member of the Committee. Could you explain the diagram on the right?

223. MRS KIRKHAM: Yes. The diagram on the right is on dark skies, so you're looking at the effect of mostly town lighting and what those bits of the landscape are less affected. So, the darker black or blue, it means it's a darker sky, and the orangey, yellowy bits are where your settlements are.

224. MR HENDRICK: Right.

225. MRS KIRKHAM: And then because it is very pixelated, you can see it. They do it by square kilometres, so, that actually, if there's a settlement in half of that square kilometre it will go up. If it's less, it will go down. So, that's what it's showing there.

226. MR HENDRICK: So, on the left and it's a daytime view, on the right it's a night time view?

227. MRS KIRKHAM: Sorry?

228. MR HENDRICK: On the left it's a daytime view? On the right it's a night time view?

229. MRS KIRKHAM: That's more or less right.

230. MR HENDRICK: Okay.

231. MRS KIRKHAM: And on the tranquillity one it takes into account visual

intrusion from urban elements and it takes into account noise. That's the two together.

232. CHAIR: There are no lights on the railway either.

233. MR STRAKER QC: And then 1184(3), please? You mentioned the importance of tranquillity in the AONB, recognised by HS2 as a special quality of the valley sides and the plateau. National Equality seeks to identify and protect areas of tranquillity prized for their recreational and amenity value. 1184(4), you ask how the surface route affect tranquillity and you describe construction and operational infrastructure being intrusive. The route cutting through a typically tranquil section and only a short section at Wendover is already affected by major infrastructure, where any surviving sense of tranquillity, as in Small Dean Lane or Bacombe Lane will be lost.

234. MRS KIRKHAM: Yes. Could I add something to that?

235. MR STRAKER QC: Yes.

236. MRS KIRKHAM: HS2 seem to argue that because there are other bits of the area that are more tranquil than a little bit, it doesn't matter so much here what happens. But, I don't think that's quite the right way of looking at it. The Chilterns are noted for the tranquillity. And it needs to be protected and enhanced as much as any other aspect of the AONB and you don't want to make it worse. And it's undoubtable that HS2 must make it worse. It's noisy. It's got visual intrusion. And it's completely changing the type and qualities of the landscape and your enjoyment of it. And, so I don't, to compare it with somewhere else in the area, I don't think it is the right approach.

237. MR HENDRICK: Could I ask what the general definition of tranquillity is?

238. MRS KIRKHAM: The general definition is somewhere where you're away from the urban intrusion, the visually intruding elements, that is Natural England's definition of it. So it's busy roads and busy railway lines and something like a waste energy incinerator, something, that kind of thing. It's generally not described as a peaceful thing to look at. It's visibly intrusive. It's very urban. And when you go to parts of The Chilterns, the nicest thing about it is despite the fact that all around you are settlements, you get right away from it. You're in a place where it's just a lovely rural landscape. There is very little visual intrusion or noise intrusion, except for the cars the gentleman

mentioned.

239. MR HENDRICK: Could I ask, I mean originally, obviously, there was no road and there was no railway, and, obviously, for the moment, there's certainly no HS2 line. A road, which is full of traffic, that noise, I would have thought, during peak hours, at least, was be fairly constant. Similarly, with an old fashioned railway line with rickety trains. I don't know how modern the trains are. The trains would be relatively slow compared to the HS2 and therefore there'd be a much longer period, if a train's travelling at 70, 80, 90 miles an hour, you could hear the train for quite some time. With a very high speed rail route, is it not the case that the train will be through so quickly that it would be far less noticeable and there for such a shorter period of time, compared to the existing road and rail routes?

240. MRS KIRKHAM: Well, the road, I would agree with you. It is a constant, soft rumble. You can hear it. There's no doubt about it. The Chiltern Railway Line, they're fairly short trains. And they aren't particularly noisy in the sense that they do hear them, but, they are gone quite quickly and there's quite big gaps between them. HS2 is noise, I am straying out of my area of expertise, because I mostly consider visual impacts, but, I understand there are obviously noise impacts from it. I think you're probably best asking someone else.

241. CHAIR: I have to say on the visits we've done, We've stood next to a number of motorways making appalling noise and people have been saying to us we're worried about the noise of the railway.

242. MRS KIRKHAM: Yes.

243. CHAIR: You know, people get used to sometimes noise levels because; and they're worried about things they don't know about.

244. MRS KIRKHAM: Yes, I think that's true, but, of course, with a road, it's more constant. So, you do blank it out. With sudden things, whoosh is the noise, and it goes away. I think it is more intrusive. I'm speaking as a lay person now.

245. CHAIR: Alright. Let's keep going.

246. MR STRAKER QC: I think it will be something like 18 trains an hour on HS2.

Let's keep going them. With 1184(5), please. You've come to look at the physical elements of the proposed to surface route and their effects on the AONB. You ask yourself at 1184(6), the most harmful aspects of the surface route. And you answer that by saying extensive land take over a valued landscape; tunnel portals, viaducts, bridges, highways, cuttings and green bridges, embankments and false cuttings and track infrastructure. And then you come, at 1184(7), to the proposed mitigation measures being themselves harmful because?

247. MRS KIRKHAM: It's just really worrying me because a lot of the – one of the elements is noise attenuation and in order to tomb that they are either have to put a bund in or they have to put an attenuation fence, which I believe they are, well, they're three to five metres high. Neither of which are characteristic of this rural landscape. So, you're actually introducing, through that mitigation measure, an additional harm arising from having to build a surface route. So, that's really why I'm critical of some of the mitigation measures. Those are the main ones. Other ones, are more sort of, like, there's balancing ponds, they're just not typical of this landscape. And they're all sitting up, most of them, are sitting up by the railway line. And what there are by way of ponds are mostly down the bottom. So, you've got this rather uncharacteristic landscape pattern being created as result, which I don't think, although they might mitigate drainage or mitigate noise, they actually cause a landscape impact.

248. MR HENDRICK: The 18 trains are now, is that a peak figure?

249. MR BLAINE: It's a planned daily figure.

250. MR HENDRICK: 18?

251. MR BLAINE: The capacity is 18 trains an hour.

252. MR HENDRICK: On average, over that day?

253. MR BLAINE: Yes.

254. SIR PETER BOTTOMLEY: At maximum peak? Any hour during the day, I think.

255. MR BLAINE: Yes.

256. MR CLIFTON-BROWN: Can I ask you – I've been thinking about this mitigation thing, if you're critical about these mitigation measures, are there other mitigation measures that you can suggest that were actually better?

257. CHAIR: Besides a tunnel.

258. MR CLIFTON-BROWN: Yes, besides a tunnel.

259. MRS KIRKHAM: Yes, thank you. I would prefer that. Obviously, that's our complete default.

260. MR CLIFTON-BROWN: Of course.

261. MRS KIRKHAM: And there are stages in between, obviously. So, if we can't have a complete edge to edge tunnel, well, any more tunnel would be better than just leaving it as a surface route. But, I think your question is more, if you have a surface route, can you do more about it? I think obviously they can be some improvements. It is always difficult. You can't really mitigate a cutting. And if you start trying to blend in something that's supposed to be screening something, you start increasing the land take considerably. Because, otherwise, unless you get it really, really gentle, you're creating this rather odd lump in the landscape that's going. So, the landscape is going like that and you've got a lump doing like that. So, there obviously can be improvements. And if you don't agree with our proposition, about an edge to edge tunnel, we will obviously work with HS2 to come to better solutions if we can. But, there are implicit difficulties because of the extra land take, the extra costs, in order to do it well. But, obviously if there are ways to improve on what we've got now.

262. MR STRAKER QC: Thank you. And then if we go on to 1184(8), please? You draw attention to the consequence of putting the surface route through, drawing a very large amount of land, With the land take been 400 plus hectares, you contrast with the Chiltern tunnel land and you draw the mathematical observation that the surface route affects eight times more land in the AONB. And you show that graphically, 1184(9) and certain slides which follow, using aerial photography. And the first of which is 1184(10), where you've marked on it, have you, the construction land take?

263. MRS KIRKHAM: That's right. Yes.

264. MR STRAKER QC: And the Chiltern AONB boundary has been shown?

265. MRS KIRKHAM: That's correct. Yes. I wanted to do it on an aerial photograph so you could actually really see the pattern of the landscape. The view is often obscured by works over the top and I've put in labels, the actual works. The operational end of it. So, it sets the construction footprint which obviously is going to damage whatever is within those red lines. But, also helps, hopefully putting in those labels actually what they're going to be constructing, which were permanent.

266. MR STRAKER QC: And you've done this over a number of, one can see, at the bottom right hand side, over a number of parcels of land, so 1184(11), you go south of Wendover.

267. MRS KIRKHAM: That's right.

268. MR STRAKER QC: And then 1184(12), either side of Rocky Lane. Each time one can pick out what it is that is being put on to this landscape. So, that Rocky Lane: tracking cutting, large scale raised landform. Anybody can pick out the other words. And then you've done the same for 1184(13), plateau at Hunts Green Farm.

269. MRS KIRKHAM: Could I say something?

270. MR STRAKER QC: Yes, please.

271. MRS KIRKHAM: Briefly about that. We've obviously been told that there won't be a permanent soil placement up there. But, there will be temporary. But, I also understand there will be a bund up there, still, in order to screen the actual track. But, also the material that would have been put there, I understand it's going to be put somewhere else to do some landscaping and I've no idea what that's for. And that raises concerns, you know, is that going to have an additional impact? So, it might not be so much here now, but it might be transferred to somewhere else within the AONB. I'm afraid I couldn't find enough information on that to comfort me that the overall impact is any lesser than having it in all one place like that. I do understand some of it can be taken away down the track, as far as I know.

272. MR STRAKER QC: Thank you. 1184(14), one goes south and east of South Heath: tracking, cutting, raised platform, tunnel, portal, tracking cut and cover, major

new junction, there to be put in. And the next slide, number 15, at Mantles Wood, surface route works, I think, are there shown, aren't they?

273. MRS KIRKHAM: Yes.

274. MR STRAKER QC: And then 16, we get to the effect of the Chiltern long tunnel, we only need one slide, this single slide of the much reduced to land take for the Chiltern long tunnel. So, what are you showing here?

275. MRS KIRKHAM: Showing here, you can see the red line is obviously the same slide 1, which showed the HS2 land take. The orange line, which I'm afraid has got buried under the red on the north side, is the Chiltern long tunnel's land take. And obviously, if you can imagine that, all right, it's a little, there's some land going there, but compared with what's happening with HS2, it's actually very, very small.

276. MR STRAKER QC: And this happens on but one slide as opposed to six?

277. MRS KIRKHAM: Exactly. There's nothing of any major significance happening. We will come later to the intervention gaps. I will mention that.

278. MR STRAKER QC: Thank you. Well, then we come to the tunnel portal along the surface route, 17, flicking into 18. Five tunnel portals being proposed by HS2, and you identify those there, And what they will include, the bases, the portals, the portal buildings, the cuttings, the access roads and the raised green tunnels, sending in to Wendover Vale. And we get then to 19.

279. MRS KIRKHAM: Could I just add something briefly on green tunnels?

280. MR STRAKER QC: Yes.

281. MRS KIRKHAM: Because they sound lovely, but actually it's a cut and cover, it's not a tunnel. You have to destroy what's on the surface first. And I understand that they are trying to keep the sides tight, but, I also understand it's possible, like they're saying today, that you could end up with something like that, because of the geology. So, you're actually making a huge hole and then putting in and then covering that again. And it's full of risks. I mean you know you might find that you've got material that you can't get rid of easily and you've got to restore the whole landscape. Some things you'll

never get back. Like some houses. Once they've gone, they've gone. Once you've taken out some woodland, it takes years to get back. So, I think it's mis-description, I think. It should be called a cut and cover. I don't doubt the landscape architects can do a nice job and in 20, 30 years' time, you might have something nice. But, it's a long time to wait and I think all of this could be avoided with a tunnel.

282. CHAIR: So, you think people that have been pitching to us for a cut and cover tunnel, we should just turn them down?

283. MRS KIRKHAM: I would say to you, sir, that if we have to have a surface route, really it needs looking at quite carefully, because the tunnels, these green tunnels, you've got to have portals either end. You've got to have buildings at either end. And all that paraphernalia that's going on, access roads, so, it's not just – it's a bit of a balancing act between saying, 'We'll leave it exposed' and saying, 'That's a impact from that' and actually put some plants, not having all this stuff that goes on either end of the portal. But I wouldn't like to say just now to you – I think you have to look at the merits of each case.

284. SIR PETER BOTTOMLEY: As someone who's been at this for 25 years or more. I think what we're hearing is that the tunnel is our preference. If we don't have a tunnel, please look at each part of the landscape and decide what's appropriate for each part?

285. MRS KIRKHAM: I'm not saying that, no.

286. SIR PETER BOTTOMLEY: You should be.

287. MRS KIRKHAM: No. I know. No, in answer to the question that's put to you, for yourselves, is whether you could improve on a particular location. I mean, obviously, if you've got to backtrack me, if you can't have a tunnel, what is the next solution? And that's really what, if it comes to that, sit down with HS2 and talk to them about.

288. SIR PETER BOTTOMLEY: This is not what you're talking about today with us?

289. MRS KIRKHAM: No.

290. SIR PETER BOTTOMLEY: No.

291. MRS KIRKHAM: No.

292. MR STRAKER QC: You show on 19, Mantles Wood, as an example of damage to the landscape and you pick out certain matters there. I suspect we can pass on, can we, to 20?

293. MRS KIRKHAM: Yes, please.

294. MR STRAKER QC: Where you draw attention to the fact only one tunnel portal is needed in The Chilterns long tunnel. That's because the other ones already there. This has additional locational benefits you draw attention to, proximity to the A413 and B4009, Ashley Road junction, advantage of additional tree screening at the junctions. And then the consequence of an edge to edge tunnel, AONB 1184(21).

295. MRS KIRKHAM: This is because of the design that's been worked out by Peter Brett, and the position, I'm sure he's explained to you already, where it comes out of the ground. So, that all those additional elements that make the surface route so we object to it so much, are avoided, so you don't get these exposed tunnel faces. You don't get the need for this large, intrusive – it can be designed less intrusive.

296. SIR PETER BOTTOMLEY: It comes out at a slope.

297. MRS KIRKHAM: It comes up, I think, yes, it does. There's a little drawing, I think, that you've already seen, haven't you? And also, nicely, because it's right down by that junction, which is already damaged slightly by roads and it has tree cover down there, its overall impact is much more limited. And we've looked from very sensitive views up on the escarpment, you'll use it much better than the HS2's version.

298. MR STRAKER QC: And then 22, please? You then get to discuss the viaducts within the AONB. You draw attention to the major landscape consequence and visual impact, raised concrete structures, and totalling, I think that should be one kilometre within just two

299. MRS KIRKHAM: Yes, sorry.

300. MR STRAKER QC: Or three kilometres. 12 to 16 metres above the valleys and four embankments leading on to viaducts, up to 9.8 to 11.5 metres high and we get to

23, where we see the viaduct at Wendover Dean.

301. MRS KIRKHAM: That's by way of illustrations, so you can see the viaduct itself. But, also how it has to have these embankments to kick up from and then of course it keeps on cutting between. So, it's not just a simple, elegant viaduct you've got, because of the topography, you keep on having to have a point that you bounce off from, so to speak. And my photograph is at –

302. MR STRAKER QC: 1184(24), please.

303. MRS KIRKHAM: Yes. That's my best attempts to. But, you have actually seen I understand just the photo montage from HS2 showing that viaduct going through there. To give you some idea of what it looks like.

304. MR STRAKER QC: And then we have a contrasting picture, 1184(25), which has the intervention gap marked, if it comes to be needed.

305. MRS KIRKHAM: Yes.

306. MR STRAKER QC: The white line, otherwise one has just simply a tunnel.

307. SIR PETER BOTTOMLEY: And that would presumably be in a cutting, would it?

308. MR STRAKER QC: Yes.

309. SIR PETER BOTTOMLEY: Or is it in surface?

310. MRS KIRKHAM: It's in cutting.

311. MR BLAINE: Partial cutting.

312. SIR PETER BOTTOMLEY: Partial.

313. MRS KIRKHAM: Partial cutting. But it's down on the valley floor.

314. SIR PETER BOTTOMLEY: No, I appreciate that.

315. MRS KIRKHAM: I didn't know if you could tell from my little drawing. But, yes, I've tried to get that to scale.

316. SIR PETER BOTTOMLEY: Yes.

317. MRS KIRKHAM: But, yes, there's nothing else. It will just be that.

318. : And roughly how far away is the place of the camera to the possible intervention gap? About a mile, a mile and a half?

319. MRS KIRKHAM: Yes, it's about that. Less than that I think. I'm not very good at, about a kilometre?

320. SIR PETER BOTTOMLEY: Okay.

321. MRS KIRKHAM: I can always find out for you, if you wish.

322. MR STRAKER QC: Anyway, if we move from 25, please, to 26? You here go back to the HS2 scheme and refer to the ancillary infrastructure. Thirteen new road and footbridges; modern standards, damaging character and appearance; elevated structures steel parapets; high embankments. And you have at 27 and over bridge design taken from HS1. And then we go to 28, two over bridges at Hyde Farm as shown in the HS2 plans.

323. MRS KIRKHAM: Yes. Those two actually illustrate what we saw in that view, where you were looking back, up to Hyde Lane, earlier on.

324. MR STRAKER QC: And then we come to 29, please? You here refer to the new highways and the junctions in the landscape having a major landscape and visual impact. New roundabout and major diversion for Chesham Road, altering its historic alignment. Urbanising the open landscape. Diversion of ancient sunken lanes. You give examples. Major highway changes at Ashley Road. Highly visible from the escarpment

325. MRS KIRKHAM: Yes. That's because in the HS2 scheme there are road changes down at that junction which we're suggesting you could do better; in conjunction with constructing the portal, the long tunnel portal.

326. MR STRAKER QC: Well, then we go through some examples of these, don't we? 30, which is Chesham Road, the historic route of that, being altered. The road alignment is lost. We can see the red dash, on 1184(30)?

327. MRS KIRKHAM: Yes. That seems to be a, something has got in there twice.

328. MR STRAKER QC: And 1185(1) is the same one, again.

329. MRS KIRKHAM: Yes. So, the green areas is the open landscape, the plateau. And the dotted red line is the current alignment of Chesham Road, which is, although it is a little busier, it is actually on an old ancient route. As is the road in the bottom of the valley actually. It's an old route. It has just obviously been modernised. And, so that is what's there, to illustrate. And you can obviously see the highway junction infrastructure there, quite clearly.

330. MR STRAKER QC: Thank you. And then 1185(2). You turn to cut and cover, the green tunnels. And suggest that there will be major harm to the landscape. You give some numbers. 6.2 kilometres of cuttings, 2.4 kilometres to cut and cover. Deep cuttings, 25.2 metres deep. Average depth, 10 metres. Wide land take, up to 12 metres wide, possibly greater. Surface features being removed, including houses, fields, hedgerows, woodland, road networks, with the materials stored in the landscape. And you give at 1185-3, a typical exposed cutting of HS 1.

331. MRS KIRKHAM: That's correct.

332. MR STRAKER QC: 1185(4).

333. SIR PETER BOTTOMLEY: Ah, we went there didn't we?

334. CHAIR: Yes.

335. SIR PETER BOTTOMLEY: You've got to walk down a footpath that goes nowhere to see that view, don't you?

336. MR STRAKER QC: 1185(3), sir, we're talking about.

337. SIR PETER BOTTOMLEY: Indeed. If you stand above the railway, which I think we did as well, I don't think we noticed very much. I think we had to walk down a path.

338. MRS KIRKHAM: Yes. This one came from the Conservation Board, actually.

339. SIR PETER BOTTOMLEY: Yes. I think we get along quite well. And I think

the reason it was covered over was to make life better for people.

340. MRS KIRKHAM: It's a form of mitigation, but, obviously.

341. SIR PETER BOTTOMLEY: But, the experience of a typical exposed cutting is not from where you go into a fitted bored or a weed tunnel, probably bored. It's actually, it's there to actually protect people who are nearby. I think you have to, I'm sure you have to go from an amble to –

342. MRS KIRKHAM: This is one of the problems with trying to, conflict between trying to mitigate the impacts on people and –

343. SIR PETER BOTTOMLEY: I think we might pass on to the next one.

344. MRS KIRKHAM: Yes.

345. MR STRAKER QC: 1185(4). You talk of the further infrastructure which damages the landscape from the green tunnels, then you draw attention to raised land forms, a gap in the residential terrace along Ellesborough Road, grassed mounding over the tunnel exits, loss of agricultural fields to mitigation planting at South Heath and modern, new road networks. And 1185-5, you give an example of that, don't you?

346. MRS KIRKHAM: Yes.

347. MR STRAKER QC: West of former Annie Bailey's public house.

348. MRS KIRKHAM: Yes, that's right, which is just east of, so, you can see there, each one of the numbers is in the key and it's just to indicate to you the works that are required to go, as I described earlier, in order to go into a green tunnel.

349. MR STRAKER QC: 1185-6. We're talking here of embankments and false cuttings having damaging effects. 1.78 kms of embankments and false cuttings. Raised linear features, land raising over large areas and infilling of natural valleys. And your example here, I think, is Hartley Farm, 1185(7). Is that right?

350. MRS KIRKHAM: That is one example, yes. That is taken from the footpath. It's going to be slightly diverted over the land that's going to be raised on to the very large area. So, you've got the railway line in a very shallow cut and then it's just surrounded

by this raised land fall. And, of course, you will lose that view, completely. You'd lose the view of the hillside opposite.

351. MR STRAKER QC: 1185(8). The infrastructure being intrusive, out of keeping, including the track bed and rails, the fencing, the galvanised steel gantries, the mobile mast, the lighting, the dark landscape, the acoustic barriers. And you've got some photographs, 1185(9), HS1.

352. MRS KIRKHAM: That's correct. Yes.

353. MR STRAKER QC: And the mitigation measures, 1185(10). Unacceptable harm to the AONB through, and then you draw attention to some visual and acoustic measures, through land raising and bunding and you give examples, noise barriers, unsympathetic planting and balancing ponds.

354. MRS KIRKHAM: Could I expand?

355. MR STRAKER QC: Yes. Please.

356. MRS KIRKHAM: On the third one. Because you're probably puzzled a bit by why I think planting might not be suitable. But, you can see the planting patterns in that part of the AONB. And what they are actually they're proposing and it's almost inevitable, if you want to screen it, is basic linear planting, which will actually follow the line of the railway line. It's broken up a bit. So, that in itself draws attention to the site – it's hidden by it, but, also though, unfortunately, in order to hide some of these things, they're now putting planting in, or HS2 are planting it, where there wouldn't normally be planting. One example of that is of open, dry valleys. It's really distinctive in the Chilterns. And if you start filling them with trees you lose a bit of the special quality and this is happening in one or two places along the route. So, it's that kind of planting which doesn't respond to the character, that I'm critical of.

357. CHAIR: Can I ask, if we don't go for a tunnel and we have petitioners from Buckinghamshire asking for more noise barriers, it's the view of the County and the local authorities that we should turn them down for noise barriers? I mean you represent, you're talking on behalf of the local authorities?

358. MRS KIRKHAM: Yes. I'm talking on behalf of the tunnel, at the moment.

Obviously, if that fails, I mean, obviously, I wouldn't like to comment on anything outside AONB at the moment, because we may be back to discuss non-tunnel issues, but, if you didn't want the tunnel and somebody wants a higher barrier, it's actually, to me, that just means, it's a morbid argument. We should have the tunnel. But, it's a real problem because you can, as you can see, there's examples there. They are not attractive feature. And it just tells you that that train's in the wrong place, if you have to produce something like that.

359. CHAIR: Can I get this clear? You are a witness on behalf of Buckinghamshire County Council, Aylesbury and the other authorities?

360. MRS KIRKHAM: Yes.

361. CHAIR: And you've been saying to us you don't like green tunnels, the cut and cover tunnels, and you don't like noise barriers, and you don't like bunds to screen the railway.

362. MRS KIRKHAM: I'm not quite saying that. What I'm saying is, you have to have regard to the fact that those very elements cause harm in themselves, if you see what I mean.

363. SIR PETER BOTTOMLEY: I think it's quite clear that what you're saying to us with your experience, which is sufficient for the Secretary of State to have nominated you to the AONB Board. We know you have merits.

364. MRS KIRKHAM: I've been around, yes. Yes, I have.

365. SIR PETER BOTTOMLEY: But a tunnel would mean you wouldn't have to make decisions about green tunnels or bunding or screening.

366. MRS KIRKHAM: Yes, that's correct.

367. SIR PETER BOTTOMLEY: I think that's understandable. What I'm wondering is if at the time that you were starting your career, when Blenheim was given World Heritage status on the grounds that nearly 300 years before, Lancelot Brown had totally redone the landscape there, would you have said, 'Mr Brown, don't do this. Don't change the natural environment?' or would you have said, 'This is magnificent. In 300

years' time, you'll get World Heritage status'?

368. MRS KIRKHAM: But they are not the same, are they, at all? Because Capability Brown wasn't putting in a major piece of railway infrastructure. He was putting in an alternative landscape design to replace one that was there before.

369. MR CLIFTON-BROWN: He was cutting down a lot of trees.

370. MRS KIRKHAM: And he did cut down a lot of trees.

371. SIR PETER BOTTOMLEY: And building bridges and putting in false landscapes and ponds.

372. MRS KIRKHAM: He was trading one form of beauty for another, I would argue in a case like that, which I'm afraid I just don't see that with HS2.

373. MR HENDRICK: Are you going for one tunnel all the way through? Are you not pushing for an option which actually isn't the option from the three options that Mr. Straker was making earlier?

374. MR STRAKER QC: Yes. Sir, I think it is one of those options because all those options all go all the way through effectively, of the AONB.

375. MR HENDRICK: It is one of those options but it's not your preferred option?

376. MR STRAKER QC: Well, The preferred option, sir, insofar as there is a preferred, comes up just inside the edge of the AONB. So, it is effectively edge to edge.

377. MRS KIRKHAM: They've tried to push it as far as possible to a point where it is vital. I think it's about 20 hectares is in the AONB, something like that.

378. MR HENDRICK: Right.

379. MRS KIRKHAM: Mr Blaine will confirm that. But, can I answer what your question is about, what if? We're hoping that there will be more discussions with HS2 to get better mitigation.

380. CHAIR: But you're against all the mitigation.

381. MRS KIRKHAM: Sorry?

382. CHAIR: You've been telling us, you're against bunds, you're against noise barriers, you're against any change in the environment, most of which is mitigation.

383. MRS KIRKHAM: No, what I'm saying is because this route fits so ill well into the landscape, you have to introduce these elements, that in themselves become intrusive. I'm not against bunding, per se. And it is a matter of finding the least impact. So, you start with the best, an edge to edge tunnel. And then you go down the options from there. And that's I hope what we will be able to do.

384. SIR PETER BOTTOMLEY: It's a hierarchy.

385. MRS KIRKHAM: It's a hierarchy. Exactly, sir. And the last thing is probably, right at the bottom, it's a bit of tree planting.

386. CHAIR: Right. Let's keep going.

387. MR BELLINGHAM: Can I just say? So, what you're really saying, is you'd like a tunnel all the way through, and, if you fail, you'll negotiate on that later?

388. MRS KIRKHAM: Yes.

389. MR STRAKER QC: Then we go to 11. 1185(11). You ask why the cutting, soil placement and bunding, why are they so harmful? And you draw attention to the surface route being the equivalent of a major extraction project. Disposal of soils being a major land raising exercise and how that's very harmful to the special topographical qualities of the AONB. And you've seen some figures earlier today in terms of what is dug out. Then you come, 1185(12), to the proposed planting mitigation measures being unacceptable. The emphasis on the linear nature of HS2. The obscuring characteristic of the natural features, they obscure the natural features, including proposals to infill open agricultural dry valleys, blocking views. Not reflecting local landscape character. And can't replace the centuries old woodland and hedgerow alignments. And you give one example, 1185(13), please?

390. MRS KIRKHAM: Yes. That's the thing I was referring to before, it's where they've got a mass tree plantings proposed in this view. I accept the fact, that I've

already said to you, that view will disappear any way, but, say, the route alignment didn't do that. But, by putting in all the planting in there, you end up, you lose that kind of view all together. So, the impact on that footpath is partly from the route, the infrastructure itself, and partly from the mitigation planting. In that particularly, actually, I think it's going to be exposed more or less, anyway. There's some illustrations from HS2 that show the trees.

391. MR STRAKER QC: 1185(14). You ask about the proposed drainage mitigation measures and whether they are also unacceptable. Why are they also unacceptable? And you draw attention to the mainly dry holes or the canals in the landscape due to the natural porosity of the chalk, potential for wet, ecological mitigation plans limited at best. Ponds not a defining feature of a chalk land landscape. Ponds found on the valley floor, not on the upper and middle slopes as proposed. Often engineered and fenced, not natural. Further extraction of soil materials and a further soil disposal and you give an example, west of Rocky Lane, 1185(15), please.

392. MRS KIRKHAM: Yes, that's a photograph taken from the edge of the existing road there. Not the road you can see on the little diagram. And they've got this little canal like structure going down the side of the railway line, which you can imagine we don't have, that sort of thing doesn't happen in the Chilterns here. It will be dry, I understand, as well, from speaking to the HS2 engineers.

393. MR STRAKER QC: And then 1185(16). The noise barriers. Three incongruous, three to five metres high, not in keeping with the beauty of the AONB. Blocking off views. And 1185(17). Found illustratively in three locations where they increase the visual impact. Full length of viaduct. Top of embankments, next to open fields and Wendover Vale, and you give examples, 1185(18).

394. MRS KIRKHAM: Yes. A blow-up of the aerial photograph.

395. MR STRAKER QC: And then 1185(19), you turn to change to the pylon line, removal of four, replacement with five new and higher ones, not conserving or enhance and the photograph from HS2 map book, page CFA10, shows existing scene from Bacombe Lane. Yes?

396. MRS KIRKHAM: Yes. That's right.

397. MR STRAKER QC: And then you've got a photo montage, 1185(20). And then you summarise, 1185(21), damaging elements of the surface route.

398. MRS KIRKHAM: Could I just say something?

399. MR STRAKER QC: Yes.

400. MRS KIRKHAM: About the pylons, because they are diverted, part of the line, and obviously they're not a very attractive thing. And we find, which I didn't realise before, that they are, the replacement ones, are all higher than the existing ones, so, as a result of this route, we've actually got higher, and more pylons going into the Chiltern switch. It actually exacerbates the harm. But, also you can see a portal, tunnel portal also in that photograph, that photo montage.

401. SIR PETER BOTTOMLEY: We don't know that that's what the portal is going to look like.

402. MRS KIRKHAM: Right.

403. SIR PETER BOTTOMLEY: We don't know that that is what the portal is going to look like.

404. MRS KIRKHAM: That's what HS2 have illustrated it as

405. SIR PETER BOTTOMLEY: I know. But still I don't think it is a design fault. That's my guess. And we also don't, I think, know, whether we have any influence or whether HS2 have any influence on whether the pylons which come in will be the new modern slenderer ones or whether they're going to be these great big World War II radar type things.

406. MR MOULD QC (DfT): I don't know what influence we have on that. And I'll see if we can get you an answer for Wednesday.

407. MR STRAKER QC: 1186(1). You summarise damaging elements, huge footprint, extensive loss of landscape features, permanent losses to the landscape, severance, intrusiveness, engineered infrastructure out of keeping, new road networks, land raising, unsympathetic and intrusive noise attenuation and screening solutions, unsympathetic and incongruous planting and drainage solutions. And you summarise

the harm to The Chilterns AONB in the following slide 2: Landscape impact, visually intrusive and incongruous. And 1186(3): How will the Chilterns long tunnel avoid these severe effects and conserve and enhance the Chilterns AONB. You ask that question and then you come to answer it, do you, at 1186(4)?

408. MRS KIRKHAM: Yes. I do. I tried to supply something that is the best fit for the AONB. And what is a proper landscape led solution. In other words, you look at and value that landscape and this is of the highest value and the value of its assets and come up with a solution that matches that value that is attached to the landscape. So, that is why I say that the Chiltern long tunnel is a landscape led solution. It minimises the impacts. There are some. We don't deny that. But, it minimises them and it greatly reduces the land take.

409. MR STRAKER QC: And then 1186(5), Benefits. No spoil disposal, no new higher infrastructure, diversions or redesign of the ancient route ways and footpaths, no noise attenuation measures needed. And then you draw attention to landscape and visual benefits of the Chiltern long tunnel. Are there any landscape and visual impacts? Yes. But, very limited, you say. 1186(7) draws attention to those, does it?

410. MRS KIRKHAM: Yes. We have extra vent shafts. And the illustration there is from the little Missenden one, which is one of ours and we have some extra, three of them. There, as you can see, from that, the design, they're fairly localised impacts, in landscape and visual terms. So, we acknowledge these, but compared with the surface route, these are very localised impacts.

411. MR STRAKER QC: And then we go please to 1186(8).

412. MRS KIRKHAM: Here is the intervention gap, of which we saw the little line on the photograph, which is down the valley bottom. I understand from that has to be 900 long to accommodate the portals and the train. And you can see an access route. So, we are seeing there is some cutting and there will be some mitigation needed. But, because of its location right down on the road, because it's right in the valley bottom, it will be very easy to mitigate, without creating incongruous features.

413. MR STRAKER QC: Yes. We've just got to pause here because 1186(8), is that talking about the underground firefighting feature?

414. MRS KIRKHAM: No. Oh, it is. Sorry. I'm getting confused.

415. MR STRAKER QC: And then it's 1186(9), which draws attention to the ground intervention gap.

416. MRS KIRKHAM: Yes. I am sorry about that. Yes, that's correct. So, the first example, obviously it will be basically cut and then covered. This one of course it's open, it remains open with cutting is shown in the drawings.

417. MR STRAKER QC: And we've seen a photograph?

418. MR STRAKER QC: 1186(10). The Chilton northern tunnel portal effective solution in landscape terms and we've touched upon this matter before. No need for incongruous and visually intrusive long raised mound, tied in nicely to the existing infrastructure, takes advantage of tree planting which is existing and a much shorter section of landform needs to be modified with cuttings and embankments. And you've got some 'also' points here. 1186(11). Open agricultural vale, landscape undisturbed, existing views only temporarily affected, landscape will return to as much as it looks today.

419. And then 12, please? Avoidance of many landscape risks and uncertainties. So, here, we've avoided the need to navigate the varied undulating topography, no need for large prominent structures. No additional major landtake. Only a small amount of screen planting needed. No need for higher or bigger soil mounds. 1186(13). No major additional roadworks. No need for time and money in delivering long term management of the new landscape. No risk of unforeseen indirect effects, such as wind blow, de-watering or contamination.

420. MRS KIRKHAM: Yes.

421. MR STRAKER QC: And we also have 1186(14). No risk of failed establishment of translocated ancient semi-natural woodland. No need for more or higher noise attenuation barriers or extensive drainage systems. And you then come to your conclusions. And I suspect we can take these, can we, at reasonable pace?

422. MRS KIRKHAM: Well, unless anybody needs to explain anymore?

423. MR STRAKER QC: And so we can just see there that you've described how sensitive it is. High. The magnitude of change is major adverse. Combination of high sensitivity. Major significant adverse. Surface route doesn't comply with national policy and you give reasons why not. And you then summarise the case for the long tunnel. All parts of the AONB, equal national value. Can ensure that HS2 doesn't result in a major adverse impact.

424. MRS KIRKHAM: 22 is obviously something we would like to be, at this stage.

425. MR STRAKER QC: Yes. There you draw attention to it can't be re-considered later at the detailed or construction stage. The decision has to be made now to protect the AONB. And I don't think we need do with, to travel through the balance of those slides?

426. MRS KIRKHAM: Because they just summarise.

427. MR STRAKER QC: And absent anything else you want to draw out from your slides, those are your slides.

428. MRS KIRKHAM: Yes, they are.

429. MRS KIRKHAM: Thank you very much.

430. MR STRAKER QC: Thank you very much.

431. MR CLIFTON-BROWN: Can I ask a question before you finish? We clearly have a very difficult decision to make on this. If, on a scale of 1 to 10 – if you can't have the tunnel and on a scale of 1 to 10 the mitigation measures at the moment are 10 – i.e. dreadful – 1 being the best you could possibly get to. If you had a generous HS2, giving you the sort of land mitigation measures you want to do, where do you think, as an expert landscape architect, you would get to, on that scale?

432. MRS KIRKHAM: That's a very hard question. It's very difficult. How would you do it, if you wanted to get the best solution? Is that?

433. MR CLIFTON-BROWN: Without a tunnel.

434. MRS KIRKHAM: Without the tunnel. I think we've got a problem here, that

you, there are some things that are unmitigable, if that's the right word. You've got to live with them.

435. SIR PETER BOTTOMLEY: Mitigate.

436. MRS KIRKHAM: Cannot be mitigated. And if the alternative is what you've got now, we might get down to 6 or 7 or something. Because it's such a big project. There's a point where you can't hide it. You can't blend it in.

437. MR CLIFTON-BROWN: Thank you.

438. MRS KIRKHAM: Thank you very much, sir. I'm sorry.

439. MR HENDRICK: A final question. Obviously, you've made a very good case because of the natural beauty that you wouldn't want any development to adulterate that. So, there's clearly a case for maintaining the landscape and everything that's there, but, at the same time, speaking in particular to yourself, Mr Straker, you've valued the land and the non-market effects at something like 510 million pounds, which clearly if you weigh that against the other costs, actually makes it look as almost as if it's a cheaper option, which is actually very counter-intuitive. Anybody thinking that a tunnel is cheaper than going overland would obviously argue otherwise. If that is the case, why, in the past, for example, are there not a much wider use of tunnels rather than going overland like trains generally do?

440. MR STRAKER QC: Well, I suspect, sir, that the use of tunnels has probably been more extensive than one might suppose because if one thinks of London as a place where there has been very substantial tunnelling. It's done for a different reason, of course, in London, but, it's done because a value is being weighed up in terms of what choice do we actually make. And the character of the case being put by the petitioners, touching back on your observation, it's counter-intuitive to suppose that building a tunnel ends up cheaper than putting it at surface level, is to say, when one makes the contrast one needs to do it on an even handed basis, to bring in all these ingredients, and if one then goes out of London, and thinks where one may have put something at surface level before, over attractive ground, one might have thought before, oh, well, we don't need to worry too much about that because it's just pounds and pence that, the cost of the compensation, rather than thinking, this land has got some intrinsic value,

let's weigh it all up and think what the true cost to the country is going to be in terms of tunnel or no tunnel. And that's what we're really asking. And that's what the Department of Transport are, in their own way, suggesting in their mechanism of saying, if you take the infinite value of this, in terms of how they've done that, then this is how it should be recorded, and you leave then your balancing exercise to say, well, let's look at the numbers. Let's look at these qualities and we arrive at a view that actually, tunnelling, in terms of preservation of national assets, is a better course to take than anything else. Because we are talking here about something which is a national asset, the area of natural beauty.

441. MR HENDRICK: I think case in the big cities, there's very little choice. Most big cities in the world will have, if they've not already got one, an underground one because of the capacity problems in terms of moving people around. But, outside of the big cities it's not a straightforward.

442. MR STRAKER QC: No. That's absolutely right, sir. Of course, it is not as straightforward outside the cities because it is one's mind set, if you like, inside the cities one immediately realises, well, where does this balance lie? We can't just put a railway to go along the Victoria Embankment. It's got to go underneath the Victoria Embankment. We can't just put the Northern Line to High Barnet all the way to grade. We've got to put it in tunnel because of all the things that otherwise it would damage and so instantly one sees the balance and it's here, when one gets out of the large conurbations, that one has to think about the balancing effect and what does one bring into the balance. And here the big, big, big question for this Committee is how does one assign some sort of value to something which Parliament has given a label to, Area of Outstanding Natural Beauty, and has said it's very particular and has said you can have a Conservation Board in these very particular areas, how do we give a value to that in reaching a view between two sincerely held views? One is, we'd like to build a railway, please, and we don't want to spend too much upon it. And the other is we don't mind you building a railway but we would like you to build it in a way which accommodates this national treasure, the Area of Outstanding Natural Beauty.

443. CHAIR: Okay. Mr. Mould?

444. MR MOULD QC (DfT): I'm going to ask Mr. Miller to respond on these matters