this. Could we just zoom in on this location here? Just a bit further. In order to provide these additional noise barriers by way of protection for Wendover, there is – the pylon diversion's slightly changed and we have one pylon – just click – one pylon – it's moving – one pylon in that location just there, a new pylon in that location, and a new pylon replacing an existing one in that location. And that's simply to carry the existing electricity wires across the new noise barriers, and so it's a minor alteration to the existing high voltage cable network that runs along in this location, but it's a consequence of additional – the additional noise mitigation.

265. As to the noise barriers themselves and the noise mitigation, I refer you back to the previous answers I've given on that, but clearly the intention of AP5 is to provide additional noise mitigation, bearing in mind the concerns that were expressed by the community previously.

266. CHAIR: Okay. Brief final comments?

267. MS CLAYTON: I think the difference in construction is the pylons, and that is our main concern. We are really concerned that if the 30 metre – sorry, 30 feet construction is – has to be achieved through percussive works, no matter what the diagrams show we are concerned that there will be vibration that will damage our properties. I've stressed how fragile they are. We're not able to do much in the way of strengthening work because of planning constraints. We are genuinely concerned.

268. It does rather surprise me though, and this occurred to me at the last occasion we were here, the promoter is telling us that they are confident that there will be no problem. I would like to see that confidence reflected in a binding – legally binding agreement, a commitment that if there is damage to our properties that we will be recompensed, that the damage will be put right, that our tenants will be looked after at no cost to the trust. If there is such confidence there should be no problem in giving us that undertaking. Better still, let's not have these pylons moved, let's have a tunnel, and then all of this goes away.

269. CHAIR: Okay. Thank you very much indeed to you both. Right. We now – AP5 number 6, the Parochial Church Council of St Mary's Church, Wendover.

The Parochial Church Council of St Mary's Church, Wendover

270. CHAIR: We seem to have discussed the church endlessly one way or another over recent months. Now, I know earlier today you suggested you need an hour but as we're fairly familiar with the subject are you able to canter through it a bit quicker than that?

271. SIR PETER BOTTOMLEY: 'Thought for the Day' takes three minutes.

272. MR DEARNLEY: 'Thought for the Day' takes three minutes, yes. Yes, that's a practised art. My name's Mark Dearnley. I'm the vicar of St Mary's Church in Wendover, and here with Mr Avery and Mr Summers. We're here to petition on behalf of all the users of St Mary's Church, and we remember that St Mary's has an annual footfall of somewhere in the region of 35,262 people. There are 680 activities in the building per annum, based on a review of the church diary over the last 12 months, which includes on average two concerts per month of very high quality. St Mary's serves the whole community as much for secular activities as it does religious.

273. Additional mitigation in AP5 we believe does not solve noise problems for inside or outside the church and its environs, nor wider community of Wendover with respect to many other issues. And, as you will hear from Mr Avery, the noise inside the building will be fatal for the use for concerts, and outside the current tranquillity will be destroyed for the many who come to, and for all sorts of reasons, to the church and its environs. You may recall Sophie Maggs as a witness last time who spoke movingly of her visit to her late husband's grave there.

274. The offer received from HS2 to contribute to the cost of sound attenuating the church is appreciated in principle, indeed it is, but the amount is woefully inadequate in our view. For the record, I received an offer of a contribution of up to £250,000 towards the cost of sound attenuation to the church. Mr Avery, on behalf of the church, has already discussed this amount with Martin Wells, who asserts that HS2 think this will suffice, notwithstanding that budgets in the range of £2 million plus have been mentioned in meetings. Martin agreed to provide detailed links about a breakdown of this, which we have received. However, we'd prefer an approach where the scope of the works is openly considered and defined more accurately. Mr Avery has a comment about these figures. Thank you.

275. MR AVERY: Yes. Thank you very much, Mark. I did receive, yesterday I think,

it was from HS2, their breakdown of this £250,000 which was promised, and that's appreciated. I now understand why their costs are so low, and if you think about the 27 windows that are in the church their budget of 68,200 – do you actually have this available for us to show?

276. MR STRACHAN QC (DfT): P15804.

277. MR AVERY: That's right. Thank you very much. So the 68,200 for the secondary glazing to the windows is deemed to cover 27 windows, of which 12 are the clerestory windows, and 15 are stained glass windows. That equates to £2,500 a window, which is just a ridiculously low figure. The two – the double glazed foldaway screen, that's not too far out. I think it's a bit low, but that's certainly a very cost effective part of the package. The most important observation to make is that they're proposing sound insulation to the roofs on the inside of the roof, underside, as opposed to what we believe is the only way of doing it, which is on the outside. There's a couple of technical –

278. SIR PETER BOTTOMLEY: Sorry, what? Insulation of the roofs on the outside?

279. MR AVERY: Yes. In other words, what is necessary is to introduce a sound attenuating board somewhere in the roof envelope. You can either put it on the inside –

280. SIR PETER BOTTOMLEY: Without reroofing?

281. MR AVERY: Without reroofing, but between the joists.

282. SIR PETER BOTTOMLEY: Or you reroof.

283. MR AVERY: Or you put it – yes, effectively.

284. SIR PETER BOTTOMLEY: And you don't put it on the top of the existing roof. You're –

285. MR AVERY: No.

286. SIR PETER BOTTOMLEY: You're reroofing.

287. MR AVERY: You're reroofing.

288. SIR PETER BOTTOMLEY: With it built in.

289. MR AVERY: Yes. The technical issues with that, of putting inside, is that you create dew point problems, which would result in rotting of the roof, which is obviously completely unacceptable. And the other problem with that also is that it's unacceptable from a heritage point of view, in that if you put the sound insulation on the inside it's between the joists and you'll lose the profile of the roof on the inside of the building. So I know that the DAC, our diocese, will be vehemently against that approach.

290. The other problem is that the side aisles inside the church you can actually see the underside of the boarding in the roof. So if you put a – you know, you can't put a liner on the inside of the roof there without hiding the boarding. So that's one reason why HS2's figures are very low, in that they've gone for what is a good suggestion, but won't work from the point of view of technical protection of the building and from an aesthetic point of view. I don't entirely understand the next three items, but as far as I'm concerned secondary glazing to the door lights is the porch. The toughened glass double gazing to the doors, I think that's mucking around with the existing glazed doors, which are actually a gift –

291. SIR PETER BOTTOMLEY: I think if we go through the problem to every solution we aren't going to just get very far. I think –

292. MR AVERY: Just bear with me. I'm very close.

293. SIR PETER BOTTOMLEY: Are you?

294. MR AVERY: Very, very close. Thank you very much. I'm just trying to indicate – I'm just taking this seriously and trying to do my best to work out what it means, and the repairs to the double doors is basically new doors. I've actually assessed the cost of this exercise myself, and I have a figure of more like £2 million in my head. Somewhere in the discussions we've had with HS2 there's been £2.5 million mentioned. In fairness to Martin, I cannot track down – Martin Wells over there – I cannot track down where it came up, but I –

295. SIR PETER BOTTOMLEY: Treat it as though it's in the confessional. Let's work on what they're saying now.

296. MR AVERY: Treat it as what?

297. SIR PETER BOTTOMLEY: As part of the confessional, and deal with what they're saying now.

298. MR AVERY: What they're saying now is –

299. SIR PETER BOTTOMLEY: We're trying to go forward not backwards, honestly.

300. MR AVERY: Yes. Okay. What they're saying now is £250,000, and for the reasons I've given you it's wrong. And just to give you a figure of what we think it is, having heard the comments that you – been made, in that there has to be a cost to anything, we think it's in – more in the region of £2 million it's going to cost to provide the mitigation to the church that is – or a contribution to mitigation for the church.

301. MR DEARNLEY: Just to – well, if I can continue on the other points then. We feel that HS2 continually misleads with regard to the real noise issues caused by the proposed train. We do not believe that HS2 have correctly modelled the effect of noise on St Mary's and consider that a contingency should be added of five decibels to ensure the resultant design and mitigation is resilient, for the same reasons that a contingency is added to any properly prepared cost plan. There is a sense that things remain opaque with regard to comparable costs. We do not trust what HS2 –

302. SIR PETER BOTTOMLEY: Which page should we be looking at while you're talking?

303. MR AVERY: We've gone on too far and we need to go back a slide.

304. SIR PETER BOTTOMLEY: I'm not sure we do. I'm trying to get onto number 5 or number 6.

305. MR AVERY: I know you are, so just allow –

306. SIR PETER BOTTOMLEY: We can read.

307. MR DEARNLEY: Okay.

308. SIR PETER BOTTOMLEY: We are very fast at picking things up and I think that we'd be grateful if you could, sort of, come to – help us.

309. MR DEARNLEY: I'm handing over to Mr Avery in a moment, but just to say there's an issue about transparency about the cost comparative things, and in terms of commenting on the sound issues back to Mr Avery.

310. MR AVERY: Okay. Well, now – just slightly confused. Could you just indulge me and go back a slide? Okay. The point – where's it gone? The point of the exercise here is that at our presentation on 17 November we said our comments were based upon HS2 accepting that the sound attenuation at the church was 20 decibels. Mr Thornely-Taylor's evidence at that time basically reneged on that agreement and – in a way. And if you remember, I said at that meeting that I would try and find out a way of proving the situation otherwise. So we've done two tests, and if you could now go to the next slide please.

311. The first test is where we set up for a period of 50 minutes, microphones on the outside – sound recording meters on the outside and the inside of the church, and what this shows is that the – what I've described as the ambient background level outside the church is around about 50 decibels, and crucially the only time that it gets above that level is eight times per hour in the evenings. And only on one occasion did it actually reach 60 decibels. Inside the church, because of the 20 decibel attenuation, it's generally around about 30 decibels. So every eight times an hour, on average, you hear the occasional louder noise inside the church.

312. The point of this exercise is actually to prove for the purposes of the environment of the church and its use as a concert venue the ambient sound level is 50 decibels outside, and, because of the attenuation of the church is 20 decibels, it's 30 decibels inside. And if you remember, you sat in the church listening to 250 people there in silence, and the meter on the alter showed 50 decibels – 30 decibels. I'll get it right. The first thing I want to nail is that the ambient level in the church gives you the ambient level outside the church. It's 50 decibels – it's 30 decibels, and there are only occasionally, i.e. eight times an hour, peaks above that that never go above 40 decibels inside the church.

313. SIR PETER BOTTOMLEY: A full church –

314. MR AVERY: You were in a full –

315. SIR PETER BOTTOMLEY: – with nobody speaking is pretty consistent with 30 decibels.

316. MR AVERY: Yes. And you sat in the church. I know – were you there in June, the first demonstration? I think you were, and that's what the meter showed.

317. SIR PETER BOTTOMLEY: So how many people do you have in a full church?

318. MR AVERY: We can get 330 in.

319. SIR PETER BOTTOMLEY: 330 people in a church not speaking has an ambient level of 30 decibels.

320. MR AVERY: Yes. And you have sat in the church –

321. SIR PETER BOTTOMLEY: Don't go back. I'm just trying to be clear that that's what you're saying to us.

322. MR AVERY: Exactly, yes.

323. SIR PETER BOTTOMLEY: Right. Your next slide then?

324. MR AVERY: So the next slide, did another test where the – if you remember in – we played the sound of a TSI compliant train, in other words it was a TGV Atlantique, that I recorded when I went to France to do so, on an array of speakers outside, well up the churchyard. And the point of this exercise is to refute what Mr Thornely-Taylor said, is that the performance of the church fabric will be better for the train noise than it is for traffic noise and the other ambient noises around and about. What this little graph shows, where the red line is outside and the blue line is inside, is that the sound attenuation between the inside and outside for a train is actually round about 18 to 20 decibels. So there is no improvement in the fabric of the church for an HS2 train than traffic noise. So the conclusion that I want the Committee to understand from that –

325. SIR PETER BOTTOMLEY: What was going on inside the church while this was happening?

326. MR AVERY: I beg your pardon?

327. SIR PETER BOTTOMLEY: What was going on inside the church when this was

happening?

328. MR AVERY: Nothing.

329. SIR PETER BOTTOMLEY: Well, why isn't the sound level down to 30 decibels?

330. MR AVERY: Because of the meters that we have don't go below 30 decibels, and also because –

331. SIR PETER BOTTOMLEY: So it's possible that if you had been – the noise outside was 70 –

332. MR AVERY: The noise outside was 70 and the noise inside – the point that we're trying to find here, Sir Peter, is the difference when a sound – when a train goes past. And that's between the two peaks on the two –

333. SIR PETER BOTTOMLEY: So what this is roughly saying is that the church, as it is presently, will reduce the noise by about 20 decibels.

334. MR AVERY: Yes, of a train.

335. SIR PETER BOTTOMLEY: Of anything.

336. MR AVERY: Of anything, but the point that Mr Thornely-Taylor made, and is actually written into the SES, is that the fabric of the church will perform better for a train because of the frequency of the spectrum of the train noise, and that just doesn't feel right.

337. SIR PETER BOTTOMLEY: You've made that point three times so move on to the next one.

338. MR AVERY: So I've made the point, but that's the point. That's what I'm trying to get to.

339. SIR PETER BOTTOMLEY: We understand what you're saying. Is 7 the next slide?

340. MR AVERY: Slide 7. Right, this summarises the results of the two tests which

we –

341. SIR PETER BOTTOMLEY: We've got those. The third point is that you think the two metre high barrier won't achieve a seven decibel reduction in peak noise.

342. MR AVERY: If you would allow me to just say what I want to say that would be appreciated. I will hurry up as quickly as I can, but… Oh, right. Okay. So you're absolutely right, Sir Peter, what I intended to do was to read from the slide points 1 and 2, so take the point.

343. SIR PETER BOTTOMLEY: You don't need to do that, and you don't actually need to read point 3, which is – I've summarised, which is you're saying that you don't believe the two metre barriers will reduce the noise by seven decibels.

344. MR AVERY: We're sceptical that that's the case, yes.

345. SIR PETER BOTTOMLEY: Alright.

346. MR AVERY: And obviously you can read item 4, which basically is that we trust the predictions of the noise and it's this – it's because of that that there's a lack of trust in the predictions that are actually given. You know, we have no confidence whatsoever in what HS2 are saying in terms of the modelling of the sound.

347. SIR PETER BOTTOMLEY: Okay. So you're doubting what you've been told.

348. MR AVERY: Yes. If you just change – go to the next slide, we do actually know that the HS2 model is based upon a number of sound sources. I don't propose to dwell too much on this slide. If you go onto the next slide. That's slide 9. This points to inexplicable differences in CFA10(1), which is the school, and the one immediately to the left, which is the church. There's a two decibel difference, that's it, between those two, which cannot be – which we don't think can be accounted for the relative distance from the church. So the point I'm trying to make here is that there's unexplained reasons as to why there should be a difference there. If you could go to the next slide?

349. SIR PETER BOTTOMLEY: It's not because the school's in between the church and the line – they're part of the line?

350. MR AVERY: No. They're parallel to each other.

351. SIR PETER BOTTOMLEY: No.

352. MR AVERY: It makes no sense to me that one should be louder than the other.

353. SIR PETER BOTTOMLEY: When you finish we'll ask the promoters if they can explain that.

354. MR DEARNLEY: Yes.

355. MR AVERY: That's the opposite. They've shown these things to you Sir Peter. This also shows inconsistencies in information. If you look at the green ones, that's going from the church and from the school and the mathematical logic is that the difference is a result of AP5 of the average in the peak decibels should be the same. When you look at the other numbers you can see that the differences vary. So, again, there's inconsistency in the information which casts doubt on the modelling that's been applied. And if you go to the next slide. This is again a mass. It's not absolute but the point is it's indicating that the duration of the noise generated by the train again doesn't follow a logical pattern. So, again, sir, it's an indication that we –

356. SIR PETER BOTTOMLEY: Why doesn't it follow a logical pattern? If the intensity reduces by the square of the distance, you won't hear the noise further away at the same time as you hear it close by. And because it doesn't go as high you won't hear it.

357. MR AVERY: No. But it's also showing, which is rather surprising, is that the arithmetical conclusion – this is information prepared by John Savin – is that the noise at the church will be audible for seventeen and a half seconds which is a little bit longer than the pulse noise that people keep on thinking about. The point of those three slides is basically to show that underlying the information if you apply some analysis to it there's inconsistencies in the information.

358. SIR PETER BOTTOMLEY: There appears to be an unexplained – something you don't understand – and we may not understand – so we'll ask them to explain it to us.

359. MR AVERY: Yes. Fine. Slides 12 and 13. I would at this point pass over the part of what I got at very short notice from Mr Savin and I don't wish to draw anything out from them at the moment. The point to take from – and the same one – move on to

slide 14 if you wouldn't mind please. The point is, taking point 3 and 4 from slide 7 and the messages from slides 9 to 11 and the account of the actual measured experience of HS2, the dynamics of HS2 optimise anything to the lowest level we are convinced that the predictions will be low in practise and therefore a margin of 5 dB should be added to the current predictions and the railway be designed for it. What that's basically saying is that even more points to the need for sound attenuation to the church.

360. Notwithstanding the above, point 6 is saying there that even if HS2's predicted levels are achieved, St Mary's Church will need attenuation to enable to continue to be used as a concert venue for the whole community. There is no alternative. What I'm saying in the next bit is the conclusion of what I'm saying. In the event the Select Committee does not agree to the tunnel for Wendover, which improves to around 50 dB by a programme works which provided it is correctly designed approved by the relevant authorities –

361. SIR PETER BOTTOMLEY: Seventeen.

362. MR AVERY: Blah, blah, blah. – see a letter from the Diocese of Oxford'. The whole letter is in your pack. The relevant paragraph is that: 'On behalf of the Diocese, we wish to emphasise our support for this notion of appropriate sound attenuation measures with the approval of the relevant authorities. The Diocese considers the only measures that can ensure that noise is kept to levels which do not compromise the use of the important, historic church'.

363. We would prefer, we've discussed about the cost of the proposed scheme, what we prefer to do is agree a scope and performance for the specification with HS2 that they will fund rather than agree the amount. Obviously what we would do is that we would do everything to secure the most cost effective way of carrying out the works. And we would do it entirely on an open book basis. The PCC is also entirely confident with the support of the Diocese we can manage to carry out the work. There's no risk to the fabric of the church and we have no doubt we'll take the church community with us if that was to be agreed.

364. Right. Now, I'll pass over to Steve who will now give a little bit more background to –

365. CHAIR: Given we first discussed sound, why are we now discussing sound again?

366. MR AVERY: Because there's more aspects to the sound that we'd like to bring, to discuss with you or to present to you.

367. CHAIR: How long is this going to take?

368. MR SUMMERS: A few minutes.

369. CHAIR: Okay.

370. MR SUMMERS: Can I have slide A20832 please? I'm just trying to bring up some additional points. As referred to in Mr Thornely-Taylor's evidence back in November, basically two sets of measurements were carried out on behalf of HS2 from which estimates of sound insulation of the church façade can be –

371. MR AVERY: Excuse me. Our screen's gone blank. Has somebody kicked the plug? Yes.

372. SIR PETER BOTTOMLEY: Are you licensed to do that?

373. MR SUMMERS: There were a set of sound insulation tests which used a loud speaker relatively close to the church at a fairly low level and I've converted those results to an A-rated sound level difference and that achieved a result of 37 dB. But I considered that result to be unrepresentative, principally because the sound source is relatively close to the church and that for more distant sources, such as traffic noise or railway noise on HS2 and elevated sources –

374. SIR PETER BOTTOMLEY: – through the roof.

375. MR SUMMERS: Yes. There's more sound insulation, more sound impinges on the roof. So, that is an argument why, for high speed trains, the sound insulation wouldn't actually be any better than around 20 – both the performance of the roof and also the performance of leaky, not very well sealed –

376. SIR PETER BOTTOMLEY: Which is presumably why we were hearing at the beginning of the presentation about ways of trying to put in secondary insulation.

377. MR SUMMERS: Yes. Exactly.

378. SIR PETER BOTTOMLEY: Keep going.

379. MR SUMMERS: Yes. The basic point is the sound insulation will be around 20, or possibly lower, against high speed trains which is contrary to what Mr Thornely-Taylor was indicating in the evidence in November.

380. SIR PETER BOTTOMLEY: I thought your graph of your own experiment showed a reduction of about 20 dB?

381. MR SUMMERS: Yes.

382. SIR PETER BOTTOMLEY: Sound insulation would be better than that?

383. MR SUMMERS: If we put sound insulation in, of course the –

384. SIR PETER BOTTOMLEY: It would be better.

385. MR SUMMERS: Yes.

386. SIR PETER BOTTOMLEY: So, you start with 20. You can do better than that.

387. MR SUMMERS: Yes. What we're saying is it's no better than 20 for high speed trains in the current condition of the church.

388. SIR PETER BOTTOMLEY: Okay. Well, right, that's the second or third time we've heard that from you in the last twenty minutes.

389. MR SUMMERS: So considering the noise effects on the church without additional insulation, as we've established, ambient noise levels within the church are around 27/29 as shown by an evening survey carried by HS2 and around 30 during that demonstration which the Committee attended. We note also from the evening survey that there were peaks, LAmaxes of in the range 59 to 64 and they were relatively frequent.

390. SIR PETER BOTTOMLEY: Eight times an hour we were told. You are, I'm afraid, being lead into repeating what we've been told already in this room this afternoon. It doesn't help.

391. MR SUMMERS: The point, Sir Peter, is that I'm just a layman.

392. SIR PETER BOTTOMLEY: Well, in that case you shouldn't have said any – he should have first. We don't want to hear things twice, unnecessarily, in the same afternoon please.

393. MR SUMMERS: In 85, the predicted LAmax levels from the high speed trains are 63 dB for a TSI compliant train and 60 dB for a HS2 specification train. On the basis of the 20 dB sound reduction inside the church those levels would be in the range 40 to 45. And we're talking about these frequent train pass-bys, about every two minutes. On that basis, you're going to get a clearly distinct noise during any quiet periods of concerts in comparison to an ambient level of around 30 dB. So, moving on to map A20 – so next slide after this.

394. Considering our uncertainty. I know you've seen the graph on the left at an earlier presentation. Both of these graphs are in the Environmental Statement appendices which were used to indicate the appropriateness of the model used by HS2. What I'd like to draw out from the graph on the left is that the 95% confidence interval for that data is plus or minus 5 dB. So, what it shows is this type of model has a variation of plus or minus 5 dB. Second graph on the right shows the HS2 prediction model compared against measurements of TGV Atlantique trains – and again there's a spread in the data. And I note that in response to this evidence HS2 have countered that point to some extent to say that their predictions are based on a reasonable worst case. I'd just like to point out that, on that graph on the right, for 200, the locations measured 200m from the railway the highest measured levels are still 5 dB above the dashed prediction line for the HS2 model. So, it's still indicating that has certain potential for noise levels to be higher than predicted by the model. And I wouldn't consider, if they're just using that model, the words 'reasonable worst case' necessarily apply there. Next slide please.

395. So, on that basis I consider a 5 dB additional uncertainty safety margin should be applied to the predictions so on that basis internal peak levels inside the church may be in the range 45 to 50 dB LAmax and these are the events occurring every two minutes. So, it may be clearly audible when there are quiet periods during concerts against the low level around 30 dB, as we discussed earlier. So, on this basis we consider that

sound insulation for the church is necessary. I've also looked at –

396. SIR PETER BOTTOMLEY: Has the church been discussing sound insulation with the promoters?

397. MR SUMMERS: Yes.

398. MR AVERY: Yes.

399. SIR PETER BOTTOMLEY: So, you're leading us to believe that sound insulation is necessary. We thought we heard that – that's an accepted point.

400. MR AVERY: What we – sound insulation is necessary – but we've only been offered a quarter of a million pounds which is woefully inadequate.

401. SIR PETER BOTTOMLEY: Okay. So, you didn't need to build up saying it's necessary. The question is, assuming it's necessary, what's the most practical and cost-effective way of doing it and what's a reasonable amount to spend on it. That's the issue, isn't it?

402. MR AVERY: Yes. And we told you exactly –

403. SIR PETER BOTTOMLEY: No, I know. We seem to have got to where you got us to –

404. MR SUMMERS: Just make my final couple of points. I also carried out my own calculations to verify whether the increase in barrier height from 4m to 6m in AP5 would give the reductions in noise levels that HS2 have suggested. And I confirm that that can be achieved on the basis that the barriers are sound absorbent. And that point was not specified in AP5 so I'm not, you know, I'd like the promoter to confirm they were considering to use sound absorbent barriers.

405. So, the other issue in relation to the church is noise outside, disturbance to users of the church yard and I understand that burials take place near to the London Road boundary. And I've carried out calculations that indicate the noise levels there are in terms of LAmax levels are in the range 68 to 72; that's allowing a 5 dB additional contingency there. So, on this basis, there's a clear likelihood that there would be disturbance of burial service and also for other people seeking quiet contemplation or

visiting graves and memorials in the church. That concludes my bit.

406. MR AVERY: We've asked Peter Bassano on behalf of Wendover Choral Society just to reiterate a point of view about the importance of balance of sound.

407. MR BASSANO: Good afternoon gentleman. I'm bewildered by all these graphs and figures. I don't know what it means. What I do know –

408. SIR PETER BOTTOMLEY: Just move a bit closer. You're more likely to be on television.

409. MR BASSANO: Sorry. What I do know is as a musician I need silence. Last time I was here, on November 17, I couldn't. I'm going to quote St John. We were rehearsing for Bach's St John Passion for Easter. 'There are many moments in this great and profound work which call for long periods of silence. Bach's handling of St John's account of Christ's inevitable end on Good Friday are given in the final alto aria with the words: *es ist vollbracht*. It is finished. To which the evangelists responds, unbowing his head: Jesus gave up his spirit. There are between five and ten seconds of silence before any sensitive musician can embark on the next aria. The atmosphere would be completely ruined by the intrusion of the sound of a train no matter at what dynamic level that occurred. Thank you.

410. CHAIR: Okay. Thank you for being brief.

411. MR DEARNLEY: To summarise, on the sheet here it just says as it says that in the interests of the community of Wendover, we are most concerned that actually the issue of providing a proper tunnel is considered fully and properly. That's our wish and that would resolve all of these other issues that are spoke. That not being the case then I think the issue of the sound attenuation needs to be explored properly and fully and openly. And some other issues that we've been concerned about relate to the noise barriers along the A413, that's a welcome thought to install. And HS2 to ensure package agreed with Bucks County Council and that will be funded not just for the construction but in the terms of long-term and ongoing maintenance for those barriers. And we're aware that HS2 is in discussion with BCC about these barriers and it's necessary for HS2 must not only provide the capital funds but an amount to continue for their maintenance in the future. We're concerned about the visual impact of an

extended tunnel and the 6m barriers. This is not convinced by HS2's explanations. More sympathetic designs. There are more sympathetic designs and methods of blending into the landscape and we ask that these be prepared so that HS2 are committed accordingly. We do not accept that the level of detail in the design is adequate to ensure that HS2 are committed to deliver the best solution. It's an important aspect. We heard earlier today about considerations for the environment that we're situated in.

412. MR AVERY: Where are we up to?

413. MR DEARNLEY: Number 3.

414. MR AVERY: Number 3. So, for number 3 we actually need slide A2084(2).

415. SIR PETER BOTTOMLEY: That's the other issues.

416. MR AVERY: Yes.

417. MR DEARNLEY: Yes, the other issues. That's the concern about the potential for crime. They're on the screen there now. And the proposal that as the church is kept open every day, all through the year, there's a need perhaps in the construction period particularly to monitor visitors and the likes into Wendover and St Marys, in the area. Maybe HS2 would fund a provision for enhanced security, monitoring the premises during construction.

418. Concerns remain regarding the local hydrology. And again, it's looking for adequate provision that this has been properly considered.

419. Number 5. We disagree that there'll be no effect on the local community both during construction and operation. Who's going to choose to visit Wendover while it's a construction site and during operation when surrounded by the ruined Area of Natural of Outstanding Beauty? And the points there on the screen. Over to William then who I'd like to hand back to with a little bit more about this matter following on from these other issue items. Thank you.

420. MR AVERY: Sir, I'd like to just return to the topic of cost.

421. CHAIR: I hope not too long.

422. MR AVERY: No, but I would like to get these points I'd like to make out so that we can actually

423. CHAIR: Well, it might have been better had you done them at the beginning?

424. MR AVERY: Pardon?

425. CHAIR: It might have been better had you done them at the beginning if they're important points.

426. MR AVERY: They're points under the topic of cost, which I'd like HS2 to respond to which they haven't done so far. And I refer back to, as you know, the letter I wrote to you by agreement in terms of cost of the last meeting. If we can find P15698? The problem that we as a community have with the cost information we're getting from HS2 is a matter of lack of trust. We don't trust the information that we're getting. And as I said to you I think when we were here last time –

427. CHAIR: You said to us last time, we've been through this any number of times. You're going through a range of issues. If you care about the church, get the answer about the church. And about the costs, which you started off with at the beginning. You're not doing yourself any favours with this Committee. Shall we get a response from the promoter?

428. MR AVERY: Well, do they know what the questions are?

429. CHAIR: Well, we've been through this before. This is all about the tunnelling and the costs of the various tunnels. We've been through these options endlessly. This is about the AP, which you're supposed to be sticking to –

430. SIR PETER BOTTOMLEY: – better not worse.

431. CHAIR: Yes. You're making things considerably worse for the Committee because you're using – essentially with this process, you're meant to get the Committee to get the promoter to give answers. You're losing the sympathy of this Committee.

432. MR AVERY: Okay. As far as AP5 is concerned the understanding of the church is that with AP5, the promoter does not consider that sound attenuation's necessary. We've now got to the point where at least they've offered to make a contribution. The

most important thing for us is that contribution now reflects the actual cost that we believe it will be. And I believe that I have demonstrated, from my own experience, is that there's a good reason why that costs are low and that we need at least 2 million pounds to do it.

433. SIR PETER BOTTOMLEY: Did they say they'd pay all the costs or did they say they'd make a contribution to the cost?

434. MR AVERY: They said they'd make a contribution to the costs.

435. SIR PETER BOTTOMLEY: So, you're in effect saying you don't want, a contribution isn't what you're after, you want to have a full cost of achieving a certain standard?

436. MR AVERY: Yes.

437. SIR PETER BOTTOMLEY: That's what I thought you were going to say when you started your presentation.

438. MR AVERY: Sir Peter, that's a very pertinent thing to say. I guess we hadn't considered it as much but it's the implication. The concern of course for the other costs that I raised in my letter of the 17th is that they've not been aired, heard or not had any response. So, if I'm going to get a response they need to be put on the table and so that we can end up with a fair figure. I don't, at the same time, want to –

439. SIR PETER BOTTOMLEY: The essential point, if I, just to summarise the understanding I've got, is you've got some backwards differences with Mr Thornely-Taylor, which is may be fair; may not be. And may be. The second thing is that the formal process that we're supposed to be hearing people to whom AP5 makes things worse.

440. MR AVERY: Yes.

441. SIR PETER BOTTOMLEY: And it doesn't make things worse, as I understand it, for the church.

442. MR AVERY: It does. If you read AP5 and the relevant section of AP5, the implication from AP5 is that we will not get any sound attenuation for the church. And

what we've explained is –

443. SIR PETER BOTTOMLEY: Sorry. The provisions of AP5, I haven't heard, make things worse for the church. I'm not going to stick on that and then carry on to a point where it would be helpful for us to understand if and how they can respond to the question, the contribution which you're suggesting is a quarter of a million pounds, whether that achieves something that's worthwhile and whether they should be asked to consider paying more than that. That's in effect what it is; what the issue is that I think that falls under AP – well, half under AP5 and half under other things.

444. MR AVERY: Okay. Well, just to clarify the situation as far as we understand it. AP5 improves the sound – mitigates the sound generated by the train. In AP5 it clearly states that because of that and because of Thornely-Taylor's advice with regards the performance we've had with the church, sound attenuation to the church is no longer required.

445. SIR PETER BOTTOMLEY: So, you're saying AP5 means that they're taking away their offer of a contribution of a quarter of a million pounds?

446. MR AVERY: That's right. Then what the next thing that happened was that we then get a contribution offer of a quarter of a million pounds.

447. SIR PETER BOTTOMLEY: So, not withdrawing, it's just –

448. MR AVERY: They've now come forward with that and the purpose of us still being here is to point out that two things. One, it's necessary, still, even if the additional mitigation achieves it. And secondly, a quarter of a million pounds will barely pay for fees, never mind paying for the work that's necessary/

449. CHAIR: Anyway, you're starting at the beginning. I thought you were going to talk about the cost per window and the cost of x and just give some examples of why it was inadequate money so we could get some answers of the promoter. We seem to have gone all the way around the houses, or around the church, or whatever, without getting to the point.

450. MR AVERY: Well, I see what you're saying. We're seeking to impress upon the Committee that sound attenuation is required to the church. We received this the day

before yesterday of the breakdown figures, or yesterday, which has given us limited time to actually respond back to it. I could go into detail now what I think –

451. MR STRACHAN QC (DfT): Would it be helpful if we respond?

452. SIR PETER BOTTOMLEY: Can I just make one thing clear before you do? On that page 3, 2084(3), A2084(3) in point 5 when you get to it. You're saying you're asking that HS2 be instructed to fund a scope of work to achieve 50 decibels sound attenuation of the church. Is that a 50 decibel reduction? Or is it having a maximum level of 50 decibels from outside noise?

453. MR AVERY: That means instead of the performances measured by me in 20, if I was to repeat the exercise after the work was done, it would achieve 50.

454. SIR PETER BOTTOMLEY: Sorry. Achieving a maximum noise level inside the church from outside of 50.

455. MR AVERY: No.

456. SIR PETER BOTTOMLEY: Or is it you're trying to reduce the noise level from outside by 50 decibels?

457. MR AVERY: Yes.

458. SIR PETER BOTTOMLEY: Whatever the level is outside?

459. MR AVERY: Yes.

460. SIR PETER BOTTOMLEY: So were it at 40 decibels, you want it at minus 10?

461. MR AVERY: It won't be but, yes, I know what you mean. What we want to do is if there's a noise outside the church of –

462. SIR PETER BOTTOMLEY: 60, you want it minus 10.

463. MR AVERY: Yes.

464. SIR PETER BOTTOMLEY: At least we're clear what you're asking for.

465. MR AVERY: Yes.

466. CHAIR: Okay. Mr Strachan?

467. MR STRACHAN QC (DfT): Can I just outline our position? And then I'll just ask Mr Thornely-Taylor to deal with very briefly with the response.

468. You've heard about this before. Our position is with AP5 noise mitigation measures, excluding the effects of noise barriers on the London Road, we haven't in fact been able to release those, just with the AP5 noise barriers –

469. SIR PETER BOTTOMLEY: What noise levels do we get in the church from London Road anyway?

470. MR STRACHAN QC (DfT): You do get noise effects. They're part of background noise.

471. CHAIR: Where from?

472. MR STRACHAN QC (DfT): The road.

473. CHAIR: And the railway?

474. MR STRACHAN QC (DfT): And the railway, yes. For these purposes we haven't factored in the London Road noise barriers. So, this is measuring the rail noise and the effects of AP5. The modelling we have done, I'm just going to ask Mr Thornely-Taylor to briefly address it because he's been criticised about it, the modelling we've done has shown that with that noise barrier proposal we can achieve levels of noise within the church, bearing in mind its current performance, which make it suitable for its current concert venue position. That's our first position.

475. However, we have said in addition we have offered an assurance to take forward noise attenuation for the church and we have provided a budget of up to £250,000. That is not an arbitrary figure that we have plucked from the air. We have had costed measures of noise attenuation in that table you see and we've taken costings from quotations from specialist contractors who provide secondary glazing – in one example, a chapel, someone who has experience, to get a cost estimate. Our budget, from what we have done, is 188 odd thousand pounds. Our offer is £250,000, which allows for a considerable latitude for changes, indeed, additional expense. That's our current

position. And I'll take you to the assurances.

476. Can I just deal with it in that order? I'll just ask Mr Thornely-Taylor briefly to address the criticisms that have been made of our modelling. And then I'll come on to the costs.

477. SIR PETER BOTTOMLEY: I hope that he's got as thick a skin as all of us have and it's the issues rather than the personal remarks that have been made.

478. MR STRACHAN QC (DfT): I'm going to put on one side, as I've done in the past, the personal attacks and the comments of that kind. You know Mr Thornely-Taylor's experience and expertise and you know the way he gives his evidence and he will continue to do so.

479. Mr Thornely-Taylor, if we can stick with – I think probably let's do it by reference to the petitioners' slides. The first point, the short point, is A2082(5) of the petitioner's slide and A2082(6). The petitioners take issue with the modelling that we did which indicated that the church fabric effectively provides for an up to 30 dB attenuation of itself, based on our assessments. They've done this further work where they said more akin to 20 decibels. Can I just get you to comment on that point?

480. MR THORNELY-TAYLOR: Yes. The next slide is the one that shows the results of the loud speaker tests which Mr Avery referred to. And on the face of it, it seems to show a 20 dB or less reduction from the measurements which were carried out, that he arranged. What was done was, as explained at the bottom: an array of six speakers, 10m apart, about half way towards London Road. But the important thing is the loud speakers were set to generate a sound level of 70 dB in front of the north and the south sides of the building although it's a church that isn't absolutely oriented east west. Broadly speaking, the west end of the church, the tower, is towards the railway and railway noise reaches the tower before it reaches any other part of the building. The essential feature of this test is that the noise predictions which HS2 have done are for a location just to the west of the west end of the church, just to the west of the tower. If you turned the loud speakers up high enough to get 70 dB either side of the north and the south sides of the building, if there'd been another microphone just to the west of the tower, the noise level there would have been very much more than 70 and therefore the reduction outside to inside would have been more than the 20 which is shown by these

two traces.

481. The railway is of course to the west. It's a long source. 400m long. Shortens as it goes into the green tunnel and the predictions are for noise from the railway on its trace entering the church and the prediction of a 30 dB reduction was done by the consultants using full scale acoustical formulae for this purpose. In my evidence on 17 November I said that with maxima outside the church of 60 the internal levels would be in the low 30s and that remains the case.

482. MR STRACHAN QC (DfT): If you want just to see the orientation of the church, P15612(3). The Committee, I'm sure, will be familiar with it, but just to explain the point you've just made. Have you got that? P15612(3). So sorry. The tower, you're pointing on the west end to the tower over here.

483. MR THORNELY-TAYLOR: Yes. The tower has quite wide buttresses. It's quite a wide structure and then there is a porch either side of the church. And then you get to the walls of the north and the south aisle, either side of the nave, and the chancel also has aisles.

484. MR STRACHAN QC (DfT): And you're pointing to north and south as being where effectively 70 dB was broadcast in order for the petitioner's test.

485. MR THORNELY-TAYLOR: Yes. I am approximating the east and west, generally speaking. Churches have the altars at the east and the tower at the west. And I'm using those terms, although it's not, as we can see, exactly on that alignment.

486. MR STRACHAN QC (DfT): So, Mr Thornely-Taylor, with the benefit of what you've been shown and the benefit of what you've seen previously from our tests, what do you understand the position to be as to the natural attenuation features of the church for this railway: The 20 dB or less that's been suggested or the approximately 30 dB that you've previously measured or both, acting for us, when measured?

487. MR THORNELY-TAYLOR: The 20 dB is what you'd find if you measured the difference between outside and inside noise when the source is traffic on the roads. And the HS2 team measured the same as did Mr Avery's experiment. The 30 dB reduction is what you get from trains on the HS2 trace, propagating in the direction that

they do, with the church orientated as it is and with the structure as it is. And my evidence of 17 November remains my advice.

488. MR STRACHAN QC (DfT): Thank you. Just some miscellaneous points which were raised about the noise measurements. Slide 9, A2082(9). And miscellaneous points I think raised. 60 maximum train noise is referred to from some of the readings versus 62 outside the school and it's said that's a discrepancy, bearing in mind the two locations. Can you just comment on that? Is that a discrepancy?

489. MR THORNELY-TAYLOR: Yes. The 60 is a little further distant than the 62. It is further to the west where the noise source gets shorter as the train enters the green tunnel and the topography changes, as you can see by the contraction of the contours, so that the noise reduction effective, the topography, also increases as a result of which the noise level is slightly lower.

490. MR STRACHAN QC (DfT): I think the other point was on slide 11. The 17.5 indicative duration, I think it was suggested that's anomalous or strange. What's actually being referred to here by the petitioner?

491. MR THORNELY-TAYLOR: The duration of the noise, like the noise that we heard in the sound lab. It gets shorter as you move west because the train isn't enclosed for the full length of time.

492. MR STRACHAN QC (DfT): And I think the other graph I'll just ask you to comment on, A2083(4). I think we've already looked at this in the course of today. But you've given evidence about this. This is material taken from Volume 5 Technical Appendices, but certainly not all of the material in it. The point that's put is there's a plus or minus 5 dB likely variation in noise levels that will be generated by these trains, as compared with our modelling. Can I just get you to comment on that?

493. MR THORNELY-TAYLOR: Yes. Mr Summers has misunderstood the purpose of these plots. If you read the text that goes with them, they are for the purpose of studying the effect of upwind and downwind propagation. If you were able to see closely, you'd see some of the points are squares, some are crosses. The squares are downwind propagations. The crosses are upwind propagation. And this goes with another companion plot. And it shows that the predictions that HS2 has made are for

downwind rather than upwind. They're not plots to show how accurate the prediction method is because the crosses and the boxes are TGV trains. We're not running TGV trains on HS2. If we did we'd get higher noise levels. If it were possible to have upwind and downwind plots for HS2 trains, there would not be the points above the prediction line that we see here because this is comparing HS2 with effectively HS1, TGV trains. So, Mr Summers has misunderstood the purpose of this chart.

494. MR STRACHAN QC (DfT): Can I then move things on in a constructive fashion because that sets out our position on the effects of AP5 from a modelling perspective. But, we have, and has been clear, provided an assurance. This is now articulated in writing. P15609(1). If we can get that on the screen? It's set out in a letter to the petitioners and you can see at the bottom of that that notwithstanding the modelling we've done we have agreed to require the nominated undertaker to support the church to obtain reasonable and appropriate noise insulation for the church fabric and we've provided some provisions. The parochial church council will be required to obtain the necessary consents. Over the page, at page 2: 'The promoter will contribute to the cost of noise mitigation works on the internal use of the church required as a result of the proposed scheme up to a maximum of £250,000. And then there's provision about how the payment's made. And P15804 is the schedule of our costings that we've done having got some external quotations, for example, for the secondary glazing. And they, as I've indicated, that's £188,000. If there are movements within that, they're well within the £250,000 budget we've identified. And I think in fact, although it's not shown on this, that you would approximately double the costs if you were to do sound insulation to the roof by taking the roof off. So that would mean more like £130,000 rather than £64,000. But even that is very close to the £250,000 that we've set, if it were necessary, which no doubt can be worked through in due course.

495. Mr Thornely-Taylor, can I just get you to comment? If these noise mitigation measures are provided, or funding for up to £250,000 for noise mitigation measures, the effect on the church, what would the effect be, with AP5 in place? I've already characterised it as an improvement over what's already achieved under AP5, perhaps you can just comment?

496. MR THORNELY-TAYLOR: Well, it wouldn't get 50 dB reduction. That would take the church into a situation better than the best concert hall anywhere in the world.

It would take maximum noise levels due to the passage of trains on HS2 down into the 20s which would be entirely satisfactory for the uses of the church.

497. MR STRACHAN QC (DfT): The only other point I was going to make, Mr Thornely-Taylor's already made it. The request to mitigate to a level of 50 dB outside the church, if that's the request, or something akin to that, we obviously do not accept is an appropriate requirement. Quite apart from the inability to achieve that and to measure it, we don't see that as required and I refer you back to the two principle points I made in the course of that response. But I'll allow Mr Thornely-Taylor to answer any questions.

498. SIR PETER BOTTOMLEY: Can I just ask? These figures of the £188,100 or the £250,000, do they include fees, architects' fees and the like? Do you know? Or are they just builders' costs.

499. MR STRACHAN QC (DfT): I'll find out. The answer is we don't think it does include the costs of the applications themselves.

500. SIR PETER BOTTOMLEY: Okay. But architects' fees and the like?

501. MR STRACHAN QC (DfT): I think we –

502. SIR PETER BOTTOMLEY: We may discover.

503. MR STRACHAN QC (DfT): Can we find out? We'll find out for you.

504. SIR PETER BOTTOMLEY: Okay. London Road noise?

505. MR STRACHAN QC (DfT): Yes.

506. SIR PETER BOTTOMLEY: Do the promoters have an idea, do the petitioners have an idea, of how much noise from London Road might be heard if everybody inside the church is quiet?

507. MR STRACHAN QC (DfT): Mr Thornely-Taylor may be able to help with that. There are noise levels, baseline noise levels, for the readings that were done for Church Lane. I think I've got the right table, there are highest night time noise, LAMaxes, I think, of 81 dB which could be from a very noisy passing vehicle. I don't know. We

haven't got the specifics of it. There are obviously Leqs of 55 and 49 so that would be comprised of background noise which would include vehicles. But I don't think we've got any specific data on the extent of the road noise. But I don't know, Mr Thornely-Taylor, if you've got any further information?

508. MR THORNELY-TAYLOR: Well, we've heard evidence to the effect that the noise due to the passage of vehicles on Church Lane is, I seem to recall the evidence, about six events per hour. That came from one of the petitioners –

509. SIR PETER BOTTOMLEY: So that may be the peaks. But we don't know whether the London Road noise –

510. MR AVERY: I could listen to the recording I took simultaneously with this and remind myself what they are. But if you look at A20825.

511. SIR PETER BOTTOMLEY: Yes. Speak up.

512. MR AVERY: You can see that there's, on the red line, there are peaks that are coming up to about 55 decibels and there's one that's close on to 60. The 60, I wouldn't mind betting, was somebody going fast down the lane and the others on London Road.

513. SIR PETER BOTTOMLEY: At 8. 00 p. m. at night?

514. MR AVERY: Yes.

515. MR DEARNLEY: Outside the church.

516. MR AVERY: Outside the church. And the Chiltern line train, when it runs, is around about 45, 47 decibels and a jet plane –

517. SIR PETER BOTTOMLEY: So, you hear those things at the moment?

518. MR AVERY: Yes. You sit in the church and you hear them perfectly clearly but that's in the context of a completely silent church.

519. CHAIR: Okay. Mr Strachan?

520. MR AVERY: And the difference between now and when the train runs is that we

know that we're going to get 60 dB outside, 26 times an hour; that we assert that we're going to get caught inside.

521. CHAIR: Do you want to ask questions of Mr Thornely-Taylor?

522. MR AVERY: I've certainly got one.

523. SIR PETER BOTTOMLEY: Why don't you ask yours first?

524. MR AVERY: If you go to the next one then? Number six.

525. SIR PETER BOTTOMLEY: 282(6).

526. MR AVERY: 282(6). So, you're suggesting Mr Thornely-Taylor – first of all, I'd just like to say that nothing I've wanted to say about Mr Thornely-Taylor is personal. He's effectively a prisoner of the information that he has. So, nothing I've said is intended to be anything personal about anybody. Hopefully, the Panel understand that. What I do find difficult is to understand your suggestion that the about 5m difference in the position of the microphone or the recording device in relation to the source is going to make as much difference as 10 dB to the outside noise. In other words, from where I put my microphones and where you're suggesting they should be.

527. MR THORNELY-TAYLOR: If you had had a microphone outside the western wall of the tower you would have measured a much higher level than 70 at that point.

528. MR AVERY: But not 10 decibels, I don't believe.

529. MR THORNELY-TAYLOR: We won't know without repeating the exercise.

530. MR AVERY: I'm happy to repeat the exercise with HS2 so we get a measure. I think it is important to understand the amount of noise from the train that will get inside the church. And the modelling is only as good as it might be. An actual experiment seems to be the best way of going about it.

531. CHAIR: Okay. That's your question?

532. MR AVERY: It's a roundabout sort of question, yes.

533. CHAIR: Do you want to ask a question?

534. MR SUMMERS: I did appreciate the purpose of that graph that Mr Thornely-Taylor pointed out; referred to the upwind and downwind predictions but similar graphs, the number of similar graphs in the appendix of the Environmental Statement on sound vibration all show a variation in predicted against measured levels. And I do not believe it states clearly anywhere in this appendix that an allowance, specific allowance, has been made between the mean predicted level from the model and the additional factor which is why I was raising that point, particularly, because the promoter in their response to our slides indicated that a – what was the wording again – that a 'reasonable worse case prediction be carried out'. I don't think that is evaluated numerically within this annex.

535. CHAIR: Well, tailor it as a question.

536. MR THORNELY-TAYLOR: Towards the beginning of the document we've been talking about, whence came that plot of upwind and downwind, is another chart comparing HS1 predictions with HS1 measurements and the fit is very impressive. With regard to this specific case of St Mary's Church, because there is a high noise barrier the largest contributor to the noise, the train's aerodynamic noise from a fairly high level, and as Mr Summers would have seen from careful reading of that report, a very conservative assumption has been made about the amount of mitigation that will be achieved for the aerodynamic component of noise from the train. Only a 3 dB improvement has been assumed, whereas we know that aerodynamic varying of the pantograph well and improvements to pantograph design can achieve a much greater reduction than that. So, if there is uncertainty – and there always is – it's one-sided and the most likely out-turn is that the trains will be quieter than had been predicted.

537. MR SUMMER: No other questions.

538. MR AVERY: I think we could argue all day about the relative uncertainties.

539. MR SUMMER: I'm sure.

540. MR AVERY: But I think the point the Committee should note is there are uncertainties and they haven't been clearly, numerically identified that that has been taken into account by a specific party in the HS2 prediction to provide additional contingencies should be taken into account, the 5 dB.

541. CHAIR: Okay. Alright.

542. MR STRACHAN QC (DfT): Sorry. Mr Clifton-Brown earlier asked a question about 5m noise barriers and whether there's a potential for pushing noise further away and I indicated Mr Thornely-Taylor's coming back. And I just while, if it's convenient at the moment, perhaps he could just answer that question to save time?

543. MR CLIFTON-BROWN: In relation, if I may just preface that, Mr Strachan?

544. MR STRACHAN QC (DfT): Of course.

545. MR CLIFTON-BROWN: To CPREs evidence wanting noise barriers, 5m noise barriers in the areas of open countryside in order to mitigate the noise somehow for people near the railway. And I made the point that I thought you had given evidence that 5m noise barriers, threw the sound up but further away from the railway line. So, in other words, somebody walking on that path, behind these noise barriers, would hear it for longer. Is that correct or not?

546. MR THORNELY-TAYLOR: No. A noise barrier never makes matters worse on the listener's side of the barrier. It does slightly unusual things. If you were walking very close to a noise barrier you would think the noise, you would think the train was running along top of the barrier. It would sound a little odd. But it's never the case that anything is worse in any location with a barrier than it would be without it.

547. MR CLIFTON-BROWN: So, there's no question of you being further away from the barrier and of hearing the noise for –

548. MR THORNELY-TAYLOR: As you move further away from the barrier, its barrier effect gets less. The critical thing about the performance of a barrier is the difference between a line from you to the top to the source and a line from you straight through the barrier to the source.

549. CHAIR: Okay.

550. MR STRACHAN QC (DfT): Sorry. I just thought it was a convenient moment to deal with that.

551. MR CLIFTON-BROWN: Thank you very much.

552. CHAIR: Fine. Okay. Very final comments?

553. MR AVERY: I think the final point that I would like to say is that we would like to obviously have all information that HS2 have got in relation to the costs that they think the sound attenuation is going to achieve so that we can evaluate whether their contribution is enough or not. We simply do not think it is enough. And we would ask this Committee to recommend a higher figure or a different approach as to how we could arrive at a satisfactory solution.

554. SIR PETER BOTTOMLEY: In effect the difference at the moment is that they're prepared to make a contribution up to a certain limit spent on that. You want to spend as much as it takes to do something. And you want them to go beyond the limit they're suggesting.

555. MR AVERY: Yes.

556. SIR PETER BOTTOMLEY: Okay.

557. MR AVERY: We want something that will actually be effective –

558. SIR PETER BOTTOMLEY: That's a separate issue we won't re-open

559. MR AVERY: Pardon?

560. SIR PETER BOTTOMLEY: That's a separate issue. I don't think we need to re-open this afternoon.

561. CHAIR: Okay. Thank you very much gentlemen.

562. MR STRACHAN QC (DfT): In answer to Sir Peter's question it doesn't include architects' fees, the £188,000. That would be additional, within the £250,000 budget.

563. SIR PETER BOTTOMLEY: So, the £250,000 'offer' is a total amount of money out of which come fees for anything else?

564. MR STRACHAN QC (DfT): Indeed, yes.

565. SIR PETER BOTTOMLEY: Yes.

566. CHAIR: Okay. Thank you very much gentlemen. We now move on to AP58 Wendover Parish Council and Halton Parish Council with Robert Duggan and Brian Thompson.

Wendover Parish Council and Halton Parish Council

567. MR DUGGAN: Good evening.

568. CHAIR: Well, it's not evening yet. It just feels like it. We're getting pretty familiar with Wendover, so, carry on.

569. MR DUGGAN: Okay. We aim to be about 10 to 15 minutes' maximum. We're not trying to warm you up, that's the truth. I'm chair of Wendover Parish Council and Brian's chair of Halton.

570. SIR PETER BOTTOMLEY: Halton is to the north of Wendover, in effect, geographically?

571. MR THOMPSON: Yes.

572. MR DUGGAN: It's on Northern Road. We're both elected representatives and we are here today to talk about the AP5. And the first slide – which you're very familiar with – you've heard from a number of Wendover groups today about different aspects and where they've been covered already, we'll skip over them.

573. MR THOMPSON: Next slide please? This is just the summary of what the AP5 proposal is for Wendover. I guess you've probably heard most of it already, so I won't spend any more time. And I'll move on to the issues. If I could have the next slide, please? One of the major issues is around visual blight. 6m high barriers on top of an embankment. They're going to be very visible. It will, for a length of 780m, that adds about 1500 square metres of barrier, visible, from the Motorway. Obviously, we believe they will be uglier and depending on what the landscaping is, there will be a high risk. And our major concerns. Obviously, it's a big impact on the town in terms of looking as if you're living in Colditz. And, equally, in terms of people coming to Wendover for tourism it could have a very negative effect. Next slide, please?

574. The other thing that's going on is that there are two pylons being moved to allow