St Mary's Church Petition

St Mary's Church PCC petition no AP 06

Fully supported by Wendover Music Wendover University of the Third Age who also petitioned but whose locus standi have been challenged.

Presentation to the HS2 Select Committee 2nd February 2016

Led by Canon Mark Dearnley assisted by the following witnesses
William Avery
Steve Summers of ACCON
Peter Bassano
John Savin

St Mary's Church Petition

Introduction by Mark Dearnley

William Avery responding to evidence of Mr Thornley-Taylor on 17th November

Steve Summers on Noise

Pete Bassano on performing environment

Mark Dearnley on other matters and conclusion

Petition no AP5 06

A2082 (2)

St Mary's Church
At the heart of the community

Wendover Choral Society

U3A
THE UNIVERSITY OF THE THIRD AGE

AP5/00006/0003

St Mary's Church Petition

Introduction

Here to petition on behalf of all users of St Mary's Church.

Additional mitigation in AP5 does not solve noise problems for inside or outside church and its environs, nor wider community of Wendover with respect to many other issues.

Offer received from HS2 to contribute to cost of sound attenuating the church appreciated in principle but the amount is woefully inadequate.

HS2 continually mislead with regard to the real noise issues caused by the train.

Remain opaque with regard to comparable costs

Today will concentrate on noise and touch on the other issues at the end

St Mary's Church Petition

William Avery

HS2 reneged on

Thornley-Taylor evidence presented in misleading way and unbeleivable.

Said would think of way to prove

Two tests

One to get true understanding of existing ambience for concerts

Another to get realistic test of fabric attenuation of HS2 train

Petition no AP5 06

A2082 (4)

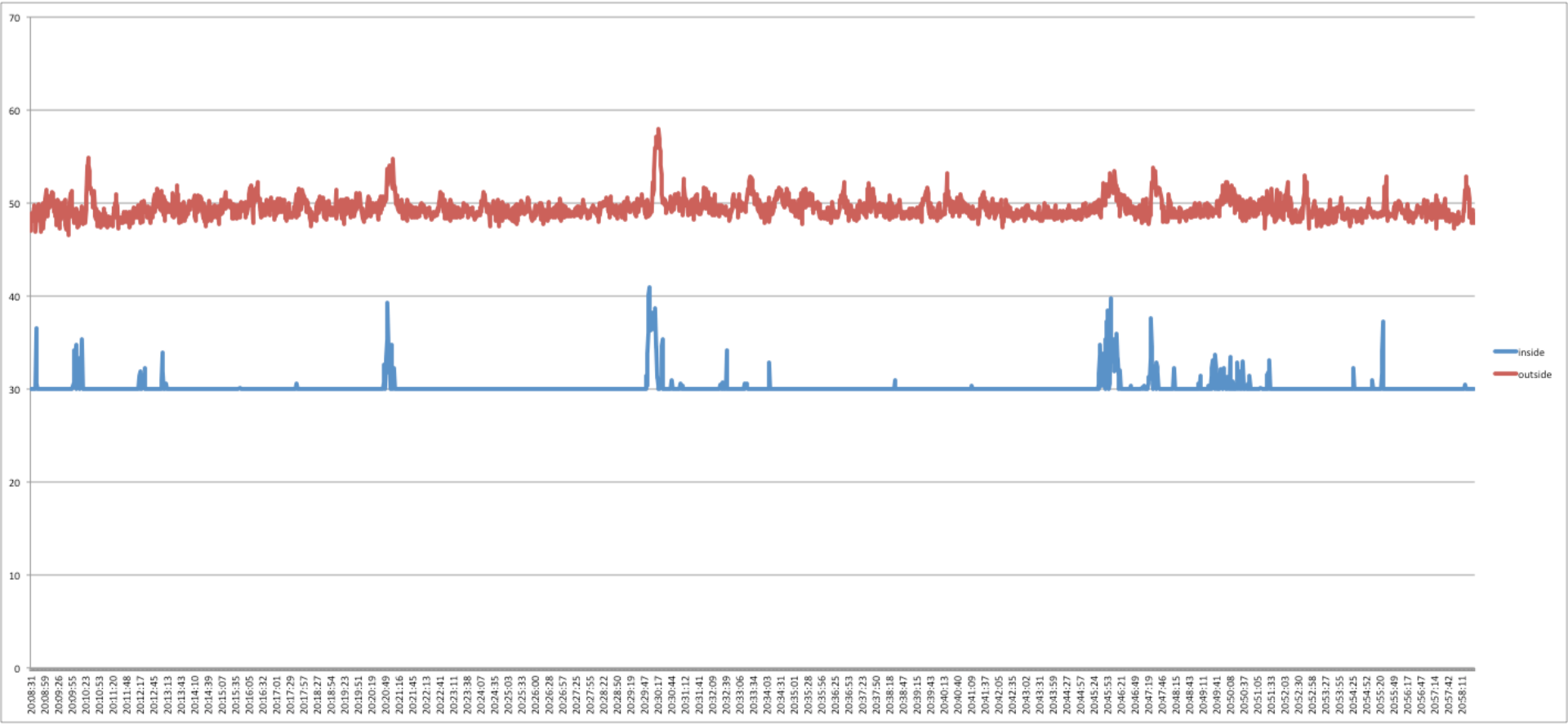
St Mary's Church
At the heart of the community

Wendover Choral Society

U3A
THE UNIVERSITY OF THE THIRD AGE

AP5/00006/0005

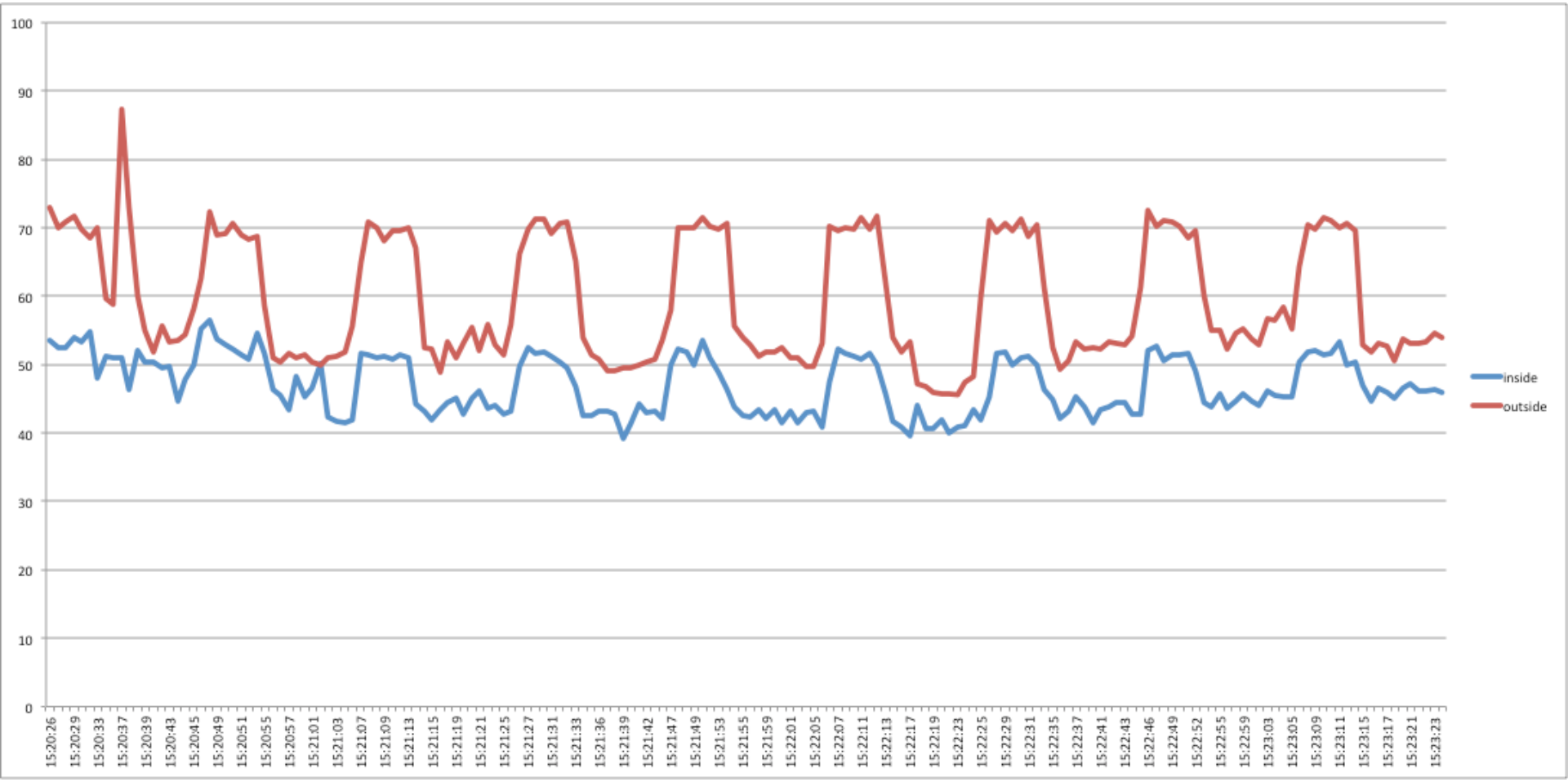
St Mary's Wendover ambient noise externally around 50dB with 8 occurrences above
internally around of below 30dB with mirrored occurrences above



Ambient noise level for approximately 50 minutes between 20:00 to 21:00 18th January 2016. Meters do not record below 30dB which explains straight line for internal (blue) readings. Meters set to fast so measurements every second and no averaging. In other words the actual conditions. This clearly indicates ambient levels experienced during a concert and indicates attenuation of building fabric around 20dB. So an HS2 train will be clearly audible and a TSI compliant train more so. Note only one occurrence at 60dB externally and 40dB internally.

A2082 (5)

Results of simulation of TSI complaint train passing St Mary's Church showing around 20dB attenuation by building fabric



Test achieved using array of 6 speakers 10 metres apart halfway towards the London Road from the church. Sound level set to 70dB on both north and south sides of building. External meter by north porch door 2m from face of building. Internal meter in middle of nave.

Sound source same as used for demonstration to the Select Committee in St Mary's Church on 11th June and 9th July but looped. Internal level is the blue line. The peak in first 10 seconds should be ignored as it is a whistle blow to synchronise with audio recording internally.

A2082 (6)

St Mary's Church Petition

1. Slide 1 shows that the ambient level is around 50dB with 8 occurrences above with only on at 60db, not what is stated in SES4 or by Thornton- Taylor in his evidence on 17th November or SES4. Also note that traffic along lane almost stops during events in church due to parked cars so even less noise.

2. Slide 2 shows that the sound attenuation of the church building fabric remains around 20dB for a TSI compliant train and therefore for an HS2 train again contrary to what Thornton-Taylor said in his evidence on 17th November as this test proves that the fabric performs not better at the frequency spectrum of a high speed train than the general ambience.

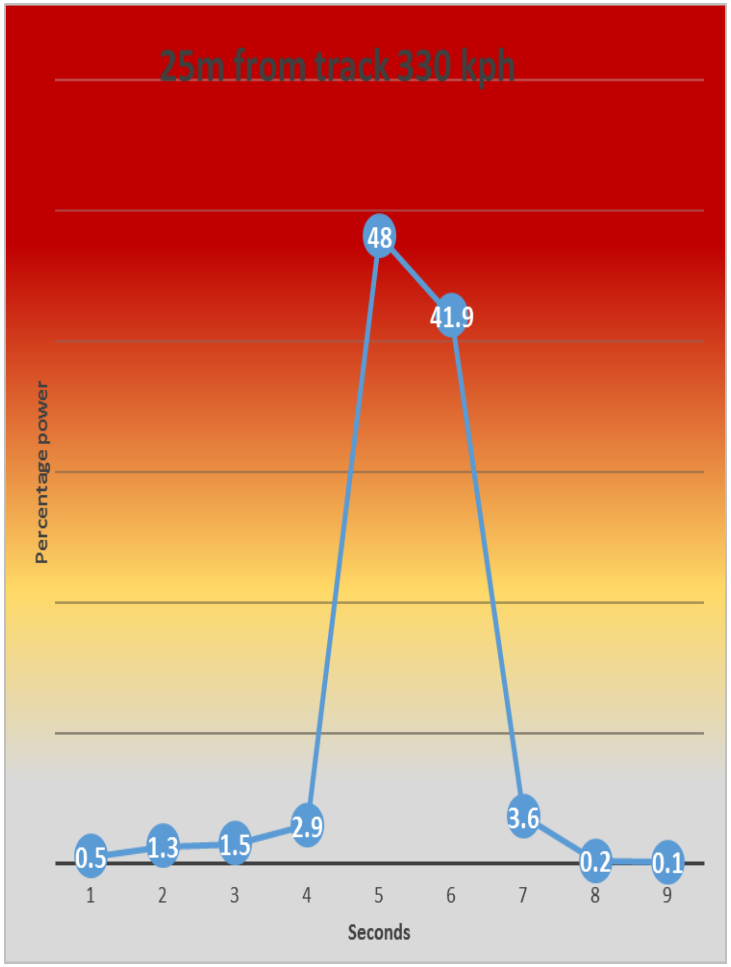
3. We challenge the prediction that 2m extra barrier will achieve 7dB reduction in peak noise from trains and that the trains will be as quiet as predicted from the outset and in use.

4. We distrust the HS2 predictions on noise due to the inconsistencies in the information and lack of transparencyy in their modelling as illustrated in the following slides prepared by John Savin. This clearly indicates the need to add 5dB to the predictions for design purposes which is substantiated by the results of comparisons between HS1 predicted and actual peak levels which show that predictions under estimated by up to 7 dB which is of concern as the HS2 model is based on the HS1 model

Trains and power

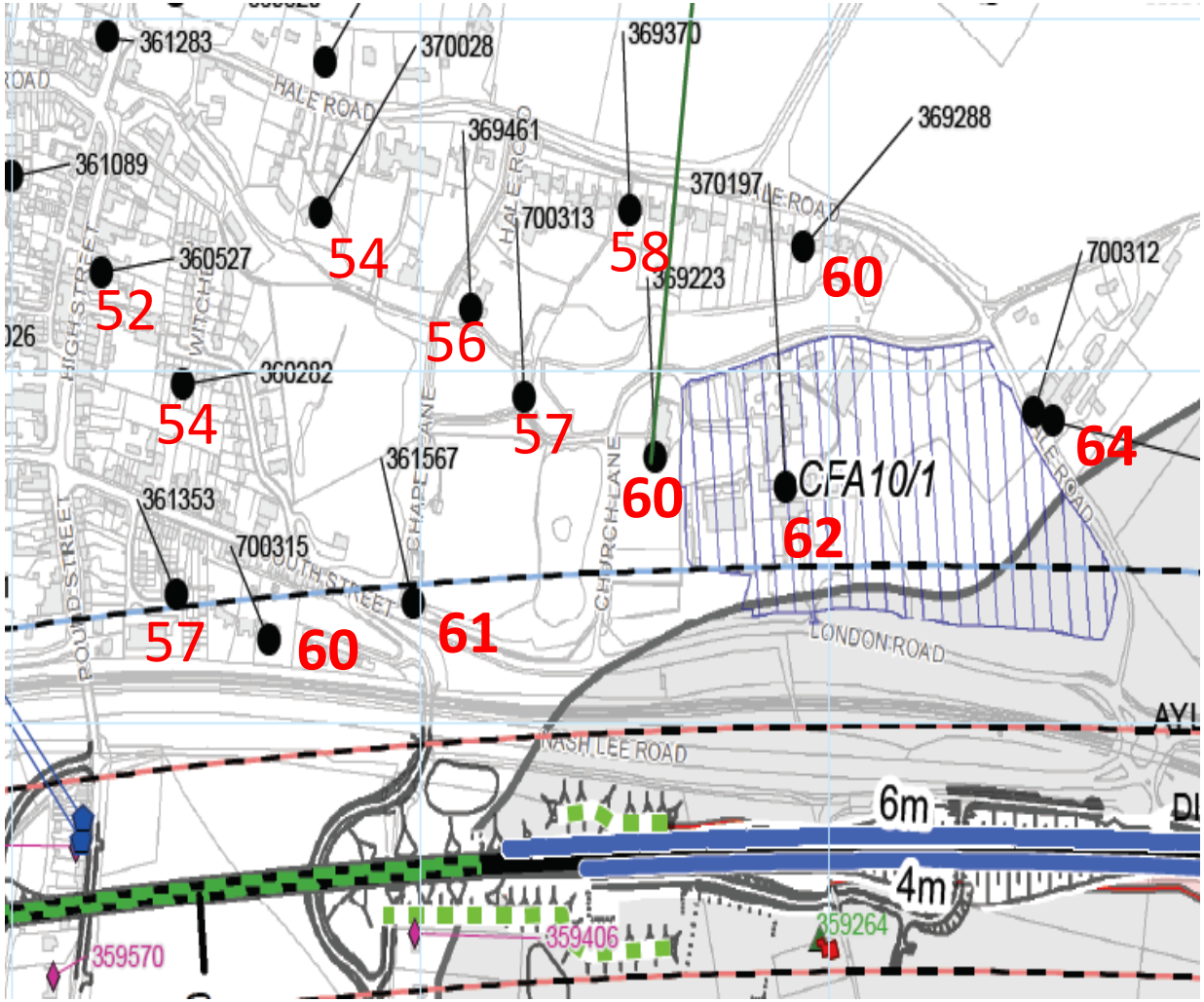
"For very high speed rail, i.e. above 300km/h it is likely that CRN [UK rail noise model from mid 1990's] would need to be adapted to have sources at two or more heights above rail: for example rolling noise and the second for aerodynamic noise. "

"However, the … basis for this .. calculation is not currently available."



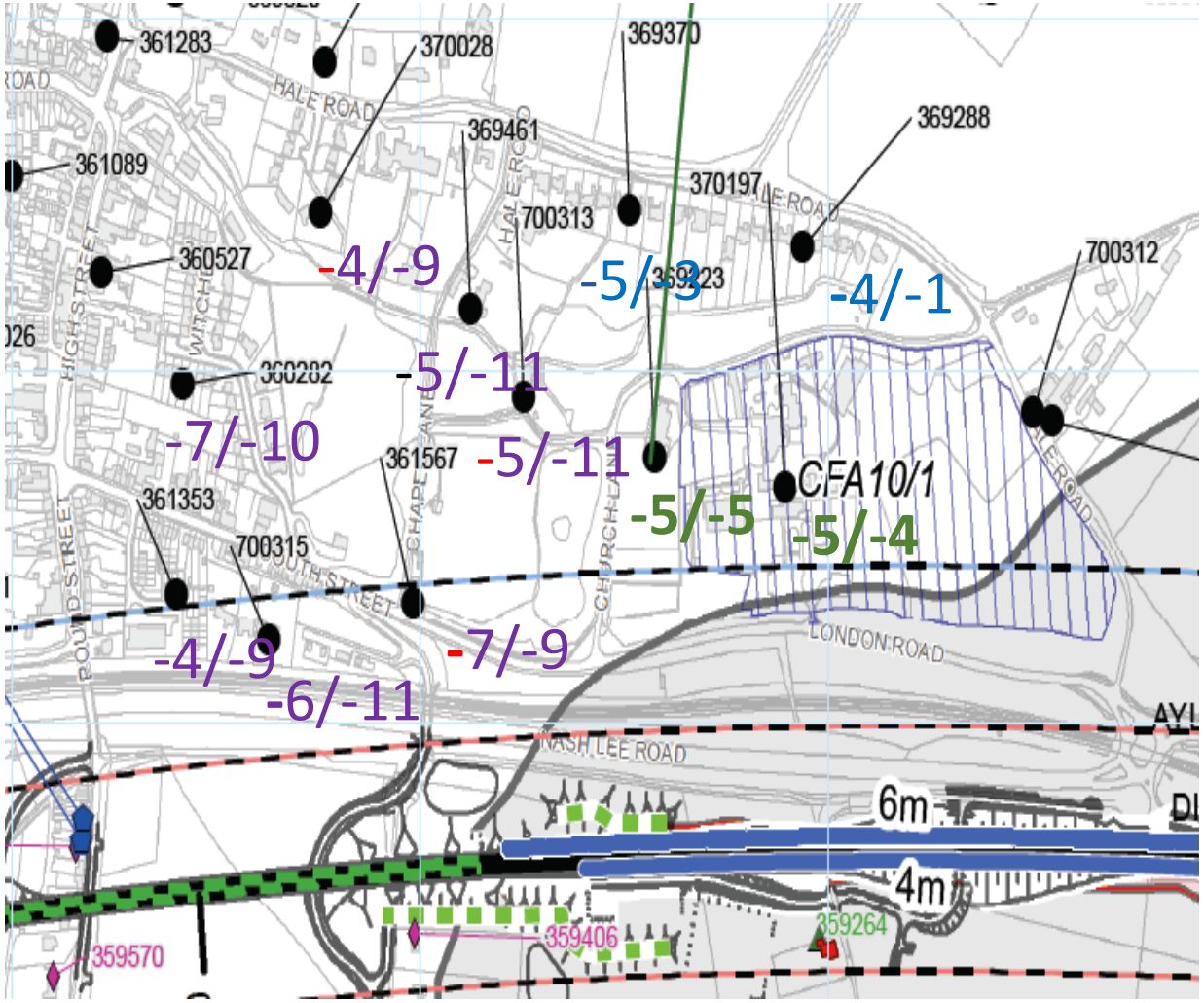
A2082 (8)

CFA10 AP5 Max train noise claims



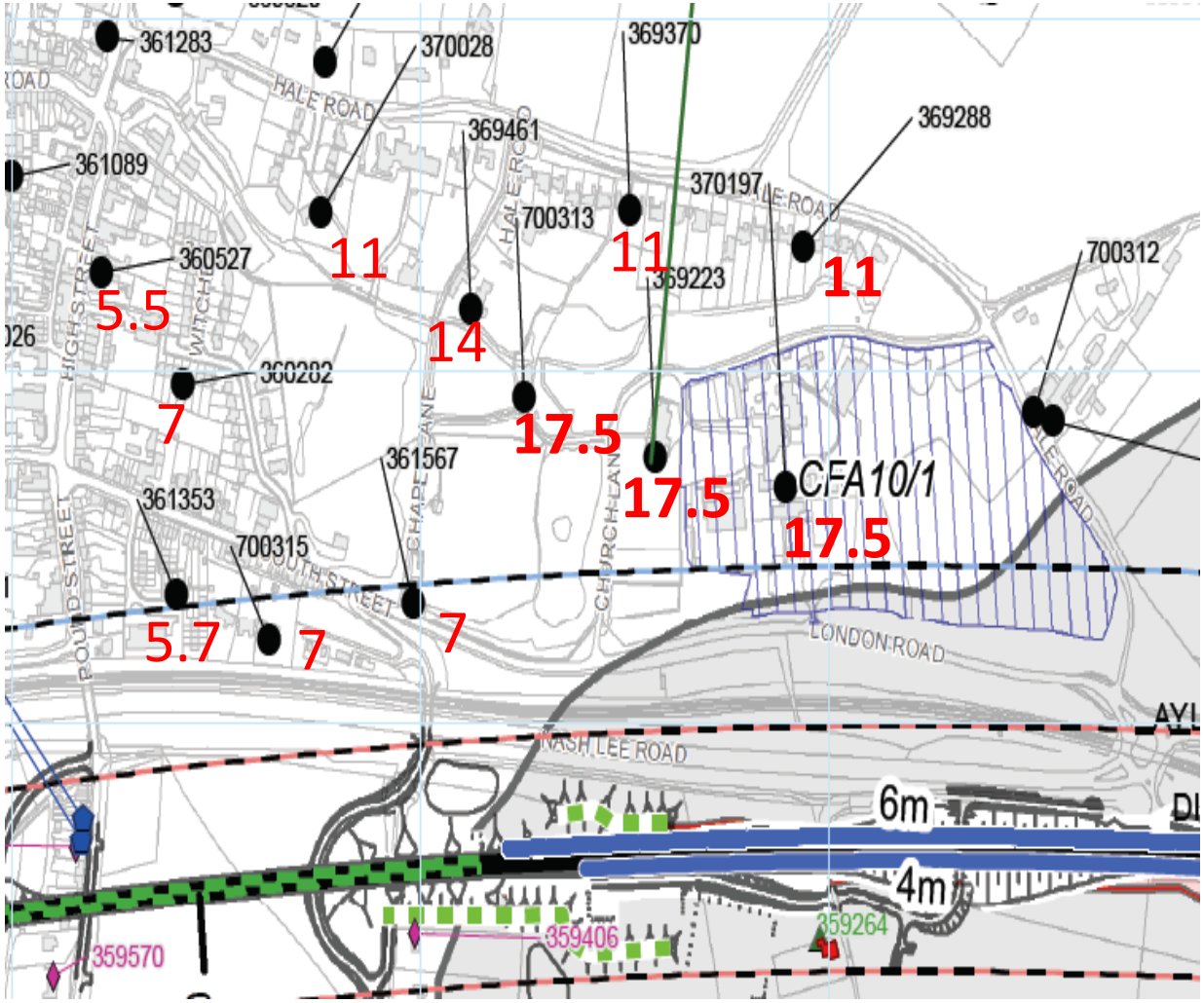
A2082 (9)

CFA10 AP5 Differences (average/ peak dB)



A2082 (10)

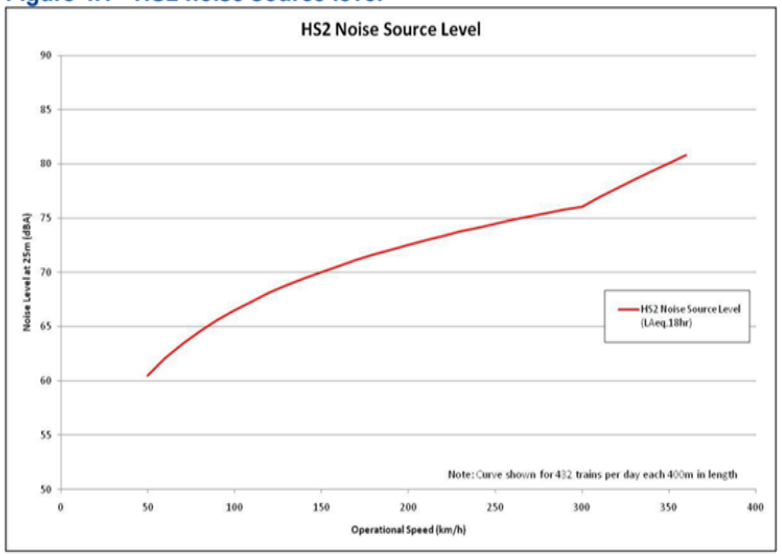
CFA10 AP5 indicative durations (sec/train)



A2082 (11)

What HS2 say (and do not say)

Figure 4.1 - HS2 noise source level



LpAeq 18 hr dB	80	84
Peak noise 25m dB	98	103
Source noise	126	131
Speed kph	350	400
Peak pass sec	2	1.75
Trains/ hr incidents	24	24

A2082 (12)

Church distance

- If peak noise at 25m is 98 dB at 350 kph, noise in free field at 275m is 77dB
- HS2 project a barrier and tunnel effect of 5dB
- Church will experience 72dB: LpAq 16 hr would be 58 dB not 46 dB
- At 400 kph, level will be 82 dB

A2082 (13)

St Mary's Church Petition

5. Taking point 3 and 4 together, HS2 predictions will prove to be low in practice and therefore a margin of 5dB should be added in the current predictions and feed into the design accordingly.

6. Even if HS2 achieve predicted results St Mary's church will need attenuation to enable it to continue to be used as a concert venue for the whole community. There is no alternative.

Conclusion

In the event that the Select Committee does not agree to a tunnel for Wendover, it is essential that St Mary's Wendover sound attenuation is improved to around 50dB by a programmed of works which, provided it is correctly designed will be approved by the relevant authorities as a result of initial discussions. See letter from Diocese of Oxford. Conclusion quoted

"On behalf of the diocese I wish to emphasise our support for the installation of appropriate sound attenuation measures at the church, under the approval of the relevant diocesan authorities. The diocese considers that only these measures can ensure that ambient noise is kept to levels which do not compromise the use of this important historic church."

Prefer to agree a scope and performance specification with HS2 that they will fund rather that agree an amount. In any event everything would be open book and the PCC is confident that with the support of the Diocese that it can manage to carry out the work.

St Mary's Church Petition

Steve Summers evidence

Petition no AP5 06

A2082 (15)

St Mary's Church
At the heart of the community

Wendover Choral Society

U3A
THE UNIVERSITY OF THE THIRD AGE

AP5/00006/0016

St Mary's Church, Wendover : Noise Mitigation Measures

Mitigation	Amount (£)
Secondary glazing	68,200
Double glazed fold-away screen between mezzanine and bell tower	25,000
Sound insulation to roofs (internal)	64,900
Secondary glazing to door lights	10,000
Toughened glass glazing to double doors (1 double door)	10,000
Repairs/overhaul of double door	10,000
Total	188,100

St Mary's Church – Sound Insulation

- Façade Sound Insulation Tests carried out on behalf of HS2
- Used loudspeaker positions close to building
- Results considered unrepresentative
- Baseline Sound Level Report – Evening measurements
- Inside to outside level difference 18-24 dB(A)
- Traffic noise main source, average difference 22 dB(A)
- Church roof is weak point acoustically
- Performance less against HS2 c. 20 dB(A) - elevated source & further away
- Mr Avery's recent measurements indicated sound insulation around 18 dB(A)

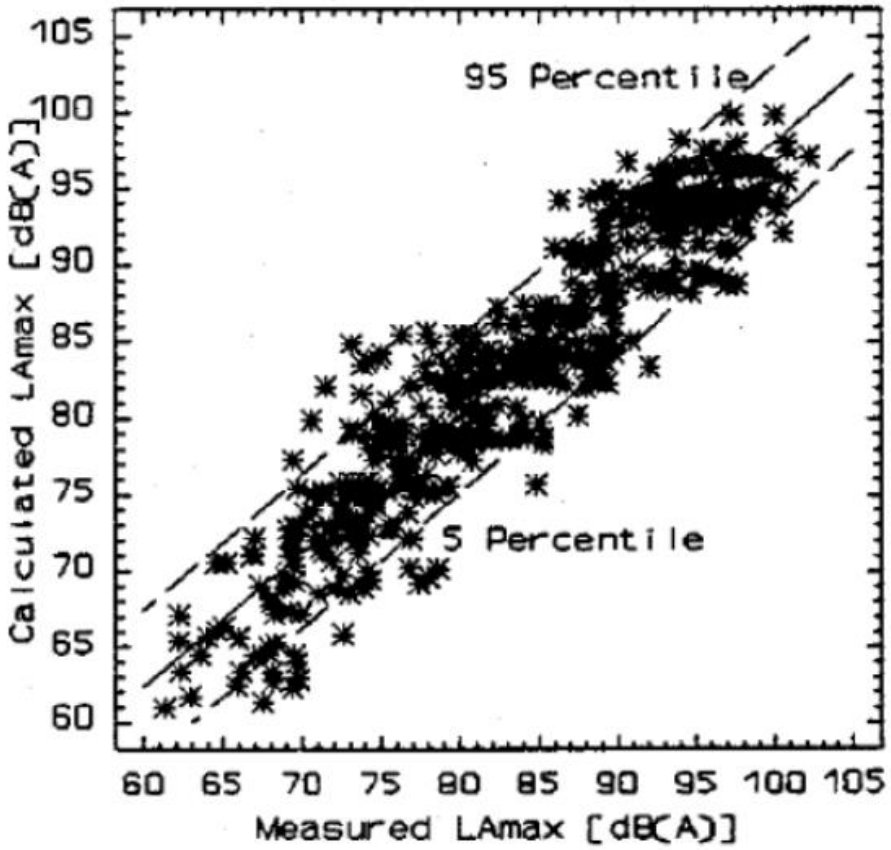
A2083 (2)

St Mary's Church – Noise Effects During Concerts

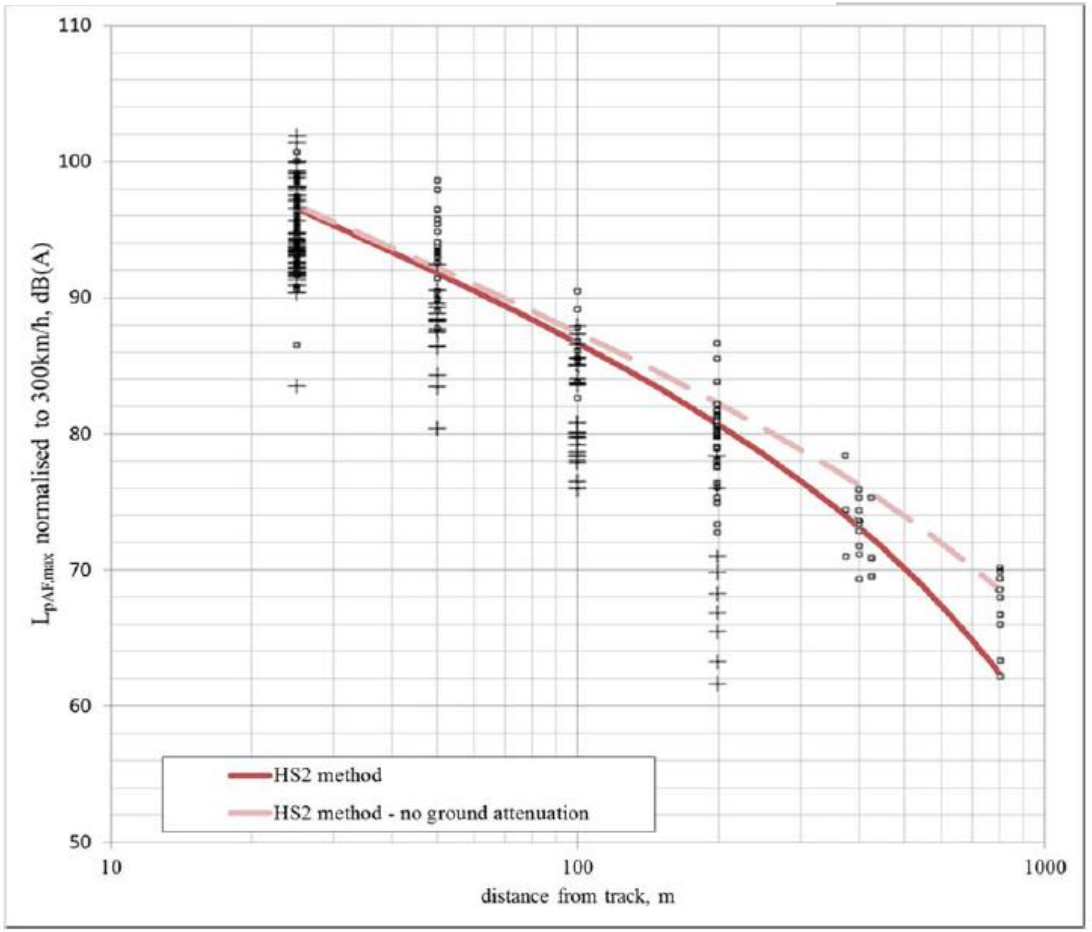
- Evening survey internal ambient LAeq 27-29 dB
- During committee demonstration LAeq low 30s dB
- Evening survey showed external LAmax 59 - 64 dB peaks from car pass-bys
- Mr Avery's recent measurements showed less frequent peak events
- Predicted external LAmax 63/60 dB with 6m barriers at the Church
- Estimated internal peaks LAmax 40-45 dB approx. every 2 mins
- Clearly audible during quiet periods of concerts with ambient c. 30 dB

St Mary's Church – Uncertainty of noise predictions

HS1 prediction method



HS2 prediction method



A2083 (4)

Summary of Noise Effects

Concerts

- Uncertainty of HS2 noise predictions is +/- 5 dB
- Highest potential internal peaks LAmax 45-50 dB
- Occurring approx. every 2 mins
- Train events very clearly audible during quiet periods of concerts
- Therefore sound insulation for Church necessary
- Proposed 6m noise barriers need to be sound absorbent

Outside the Church

- Disturbance to users of church yard
- LAmax 68-72 dB highest potential peaks
- Interference with quiet contemplation and burials

St Mary's Church Petition

Summary on noise

No further evidence required to prove that sound attenuation to church required.

Select Committed is asked, in the absence of a tunnel to instruct HS2 to unconditionally agree to fund sound attenuation to achieve attenuation 50dB

Petition no AP5 06

A2084 (1)

St Mary's Church
At the heart of the community

Wendover Choral Society

U3A
THE UNIVERSITY OF THE THIRD AGE

AP5/00006/0022

St Mary's Church Petition

Other issues

1. Noise barriers along A413 and London Road welcome. HS2 to ensure package agreed with BCC that will fund the construction and long term maintenance.
2. We are concerned by the visual impact of the extended tunnel and the 6m barriers and are not convinced by HS2's explanations. There are more sympathetic designs and methods of blending into the landscape and we ask that these be prepared so that the HS2 are committed accordingly. We do not accept that the level of detail of the design is adequate to ensure that HS2 are committed to deliver the best solution.
3. Our concern for crime is during construction in particular arising from the influx of itinerant workers. The church is kept open during every day of the year. A tunnel would remove the issue from Wendover and in particular the church. One way to allay our concerns would be for HS2 to fund the provision of enhanced security monitoring of the premises during construction.
4. The concerns regarding the local hydrology remain.
5. We disagree that there will no effect on the local economy both during construction and operation. Who is going to choose Wendover while it is a construction site and during operation when surrounded by the ruined ANOB?
6. With regard to the cultural and heritage effect it is not acceptable to rely on the obligations on the undertaker in discussions with he local authority, given that planning permission will have been granted. HS2's statements to this effect are hollow. More design in full consultation with Wendover needs to be done to establish the most aesthetically acceptable solution.
7. We simply do not believe HS2's assessment of the additional cost of AP5 and refer to our previous evidence given on 17th November and our follow up letter dated 19th November.

Petition no AP5 06

A2084 (2)

St Mary's Church
At the heart of the community

Wendover Choral Society

U3A
THE UNIVERSITY OF THE THIRD AGE

St Mary's Church Petition

Ask

1. In the interests of the greater good the "long tunnel" is our preferred option.

2. The next best solution is a 4km bored or mined tunnel ideally extended on the north side by 700m. This will completely solve the noise issues for the Church and School and the surrounding grounds, and has considerable benefits at both ends as it lowers the level of the track as well as removing most of the blight to the rest of Wendover. The construction impact will also be less, with less crime and much less impact on the local economy during construction and minimal during operation and it is not detrimental to Stoke Mandeville.

3. The next best solution would be to extend the green tunnel north and south sufficiently to protect the Church and School and the many homes to the north of the proposed green tunnel. While the construction impact will be more the long term benefits worth the discomfort.

4. Failing any of the above our "asks" are.

5. HS2's proposed package of enhanced mitigation wrapped up in the proposed AP5 will be totally inadequate with regard to the activities outside the Church and inside the church without sound attenuation of the church. Only 1-3 will solve the outside noise issues. Inside can be solved with sound attenuation and while HS2's offer dated 25th January 2016 is a welcome step towards this the level of contribution is totally inadequate. We ask that HS2 be instructed to fund a scope of work to achieve 50dB sound attenuation of the church.

6. Our construction ask is for a total ban on HS2 related HGV's and delivery vehicles and vans along London Road and Church Lane monitored by Number plate recognition CCTV and guaranteed maximum noise levels at the boundary of London Road monitored by fixed, permanently operating noise level meters with readings streaming online for ease of monitoring both backed up with enforceable penalties on the undertakers and a package of security enhancement to the church premises.

7. Finally we continue to ask the Select Committee's assistance to obtain cost transparency by instructing HS2 to commission an independent and open analysis of the comparative costs of the various options.

Petition no AP5 06

A2084 (3)

St Mary's Church
At the heart of the community

Wendover Choral Society

U3A
THE UNIVERSITY OF THE THIRD AGE