

10 November 2010

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Your ref: OBJ/14

Dear Mr Dancey

Proposed Chiltern Railways (Bicester to Oxford Improvements) TWA Order

You have objected to the application for the above Order and this letter is a further response to your concerns about the effect of noise and/or vibration of the proposed Scheme and its impact on your property.

In response to the concerns in your letter of objection a letter was sent dated 28 June 2010, which addressed the following points:

- Vibration – building damage
- Freight noise and vibration – axle weights
- Freight and passenger train speeds – speed limits
- Noise of trains
- Commitment to mitigation

Since the Environmental Statement (“ES”) was published and the letter of 28 June, further refined noise modelling and monitoring have been carried out.

Chiltern Railways is committed to using the Best Practicable Means to design the railway so as to avoid significant noise and vibration impacts. You have recently been sent the *Chiltern Railways (Bicester to Oxford Improvements) TWA Order Noise and Vibration Mitigation Policy (October 2010)*, (“the Noise and Vibration Mitigation Policy”), which sets out in practical detail Chiltern Railways’ commitment to control noise and vibration impacts.

The purpose of this letter is:

- to report the noise effects specifically at your property based on the refined noise modelling and monitoring carried out since the ES;
- to explain the noise mitigation that will be provided as a result of the Noise and Vibration Policy being implemented, noting that the final

form of mitigation will be determined during detailed design before the Scheme is operational; and

- to explain the residual effect of noise with this mitigation in place.

The effect of the noise from the trains on persons at a property in an area depends on the nature of the area being considered. In built up areas, where noise levels are already high, the effect of a new noise source tends to depend on the change from the existing ambient noise level. In more open areas, with very low ambient noise levels, the effects of a new noise source on people tends to depend on how loud the noise is in isolation. So, in such open areas, the noise from the trains is compared to an absolute threshold level, and the impact is assessed based on the amount by which the train noise is likely to exceed that level.

The effect of the predicted noise from trains on your property assessed below is based on your property being situated in a built up area.

Table 1 Predicted Noise Impacts of the Phase 2 Scheme (Based on the Refined Noise Modelling and Monitoring)

Location		Noise Impact over Period Shown (dB)	
OBJ14		Day	Night
1	Existing noise level ($L_{Aeq, Period}$)	52	46
2	Future noise impact without mitigation	8	13
3	Mitigation proposed	2m barrier	
4	Future noise impact with this mitigation	4	9
5	Change in noise impact as a result of mitigating the scheme (item 4 compared with 2).	4	4

The Noise and Vibration Mitigation Policy includes two tests, firstly a test of the effect of ambient noise changes/exceedances measured in L_{Aeq} parameter, and the second which relates to potential L_{Amax} (the “peak” level as trains pass).

Applying the first of the tests described above, an exceedence of 4 dB over the day-time noise threshold and an increase of 9 dB over current ambient night-time noise levels have been predicted outside your property after taking into account the provision of the proposed noise barriers. Since these impacts are not above 10 dB(A), further mitigation is not required under the Noise and Vibration Policy based on the change in (L_{Aeq}) noise level. Levels are also too low to trigger statutory noise insulation (where the trigger noise level is higher). These are not expected to be noticeably to those reported in the ES.

The second test is based on the L_{Amax} . Your property is very close to the track and we expect that, even with the noise barrier, the maximum noise level outside your property is likely to exceed 82 dB L_{Amax} for several events during the night when Phase 2 is implemented. This triggers the provision of

mitigation in the form of non-statutory noise insulation under the Noise and Vibration Mitigation Policy. Non-statutory noise insulation will, therefore, be offered to you subject to the predictions being confirmed during detailed design of Phase 2 and provided that that levels cannot be further reduced by other means to a level below 82 dB L_{Amax} .

To explain what the above noise levels mean, the smallest change in noise level that is noticeable under normal listening conditions (ie not in a laboratory) is 3 dB. Based on the first test above, the noise change at your property without further mitigation would be classed, using the classification methodology in the ES, as a "substantial" impact outside your property though not significant enough to trigger non-statutory noise insulation under the Noise and Vibration Mitigation Policy. However, subject to the confirmation of the above predictions, once detailed design of the Phase 2 Scheme has been completed and provided that noise levels cannot be reduced by other means, non-statutory glazing will be offered before Phase 2 is operational based on the second test. This will be effective at reducing internal noise levels. Ventilation will be provided which will enable windows to be kept closed. The additional sound reduction that the glazing will provide when closed will be about 15 dB compared to partially opened windows. This will offset the predicted noise increase inside your property.

In terms of vibration Page 6-42 of the ES highlighted that levels of ground vibration are not expected to exceed the stringent assessment criterion beyond approximately 10 m from the tracks. Your property is within 10 m from the track and a resilient track form will be used, if practicable, so that vibration from the new track at the nearest sensitive receptors will be no higher than the levels specified in BS 6472 for 'a low probability of adverse comment'. Measurements of existing vibration carried out since the ES was written have confirmed that no structural or cosmetic damage to property will occur as a result of train vibration whether within 10m of the line or further away.

We hope that this information answers your points of concern and that you will be able to remove your objection to the Scheme.

Yours sincerely,




Ian Gilder
Head of Planning
for and on behalf of the Chiltern Railway Company Ltd