



**IN ASSOCIATION WITH THE KENT & EAST SUSSEX RAILWAY
ROBERTSBRIDGE (RVR) JUNCTION STATION, STATION ROAD,
ROBERTSBRIDGE, EAST SUSSEX. TN32 5DG**

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**TRANSPORT AND WORKS ACT 1992
Transport and Works (Inquiries Procedure) Rules 2004**

**ROTHER VALLEY RAILWAY
BODIAM TO ROBERTSBRIDGE JUNCTION ORDER**

REBUTTAL OF PROOF OF EVIDENCE OF PHILIP CLARK OBJ/1002/PJC/1

by

DAVID KEAY

Introduction

1. My name is David Keay and I am a Director of the Rother Valley Railway.
2. I have read the Proof of Evidence of Mr Philip Clark of WSP, produced for the benefit of Mr & Mrs A Hoad of Parsonage Farm & the Executors and Trustees of the Noel de Quincy Estate and Mrs Emma Ainslie of Moat Farm.
3. This rebuttal addresses certain points where a response in writing may assist the inquiry. The fact that other points are not specifically responded to does not mean that they are agreed.

Summary of rebuttal

4. Mr Clark observes that there has been an evolution of the design of the proposed level crossings over a number of years. The designs are currently as described in my Proof of Evidence [RVR/W8/1]. The three highway level crossings are Automatic Full Barrier Crossings Locally Controlled with Obstacle Detection (AFBCL-OD) as agreed with the Office of Rail and Road (ORR) and the proposed bridleway crossing is expected to be in compliance with current ORR good practice and British Horse Society guidance.
5. I believe the function of the Transport & Works Act process is to establish the principle of crossing the highway on the level and the principle of providing User Worked Crossings where needed, and is not to prescribe a detailed design. Technology for level crossings is constantly developing and RVR is committed to installing the best possible solutions for both safety and reliability. The final design will be influenced by the technology available at the time of construction, as approved by the ORR in consultation with the relevant highway authority.
6. The applicant's evidence demonstrates that crossings on the level are physically achievable and that the risks of introducing new and re-instated crossings are within acceptable safety parameters. The evidence of Mr Clark gives insufficient weight to the fact that the ORR's expert panel has considered the information provided to it by the applicant, has no objection to the principle of level crossings along the route of the Missing Link and has concluded that the crossings can all be made tolerably safe. Nor does Mr Clark give due consideration to the fact that the ORR has an established process for prescribing detailed arrangements for level crossing apparatus once in-principle approval has been provided by the Secretary of State.
7. Mr Clark has commented on details of design that will only be finalised closer to construction. In particular the number and location of User Worked Crossings will be the subject of consultation with the landowners and the ORR. The draft Order [RVR/01] applies the provisions of section 68 of the Railway Clauses Consolidation Act 1845. These provisions anticipate that RVR must reach agreement with landowners to construct suitable and sufficient accommodation access in locations agreed by both parties based on need.

8. At certain points in his evidence (for example, paragraphs 4.1.10 and 5.1.5) Mr Clark has misinterpreted the design proposed and suggests inconsistency and compromised safety by selecting elements of former design proposals that are now superseded. For example, he refers at paragraph 4.1.10 to the role of a signaller to intervene in the crossing closure cycle if the crossing is obstructed. However, the design is for an Obstacle Detection crossing. This means that radar equipment will detect any obstruction and the closure cycle will not start. Likewise, the idea of railway staff going into the road to stop traffic is not correct given that manual operation of the wig-wag signals would achieve this (paragraph 5.1.5). I note that Mr Clark's experience relates solely to Network Rail. There is a fundamental difference between a heritage railway and the mainline railway. The mainline railway has precedence over the road and the heritage railway does not. When there is a failure on a mainline barriered crossing it is normal practice for the barriers to fall and close the road so that the railway is not disrupted. The RVR highway crossings will be designed such that the barriers remain up and the railway has to stop operating until the fault is cleared.
9. It is for the relevant highway authorities to consider the delay aspects of the level crossings. RVR has agreed with Highways England in particular that the barrier closure time should be taken as 72 seconds. The evidence to support this timing is also agreed and forms the basis of the submission to Highways England for a departure to the Design Manual for Roads and Bridges. Mr Clark assumes that trains will travel at 10mph until they reach the crossing exit treadle or track circuit but this is not necessarily the case. Once the locomotive is on the crossing and the train crew are agreed that it is safe, the train can be accelerated. The detailed position of crossing activation detectors, the appropriate approach speeds and crossing operation timings are matters to be settled at the detailed design stage. The figure of 72 seconds works as a reasonably conservative basis for the assessments requested by HE. If for example the ORR considers, in due course, that the activation point needs to move further from the crossing, then it will be. Likewise, if there is a user worked crossing in advance of the crossing exit detection that requires interlocked gates then they will be fitted.
10. Mr Clark discusses lighting and how it is needed for staff to monitor the crossing; again, if there is radar obstacle detection equipment, the existing highway lighting is sufficient. ORR's guidance is that crossings should be lit to the same standard as the adjacent roads (2.28 and 2.29 in the publication Level Crossings: A guide for managers, designers and operators).
11. The references to Network Rail standards and policies, for example in paragraph 4.6 of Mr Clark's evidence are not relevant since Network Rail have to allow for the worst case of any trains that travel on their network. A heritage railway, for example, does not have to move rolling stock with faulty brakes since amongst other things there are no capacity constraints.

12. Mr Clark raises a number of concerns about the profile of crossings. The ORR's guidance is clear that the design must ensure an appropriate profile across the track. Gates for user worked accommodation crossings do not need to be at the railway boundary, they can be set back an appropriate distance so that the vehicle drives into an area clear of the track, closes the gate behind them, crosses into another area clear of the track and then opens and closes the gate into the next field. RVR has a duty to provide suitable and safe accommodation access and agrees that we will work together with the landowners to provide crossings that are easy to use and control the risks to level as low as reasonably practicable. My understanding is that landowners are under a duty to mitigate their losses, and this may include making land available for any necessary space or ramps associated with an accommodation crossing if that is what is necessary. Ultimately, the overall compensation is provided for under the statutory compensation code, which I understand includes payments in respect of land lost to production if that occurred.
13. In section 7.2 Mr Clark comments on possible sub-standard visibility splays at user worked crossings. This, of course, will depend on where they are but if it transpires that the splays are in accordance with Heritage Railway Association guidance (see RVR/W8/2-5), then approach speeds will have to be limited and/or audible warnings considered as a supplement. There is no time pressure for a heritage railway and if it requires speeds at walking pace then such speed limits agreed with ORR will be applied. Removal of trees and hedgerows is not the solution for a heritage railway. At the A21, crossing visibility is not compromised since the signal cabin that had been requested previously by the Highways Agency is not required for the type of obstacle detection crossing now envisaged and is no longer a requirement.
14. I do not agree with Mr Clark's position in section 8.2 on quantitative risk assessments and the references and comparisons with the Network Rail assessment tool called ALCRM. It is not a risk assessment tool, but a risk ranking tool and is only part of the assessment process. ALCRM has a role to play for existing crossings but looking at ALCRM scores of similar sites is unlikely to provide much assistance in respect of a new crossing since it is scoring the actual physical environment. A crossing may present a poor score due to such issues as foliage, broken stiles, missing signage etc. The narrative assessments made were accepted as suitable and sufficient by the relevant industry regulator, ORR, and further assessments will be made at final design stage.
15. Mr Clark has consistently applied mainline railway principles throughout his proof of Evidence. His evidence does not stand up for a single track, one engine in steam, touristic heritage railway. Mainline principles and risks do not accord with a railway that operates at such very low speeds. Unlike the mainline railway, services will not be operated over crossings if there are faults. There are no railway capacity implications for the line and services can readily be

turned short if there are problems at the crossings.

16. Mr Clark refers in section 9 to ORR policy on level crossings. The ORR have now revised their policy and published new guidance, Principles for managing level crossing safety (**RVR/W8/5-1**). This new guidance removes the former ORR test of not authorising new level crossings unless there were exceptional circumstances and replaces it with a test of reasonable practicability.

Detailed comments on document OBJ/1002/PJC/1

17. **Para 4.1.9** The crossing type currently agreed with ORR for the three highway crossings is currently Automatic Full Barrier Crossing Locally Controlled with Obstacle Detection (AFBCL-OD). There will be no interaction between the train crew and highway traffic. The driver will only proceed across the crossing when the drivers white light is illuminated showing that the protective equipment has operated correctly and the barriers are closed.
18. **Para 4.1.10** The signaller will have no control over the crossing which is locally controlled by the driver of a train approaching the crossing. The signaller cannot operate the crossings but would be able to place the protecting signal in advance of the crossing to danger if he had observed an issue on CCTV that could affect the normal operation of a crossing, such as highway vehicles stuck on the crossing. There is no signal box at the A21. This was initially requested by the Highways Agency a number of years ago and is no longer required by Highways England. ORR were concerned about this former hybrid operation of the crossing but confirmed in their supplementary statement of case [REP/017-1] that they have removed their concerns set out in the original statement of case [REP/017-0].
19. **Para 4.1.11** Red light cameras will not be fitted. Again, this was a request from the Highways Agency that has since been discussed further. Evidential quality CCTV will be fitted at the highway crossings not only for the local signaller to observe but also to be able to send recordings to Sussex police for review if potential violations by highway users have been recorded.
20. **Para 4.3.6** Whilst maintenance trains and other movements have not been included the number of such movements in a year will be low and probably less than 10. Taking a holistic view, the figures used in the Environmental Statement are a good reference for level crossing closure
21. **Para 4.4.9** A figure of 72 seconds has been agreed with Highways England based upon calculations accepted by Highway England and used as the basis of a submission for a departure against the Design Manual for Roads and Bridges.

22. **Para 4.4.10** Once on the crossing and the train crew are agreed that it is safe, the train can be accelerated to line speed. The maximum line speed permissible on a heritage railway is 25mph.
23. **Para 4.4.14** Network Rail timings for the protective equipment are not applicable. RVR will not be installing Network Rail approved crossing equipment but high quality European equipment that has faster screw operated barriers and solid state controls such as the equipment installed on the Swanage Railway and the Dean Forest Railway. The wig wag timings will be identical to all other UK highway crossings. Manual Controlled Barrier (MCB) timings are set out in figure 11. The crossings are not MCB-OD but AFBCL-OD.
24. **Para 4.5.5** There will be Drivers White Lights at each side of the crossing.
25. **Paras 4.5.6-4.5.8** The focus on the detail position of crossing activation detectors vs approach speeds vs crossing operation timings is a matter to be settled at the detailed design stage. If for example the ORR consider that the activation point needs to move further from the crossing, then it will be.
26. **Paras 4.5.9 – 4.5.13** discuss lighting and how it is needed for staff to monitor the crossing; again, if there is functioning obstacle detection equipment, the existing highway lighting is sufficient. ORR's guidance is that crossings should be lit to the same standard as the adjacent roads (2.28 and 2.29 in the publication Level Crossings: A guide for managers, designers and operators). The existing lighting will be assessed at design stage, there may well be changes to lighting levels as conversion to LED lighting, for example, takes place.
27. **Para 4.5.14** Trains will be fitted with headlamps and approach the bridleway crossing at low speed being able to stop in advance of any obstruction. In addition, it is proposed to fit a train warning system at the crossing and any other measures required by ORR. The bridleway crossing will also be fully compliant with British Horse Society guidance.
28. **Para 4.5.15** The existing lighting at Northbridge Street and Junction Road will be retained as per ORR guidance.
29. **Paras 4.6.4 – 4.6.6** Network Rail Standards are not applicable to heritage railways since Network Rail have to allow the worst case of any trains that travel on their network. The protecting signal will be positioned in advance of the strike in point and the driver of the train will be driving on sight with a driver's white light giving the authority to cross the level crossing. If a driver was to pass the protecting signal at danger the crossing initiation is interlocked, and the closing sequence would be locked preventing closure of the barriers.
30. **Para 4.6.7** The crossing control equipment will contain Signal Passed At Danger mitigation for passing the Drivers White Light without authority triggering the red

Wig Wags but not lowering the barriers. There will always be two competent persons on the footplate of each train both observing signals and both able to apply an emergency brake application.

31. **Para 5.1.5** The description of degraded operation is historic and incorrect and Mr Clark has no reason to say that he is “deeply concerned” by the proposed operational procedure. The idea of railway staff going into the road to stop traffic is not correct given that manual operation of the wig-wag signals would achieve this. There is also a fundamental difference between a heritage railway and the mainline. The mainline railway has precedence over the road and the heritage railway does not. When there is a failure on a mainline barriered crossing it is normal practice for the barriers to fall and close the road so that the railway is not disrupted. The RVR highway crossings will be designed such that the barriers remain up and the railway has to stop operating until the fault is cleared.
32. **Paras 5.1.9 - 5.1.20** At this stage RVR does not know where accommodation crossings will be sited. All of the indicative designs may be subject to change and in particular the number and location of User Worked Crossings. The draft Order [RVR/01] applies the provisions of section 68 of the Railway Clauses Consolidation Act 1845. If the final design resulted in a user worked crossing in advance of the crossing exit detection that requires interlocked gates, then they will be fitted.
33. **Paras 5.2.1 – 5.2.6** The issue of delays to the highway network is a matter for the Highway Authorities but as stated above this is a heritage railway that does not have precedence over highway traffic. The barriers will not fall on an equipment fault and trains will not run until faults are corrected. The control equipment will be fitted with diagnostic fault reporting and fault messages will be sent to competent staff in real time.
34. **Paras 7.1.8 – 7.1.10** The guidance published by ORR (Level Crossings: A guide for managers, designers and operators) is clear that the design must ensure an appropriate profile across the track. Gates for user worked accommodation crossings do not need to be at the railway boundary, they can be set back an appropriate distance so that the vehicle drives into an area clear of the track, closes the gate behind them, crosses into another area clear of the track and then opens and closes the gate into the next field. RVR will provide suitable and safe accommodation access and expects to work together with the landowners once the Order is made to provide crossings that are easy to use and control the risks to level as low as reasonably practicable. Landowners are under a duty to mitigate their losses and, depending on what they need, this may include making land available. Ultimately, compensation is provided for under the statutory compensation code, which I understand includes payments in respect of land lost to production.
35. **Paras 7.2.3 -7.2.5** If there are possible sub-standard visibility splays at user worked crossings when the positions are agreed and the splays are not to Heritage Railway Association guidelines, then approach speeds will have to be

limited and/or audible warnings considered as a supplement. There is no time pressure for a heritage railway and if it requires speeds at walking pace then such speed limits agreed with ORR will be applied. Removal of trees and hedgerows is not the solution. In my professional opinion ORR's assessment is not flawed and they rightly accept that risk mitigation is by low train speed for a single line heritage railway.

36. **Para 7.2.10** There is no signal control building now proposed at the A21. This is no longer required by Highways England. I believe there is the required visibility to view both sides of the crossing from the re-instated railway embankment.
37. **Paras 7.4.3 – 7.4.4** The Bridleway will be for authorised users of the Bridleway. Farm vehicles will use adjacent accommodation crossings.
38. **Paras 7.5.7 – 7.5.10** Mr Clark is wrong in his assertion that there is little regard to design standards. The standard CD 143 he is quoting is for trunk roads and not for public footpaths. The clearances proposed of 2.1m high and a width of 1.5m are safe and reasonable for this footpath. Mr Clark raises the issue of flooding but fails to note that the footpath is in the flood plain for most of its length and it would not solely be this diverted section that would prevent passage in the event of flooding. In respect of a tunnel for the bridleway the headroom necessary for mounted riders is a minimum of 3.4m (British Horse Society Advice) and to provide the necessary support for the railway the base of the tunnel would need to be about 5m below ground level and below the level of the River Rother.
39. **Para 8.2** I do not agree on the need for quantitative risk assessments and the references and comparisons with the Network Rail assessment tool called ALCRM. It is not a risk assessment tool, but a risk ranking tool and is only part of the assessment process. ALCRM has a role to play for existing crossings, but looking at ALCRM scores of similar sites is unlikely to provide much assistance in respect of a new crossing since it is scoring the actual physical environment and a crossing may present a poor score due to such issues as foliage, broken stiles, missing signage etc. The narrative assessments made were accepted as suitable and sufficient by ORR and further assessments will be made at final design stage. I also do not agree with the suggestion that RVR should have benchmarked the crossings and again I have to state that there is no comparison to be made with Network Rail crossings as Mr Clark suggests. I am surprised to see Network Rail assessment data being presented by Mr Clark and none of the comparisons can be taken as equivalent to the crossing type and locations on the RVR.
40. **Para 8.5** Figure 44 is for Network Rail Manually Controlled Barrier crossings where the control of the crossing is from a signalling control centre many miles away from the crossing using CCTV for the signaller to observe when to initiate closure. Such comparison with the A21 is wrong likewise Mr Clark's example of a comparator site. The Cambrian Heritage Railway's Order was not a Works Order but a Transfer Order for an existing intact railway line. No demonstration

of risk and tolerability was provided and the ORR in line with their policy could not agree to re-activating the crossings without sufficient with a robust demonstration that the risks were tolerable.

41. **Para 8.8.1** The crossings have been assessed to the satisfaction of ORR who have conducted their own assessment to determine tolerability of risk. ALCRM cannot be used as a comparator as stated above and it not a quantitative assessment tool as suggested.
42. **Para 8.8.2** This is a touristic heritage railway and low speed operation is the mitigation for the safe introduction of new and re-instated crossings. ORR will not permit the railway over any crossing until it is satisfied that the risks are tolerable and controlled in perpetuity to a level as low as reasonably practicable.
43. **Para 8.8.3** The incidence of collisions on heritage railways is very low and the examples cited for the highway crossing do not have any similarity with the proposed RVR crossings none of them are automatic barrier crossings with obstacle detection.
44. **Para 8.8.4** All footplate crew are subject to a competence management system that is from time to time reviewed by ORR. There will always be two competent members of crew on the footplate. The chance of both making errors on the approach to a crossing is remote.
45. **Para 8.8.5** Mr Clark states that 'the local monitoring by the train crew increases the risk of interaction between the train crew and road traffic'. However, there is no interaction between the train crew and the road traffic, they are observing signals that will give a proceed aspect only when the crossings are proven clear and closed to highway traffic by lowered barriers. Furthermore, ORR is content with the application of an AFBCL-OD.