



NRE-REB -03

Rebuttal Evidence to OBJ-09 (Medical Research Council)

**The Transport and Works (Inquiries Procedure)
Rules 2004**

January 2022

[This page is left intentionally blank]

Contents

1	INTRODUCTION	4
2	OBJ-09-W1-1 – Proof of Richard Muir (Noise and Vibration)	5
3	OBJ-09-W2-1– Proof of David Purcell (Construction and Drainage)	16
4	OBJ-09-W3-1 – Proof of Dr Jan Löwe (Vibration, Noise and Drainage)	21

1 INTRODUCTION

- 1.1 This rebuttal evidence has been prepared on behalf of Network Rail (“**NR**”) to the Proofs of Evidence prepared on behalf of OBJ-09 – Medical Research Council, which concern:
 - 1.1.1 OBJ-09-W1-1 evidence of Richard Muir – Noise and Vibration;
 - 1.1.2 OBJ-09-W2-1 evidence of David Purcell – Construction and Drainage; and
 - 1.1.3 OBJ-09-W3-1 evidence of Dr Jan Löwe – Vibration, Noise and Drainage.
- 1.2 It is not intended that this rebuttal proof should address further points that witnesses for NR have previously covered in their evidence; however, cross-references to relevant paragraphs of those witnesses’ proofs of evidence are made where appropriate.
- 1.3 It is intended that this rebuttal proof should be a composite response to those issues raised by OBJ-09. In this respect, for cross-examination purposes the name of the NR witness who is responsible for each aspect of this rebuttal proof will be given at the beginning of each section below.
- 1.4 This rebuttal proof sets out the points raised by OBJ-09 under the topics identified above. For each of these sections, the point is summarised in plain font, with any quotations shown in italics. This is followed by NR’s response, preceded by the name of the witness making responsible for that part of the rebuttal. Within each sub-theme, there may be several points, each of which is dealt with separately in turn, and with the witness identified as described.

2 OBJ-09-W1-1 – Proof of Richard Muir (Noise and Vibration)

2.1 Issue – Adequacy of the ES

Response by Lynden Spencer Allen

2.1.1 Paragraph 5.14 states that *“The assessment of Shepreth Junction does not provide any detail of the speed and length of the trains recorded, nor whether this assessment included the effect of freight trains.”* The ES Appendix 6.1 sets out that 4, 8 and 12 car trains were measured as part of the 31 train pass-bys. The speeds measured encompassed the expected range of running speeds and the speeds were not reported in the ES. This level of detail was not considered critical as a statistical approach was used to determine the amplification factor. No freight trains passed during the survey period and this was not problematic since freight trains had been scoped out of the assessment for MRC LMB as agreed with MRC when the interim results were presented to them on 23rd March 2021.

2.1.2 Paragraph 5.17 states *“...a residual impact is predicted requiring further mitigation. This understates the predicted impact.”* A significant adverse impact requiring mitigation is set out in the ES (Section 6.5.9) which is considered appropriate.

2.1.3 Paragraph 5.20 states *“while a significant adverse impact is predicted, and mitigation is being explored, this is unclear and unspecified. The ES concludes that the residual effect is no longer significant.”* In the ES it is set out that mitigation is required for the MRC LMB but that the solution to this had not been agreed and that a number of options were being considered. At the early stage of design at which the ES was being carried out it was not possible to finalise the most appropriate mitigation and a commitment to securing mitigation through a legal agreement with MRC was set out in the ES. It was on the basis of appropriate mitigation being

carried out that the residual impact would not be significant. The mitigation to reduce the significant effects has been developed since the TWA0 submission and the details of this are set out in my proof of evidence section 6.4.3.

2.1.4 Paragraph 5.21 states *“In conclusion, the assessment method of operational vibration and baseline measurements are reasonable although I consider that the ES does not adequately address the predicted adverse vibration impact and is inconclusive over the effectiveness of any mitigation measures.”* As set out above a significant adverse impact is identified, and appropriate mitigation would be agreed with MRC LMB and secured through a legal agreement. This approach was presented and explained to MRC in advance of the TWA0 submission being made (presentation on 23/3/21 as recorded in the ES Consultation section summarised in Table 6-1 of the ES chapter) and agreed as an appropriate approach given the early stage of design. A legal agreement between Network Rail and MRC is currently being finalised which will secure the mitigation approach that has now been agreed through further engagement with MRC.

2.2 Issue – Proposed amplification factor

Response by Lynden Spencer Allen

2.2.1 Richard Muir’s proof sets out comments on the revised approach set out for the amplification factor. Some specific points made are addressed below.

2.2.2 Paragraph 5.23 states *“The refinement of the amplification factor has reduced the amplification factor from 7 to about 2 which is a significant change.”* This statement does not reflect the approach set out which includes a revised amplification factor from RIVAS and the effect of changing from a line source propagation model to a point source. The

two of these combined result in a much reduced amplification factor at the location of the microscopes. I believe this factor accurately reflects the potential risks from vibration at that location.

2.2.3 Paragraph 5.24 addresses uncertainty presented in the RIVAS paper.

2.2.4 It is agreed that vibration predictions have uncertainty attached to them but the approach has been to use the best available published information (RIVAS 2013) and to use measured vibration data for vibration transfer from the existing railway line to the LMB building and from nearby switches and crossings. This process has therefore reduced the uncertainty associated with rolling stock using the lines, the site geology and building response to vibration and the impact of switches and crossings in those ground conditions.

2.2.5 In addition to this, the vibration levels reported in the technical note use a range of amplification factors from the levels measured at Shepreth Branch Junction (300m radius) to the values reported in the RIVAS paper. The predictions using all of this range are below VC-D. The large radius switch and crossings are expected to have amplification factors at the lower end of the range.

2.2.6 Paragraph 5.25 states *“This indicates vibration from freight trains will be within VC-C in the Cryo EM laboratory which is still above the required criterion of VC-D.”* It was agreed with MRC LMB during the production of the ES that occasional exceedances of VC-D due to freight trains (as currently occurs as shown in the baseline data) is acceptable. This was agreed as part of a presentation of the interim results to MRC on 23/3/21 where the issue of freight train exceedances was specifically proposed to be out of scope and this was agreed with the MRC. Based on this the assessment has been based on passenger trains which are all shown to be below VC-D.

2.2.7 Paragraph 5.26 sets out a residual *“high degree of uncertainty”*. The data presented in the RIVAS paper does show variability in the amplification factors for each site. However, Richard Muir’s proof states in 5.26 that *“some measurements of 1,600m radius turnout resulted in an amplification factor of 5 whereas here the amplification factor used by Network Rail is 2 based on a shorter radius”*. This again does not reflect the approach used as the factor of 2 is the amplification factor applied at the offset of the microscope labs (allowing for point source attenuation over 206m) whereas the factor of 5 is at source for RIVAS. The appropriate comparison of this uncertainty is that one of the assessed amplification factors is the Shepreth Branch Junction results which had a maximum amplification factor of 7 which is higher than 5 and therefore captures the uncertainty which has anyway been reduced by site specific measurement data.

2.2.8 I therefore consider that the uncertainty has been appropriately assessed and the risk of residual exceedance is low.

2.2.9 Paragraph 5.27 sets out that a residual exceedance of the VC-D criterion is expected. This is not the conclusion of the analysis for passenger trains and, as set out above, it was agreed that exceedances due to freight trains need not be considered due to the small number of events and the fact that that they currently exceed the VC-D level.

2.2.10 Paragraph 5.33 presents a number of points in relation to the updated assessment presented to MRC. Taking each point in turn:

“The measurements were taken west of the points which were located on the opposite side of the track to the measurement position. The new points are to be located on the southbound track closest to the LMB. Measurements taken at an equivalent distance directly adjacent to the track on the opposite side may yield higher results;”

2.2.11 The measurements were taken to the east of the points and whilst these were on the opposite side of the track to the points, the distance offset in comparison to the overall distance to the sensitive receiver is negligible. There is a reasonable margin between the predicted vibration levels and the required criteria meaning that any slight effects would not change the conclusions of the analysis.

“The amplification factor is not based on freight train events;”

2.2.12 As set out in this proof rebuttal freight trains were excluded from the assessment as agreed with MRC.

“The condition of the points and similarity of design of those measured to those proposed is not known;”

2.2.13 The information provided to MRC sets out that the points measured are of 600m radius which can be compared to the 300m measured at Shepreth Branch Junction and the 1200m radius proposed for the points near to the LMB. The points measured are on an old section of track and are heavily used. I therefore consider the results from this to be suitable to inform the assessment.

“It is possible that vibration may propagate more easily within the building structure than within the ground. Therefore, vibration entering the building at the closest point may not attenuate at the same rate as vibration in the ground. In other words, the attenuation with distance may be lower than assumed.”

2.2.14 The LMB building is very long and is divided into wings. This means that I consider there to be a very low risk of vibration transfer through the ground floor slab from near the railway line to the position of the microscopes. This effect is not considered likely to change the results of the analysis. This is on the basis that I understand there to be movement joints in the ground floor slab which would prevent vibration propagating through the building to any significant distance. In addition,

the piled foundations will couple the slab to the ground and result in any vibration in the slab being damped rather than propagating preferentially to the ground.

2.2.15 Paragraph 5.34 comments on the additional analysis of the baseline survey data presented to MRC and states *“The vibration events due to trains in the time history suggest only 6 vibration events between 11:30 and 13:30 whereas the timetable in Appendix 5.3 suggests there would be 42 trains events in both directions.”* This comment appears to relate to six events being highlighted in the document for which the intention was not to show every train event but to highlight the data presented on the slides that followed within the document. In fact, the data presented shows that the non-train events are as significant in the microscopy area as most trains which is why train events do not immediately stand out from the background levels due to other sources. This should also be viewed in the context that the non-train sources will have been artificially low since the baseline surveys were carried out during a COVID-19 lockdown significantly reducing the amount of traffic on the roads.

2.2.16 Paragraph 5.35 states *“This would indicate that the time history has not identified all of the train events.”* This statement is not correct as the time history has accurately recorded train events but that they are not clearly discernible from the background levels and the markups were not intended to show every train event.

2.2.17 Paragraph 5.36 provides an additional summary highlighting the perceived uncertainty. As set out in this rebuttal it is considered that the uncertainty has been addressed and shown to still be within the VC-D criterion required. In addition, this commitment will be secured through a legal agreement between Network Rail and MRC.

2.3 Issue – Construction vibration

Response by Lynden Spencer Allen

2.3.1 The required mitigation for vibration during construction has been set out in my Proof of Evidence, and I do not repeat it here.

2.4 ES operational noise assessment

Response by Simon Taylor

2.4.1 Paragraph 7.6 states *“The assessment seems reasonable and there is no significant impact on the LMB building”* This is agreed and noted.

2.5 Noise on external terraces

Response by Simon Taylor

2.5.1 Paragraph 8.3 states *“I noted that the ES and subsequent assessments have not considered the external terraces used for rest and relaxation by the staff in the assessment”*. It is my opinion that these are the areas of the MRC that are likely to have significant adverse effects as reported in the ES, see paragraphs 10.2.43 to 10.2.47 of my proof, rather than research areas inside of the building.

2.6 Simplistic noise calculations, mitigation generalised and should be scrutinised

Response by Simon Taylor

2.6.1 Paragraph 8.8 states that *“construction noise calculations appear to be simplistic; mitigation generalised and should be scrutinised.”* It is my opinion that the construction noise calculations in the ES are to a level of detail typical of calculations that are produced at the very early stage of a project, before construction methodologies are agreed. More complex calculations can always be undertaken, but with generic information precision is limited. To mitigate against the risk of using limited data, worst case assumptions were made within the ES for plant

noise source levels, the amount of time that plant will operate each day (% on-times) and locations of plant in relation to the receptors.

2.6.2 The ES states that mitigation will be employed in the form of Best Practicable Means (BPM). Further detail is provided in paragraphs 5.44 to 5.46 and 5.51 of the ES Chapter 5, the CoCP A, and paragraphs 10.3.1 to 10.3.3 my proof. Construction noise limits are being proposed and shall form part of a legal agreement between the MRC and NR. Full details for mitigation to meet required noise limits shall be determined by the contractor and these shall form part of the CoCP B.

2.7 **Section 8.9 of Mr Muir's Proof of Evidence (W1-1), states that information on proposed construction works at the station is not provided. Mr Muir acknowledges that information from activities associated with track works has been provided**

Response by Andy Barns

2.7.1 In Section 6 of my Proof of Evidence (NRE1.2) I have given details regarding the nature of the works in the proximity of MRC's facility. There is some overlap between station works and track works and in no particular order, they include:

- Drainage works for track, platforms and canopies, station building and external works, including sub surface attenuation storage
- Construction of new platforms and canopies
- Construction of an embedded retaining wall alongside the Guided Busway
- Culverting of north ditch and remodelling of Tebbits culvert
- Construction of new track formation for additional running lines
- Construction of overhead line electrification structures

- Laying new track
- Construction of signalling structures
- Construction of two-story station buildings
- Construction of a covered footbridge between station buildings with lift shaft and stairs onto the platforms
- Construction of cycle storage
- Construction of a covered emergency evacuation footbridge at the south of the station with stairs onto the platforms (250m from station buildings)
- External works and landscaping
- Junction access works

2.7.2 Figure 52 identifies some indicative plant that would likely operate from the construction compounds. This does not include piling plant which typically would be mobilised and demobilised quickly and would not warrant accommodation on site.

2.7.3 It is likely that most structural elements will be supported on piled foundations and it was recognised by the project that driven piling would result in significant impact and so this has not been identified within designs in the vicinity of the campus or assessed. All piling is assumed to be rotary bored or CFA piles and the Environmental Statement has taken the preparation of pile heads as a critical activity in respect of noise.

2.7.4 Groundworks will be carried out using smaller lower capacity excavators, all terrain dumpers, scraper/dozers and rollers to reflect the confined characteristic of the site alongside the operational railway and guided busway.

2.7.5 Most railway construction makes extensive use of off site manufacturing with modular construction for structural elements. This applies to

platform construction, canopies and the station buildings and there will be a relatively large use of small craneage and telehandlers with occasional bigger contract lifts for large items including the bridge works.

2.7.6 With the exception of tamping works, track construction could not be viewed as a noisy activity and track maintenance and renewals will be a familiar activity for railway neighbours. Again, tamping is not a critical activity in respect of noise and is addressed separately in respect of impact from vibration in the Proof of Evidence of Mr Lynden Spencer Allen (NRE3.2).

2.7.7 It is correct that noise assessments within the Environmental Statement has identified activities associated with piling as being critical. This is very conservative and there are less intrusive albeit more expensive, less efficient solutions to limit noise during this activity which were not assessed in the Environmental Statement.

2.7.8 My conclusion is that the Environmental Statement is based on construction parameters that support a very conservative assessment of construction noise.

2.8 $L_{Afm\max}$ assessment ‘not accurate’. “*my measurements show the $L_{Afm\max}$ levels(sic) is generally less than 85 dB*”

Response by Simon Taylor

2.8.1 Paragraph 8.12 states “*The comparison with the worst case baseline $L_{Afm\max}$ is also not accurate because this is the maximum level over a 10-hour period and therefore it does not occur regularly. My noise measurements show the $L_{Afm\max,15min}$ levels is generally less than 85 dB. Therefore, the assessment is not robust*”.

2.8.2 I accept that pre-existing measured noise levels are generally below $85dBL_{Afm\max}$ and use this as a reference level for my comparison of

predicted construction noise levels against the pre-existing measured noise levels. See paragraphs 10.2.10 and 10.2.38 of my proof (NRE 4.2). Therefore I do not accept this criticism.

2.8.3 Para 8.13 *“The Housing of Care of Animals used in Scientific Procedures under section 2.6 refers to a general background sound level of below 50 dB(A) as being a level where it is unlikely there will be damage to animals or personnel. This is assumed to be an LAeq level and would be achieved if external noise levels are within LAeq 75 dB.”*

2.8.4 Based upon a 50dBA internal noise level and a sound insulation performance of R_{w_CTr} 35, an external level of 85dBL_{Aeq} would in my view be acceptable to protect these areas. I would therefore suggest that 75 dBL_{Aeq,1hour} is set as an amber alert trigger level, where the team is alerted to consider ways to reduce noise, with an 80dBL_{Aeq,15mins} red trigger level which means stop the noisiest activity immediately.

2.9 Para 8.14 - not clear how haul roads have been assessed.

Response by Simon Taylor

2.9.1 It has been confirmed by the team who prepared the ES noise chapter that haul roads were modelled within the CadnaA construction noise model using the BS5288 haul road method with a frequency of at least 50 vehicles a day. I have done my own calculation using the BS5288 haul road method and this results in a noise level of 54 dBL_{Aeq}, 30mins at 20m. This is significantly below the existing ambient noise level and is therefore considered negligible. It should be noted that it is currently not intended to use the proposed haul road to the south of the MRC.

2.10 Para 8.15 - it is anticipated that construction impacts from station works will be reduced to acceptable limits.

Response by Simon Taylor

2.10.1 This is noted and agreed.

- 2.11 Para 8.15 *"The duration of the track works has been advised to be in the region of 7 weeks and so will be of relatively short duration. External noise monitoring is recommended during the track works with short term limits of $L_{Aeq15min}$ 75 dB as well as daily limits of $L_{Aeq10hr}$ 70 dB."***

Response by Simon Taylor

2.11.1 This considered acceptable to NR, please refer to my response to paragraph 2.8 above.

3 OBJ-09-W2-1– Proof of David Purcell (Construction and Drainage)

- 3.1 Section 6.3 *"The Network Rail red line boundary encroaches onto the LMB Laboratory research centre land and the exact location of the land take required for construction access is yet to be agreed and this will impact on the extent of existing drainage that would require surveying and protection."***

Response by Sue Brocken

3.1.1 In response to the issue raised in section 6.3, the extent of the topographical survey to be undertaken prior to the next design stage and will include any areas which will require access and review of existing buried services to confirm depth of cover and facilitate any structural review of assets.

3.1.2 NR has also offered a commitment to provide MRC with the final Development drainage design, drawings, calculation, and pre-commencement topographic and measured surveys, prior to submission to the local planning authority, and confirm that MRC will be in no worse

position in respect of drainage flows equating to 2 Litres, per second per hectare based on the original land holding area.

- 3.2 Section 6.11 *"The circulatory access road to the south of the LMB building in the affected area highlighted in Figure13 in Appendix A2 contains part of the main foul water outfall drainage from the LMB laboratory site and it is understood that this may be utilised as a construction access route. It is not clear what the proposals are for this route other than construction access and plant movement and Network Rail should confirm what type of construction vehicles will be required to access the circulatory road so that any impact on the buried foul water drainage can be assessed."***

Response by Sue Brocken

- 3.2.1 In response to the issue raised in section 6.11, as built information relating to the existing foul sewer is not available. As noted within the Proof of Mrs Sue Brocken Ref NRE5.2, detailed topographical surveys will be required on site to supplement currently available survey information and to confirm the existing arrangements.
- 3.2.2 On review of dwg C-001 Rev T2 contained within the Proof of David Purcell, ref OBJ-09/W2/1 Appendix A6, and the accompanying text, the invert level at outfall into the main sewer within Francis Crick Avenue is suggested to be 12.45m AOD. The proposed ground level within the MRC site, from Appendix A5, was 15.6m AOD. Ground level at the connection point is 16.0m AOD with an existing sewer invert level of 11.84m AOD e.g. below the invert level of the incoming sewer.
- 3.2.3 The foul sewer present on site is within verge at the head of the run which will not be within the land to be temporarily acquired during construction hence there will be no impact upon the existing foul drainage network in this location. The foul sewer within the access road prior to discharge into the main sewer in Francis Crick Avenue is at the

downstream end of the run and hence will be at its greatest depth. As noted above, invert level at the downstream connection is 12.45m AOD and ground level is 15.6m AOD. Pipe diameter is 225mm providing an approximate depth to cover of pipe of 2.9m.

- 3.2.4 Pipes within highways are designed to be installed at depths within carriageways deeper than 1.2m without the need for any additional protection measures. As noted above, initial assessments of the information provided within the Proof document of David Purcell suggests that the pipework within the access road is likely to be significantly deeper than 1.2m.
- 3.2.5 The proposed access for construction traffic and access for NR operational purposes through the MRC site will not exert any abnormal loading beyond that which would be expected during normal operation of the MRC site, for example, private cars, fire engines, light goods/delivery vehicles.
- 3.2.6 As such it is not envisaged that any additional protection measures will be necessary in relation to the existing foul sewer. The impact on the existing foul sewer network from the NR Scheme will be minor.
- 3.2.7 As would be normal good working practise prior to gaining entry to any site, a pre-commencement survey of the site, including any below ground assets, via CCTV, which may be impacted upon by the Scheme will be undertaken by the Contractor to the satisfaction of the Stakeholder. On completion, a corresponding close out survey will be undertaken to confirm the Scheme has not caused any detrimental impact upon the Stakeholders assets.
- 3.2.8 NR has offered a commitment to undertake these surveys to MRC and to provide MRC with details of any temporary accommodation works which are proposed under the Order which may impact the drainage

systems of the LMB. In addition NR has offered a commitment to make good any damage which is caused to the drainage network in carrying out the works.

3.3 Section 6.16 of Mr Purcell's Proof of Evidence (W2-1) assumes that all construction vehicle loading will be 'normal' i.e. suitable for public carriageways with no special licenses.

Response by Andy Barnes

3.3.1 Construction plant will be delivered via low loader to the agreed working areas and so would not traffic the circulatory access road directly. All delivery vehicles for plant will be Commercial and Use (road going) vehicles and therefore will not load the circulatory access road more than a normal HGV delivery vehicle. Whilst tracked plant is very good at distributing its self weight and would not overload the ground, it can mechanically damage metalled road pavements and so would be unloaded/reloaded and tracked to/from the work face on mats or trackway. Network Rail is able to offer a commitment that tracked plant will not travel any distance across the circulatory access road and will always work on mats. Network Rail's Main Works Contractor would complete before and after condition surveys of the circulatory access road. These would preferably be undertaken jointly with the site owner/operator and agreed. Network Rail is able to offer a commitment that any damage resulting from its works will be reinstated. This would extend to CCTV surveys of site drainage.

3.4 Section 7.7 "*Network Rail should carry out a pre-commencement CCTV (closed circuit televisual survey) of the foul and surface water drainage network where construction access is required and where construction vehicles will pass over the existing drainage network. This pre-commencement CCTV survey would identify and record any existing defects in the existing drainage*

system and this would protect Network Rail and the LMB in the event of future issues with the drainage system, locally."

Response by Sue Brocken

3.4.1 In response to Section 7.7 and as noted in the response to Section 6.11, as would be normal good working practise prior to gaining entry to any site, a pre-commencement survey of the site, including any below ground assets, via CCTV, which may be impacted upon by the Scheme will be undertaken by the Contractor. On completion, a corresponding close out survey will be undertaken to confirm the Scheme has not caused any detrimental impact upon the Stakeholders assets.

3.4.2 NR has offered a commitment to undertake these surveys to MRC together with a commitment to make good any damage which is caused to the drainage network in carrying out the works

3.5 Section 7.8 of Mr Purcell's Proof of Evidence (W2-1) raises a related point about the impact on foul site drainage.

Response by Andy Barnes

3.5.1 My previous assessment regarding the access by Commercial and Use Vehicles applies. Network Rail does not anticipate heavy use of this access in terms of numbers of road going vehicles including low loaders. In addition, Network Rail has studied information on site drainage from MRC and can be certain of the depth of site drainage in the area of the works. This detailed in the rebuttal evidence of Sue Brocken.

4 OBJ-09-W3-1 – Proof of Dr Jan Löwe (Vibration, Noise and Drainage)

4.1 Issue – Vibration (detailed method statement)

Response by Lynden Spencer Allen

4.1.1 Paragraphs 5.6.1-9 set out commitments that the MRC require from Network Rail to remove their objection and be satisfied with the vibration assessment. These points have been proposed in negotiations on the Heads of Terms for the legal agreement between the two parties.

4.1.2 The points requested at paragraphs 5.6.1 to 5.6.3 have been agreed in principle.

4.1.3 The principles of 5.6.4 have been agreed except that there is no baseline data in the LMB closest to the railway line to know that the current vibration level in the building achieves VC-B currently. The wording of this commitment is therefore being considered to address that uncertainty.

4.1.4 The principles of setting construction vibration limits have been agreed with the exact wording of the trigger levels currently being agreed.

4.2 Issue – Operational vibration post completion survey

Response by Lynden Spencer Allen

4.2.1 The points raised in paragraphs 5.6.7 to .9 are agreed in principle.

4.3 Section 5.13 *"The MRC require Network Rail to carry out a pre-commencement closed circuit televisual survey of the foul and surfaces water drainage network where construction access will pass over in the works phase to identify any defects prior to the works commencing and carry out a photographic record (condition survey) of the car park access road prior to commencement of the works."*

Response by Sue Brocken

4.3.1 I have already confirmed Network Rail's commitment to this in response to the evidence of Mr Purcell.

4.4 Section 5.14 "*Network Rail must agree to make good any damage to the drainage network that is caused by the carrying out of the works.*"

Response by Sue Brocken

4.4.1 In response to Section 5.13, the MRC site will be reinstated as necessary based upon the pre-commencement survey and NR has offered a commitment to make good any damage which is caused to the drainage network in carrying out the works.

Response by Bill Simms

4.4.2 Network Rail have proposed draft Heads of Terms for a legal agreement with MRC which commits Network Rail to mitigate the impact of the CSIE Project on its drainage network and to reinstate the swale. Furthermore, section 7 of my Proof of Evidence describes the provisions for landowners to claim should compensatable losses arise as a result of the CSIE Project.

4.5 Section 5.15 "*With respect to the Operational Phase of the new scheme, the MRC require Network Rail to provide the final CSIE scheme drainage design, drawings and calculations prior to submission to GCSP and confirm that MRC will be in no worse position in respect of drainage flows equating to 2 Litres, per second per hectare based on the original land holding area.*"

Response by Sue Brocken

4.5.1 In response to Section 5.15, and as noted within the Proof document of Mrs Sue Brocken Ref NRE5.2, surface water drainage of the proposed station building and accesses will remain separate to any track drainage networks and to any adjacent surface water assets belonging to various

stakeholders. Post completion, the MRC site will be reinstated with any modifications to the existing network, e.g. culverting short sections of the existing swale to obtain access to the proposed NR Authorised Access Point will be discussed with MRC during ongoing Stakeholder Workshops as necessary.