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The Cambourne to Cambridge Order

Cambridgeshire County Council

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Inquiry into:

THE CAMBOURNE TO CAMBRIDGE ORDER

**REBUTTAL IN RELATION TO PROOF OF EVIDENCE OF JONATHAN
BLACKLOCK**

of

Toby Lewis MSC, LLM, CEnvH, CSci, FloA, FCIEH, MIEEnvSci, MIAQM

of WSP

On behalf of Cambridgeshire County Council

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1. INTRODUCTION

- 1.1.1 This rebuttal has been prepared in response to the Proof of Evidence of Jonathan Blacklock **[CD26-08-W4-1]** in relation to the noise assessment carried out for the Cambourne to Cambridge Order.
- 1.1.2 My name is Toby Lewis. I am a Technical Director in the Acoustics Team at WSP. Details of my qualifications, professional career and key project experience are contained in my Proof of Evidence **[CD26-01-APP-W11-1]**.

2. SCOPE OF REBUTTAL

- 2.1.1 The scope of my rebuttal is specifically in response to matters raised in the Proof of Evidence of Jonathan Blacklock **[CD26-08-W4-1]** entitled Proposed Cambourne to Cambridge Busway – Bin Brook crossing and impact on Clare Hall, Acoustics Proof of Evidence. I have not rebutted each and every point with which I disagree. The fact that I do not respond to a particular point should not be taken as a concession in any respect. I have sought to focus my rebuttal evidence on the matters that I consider most likely to assist the Inspectors and Secretary of State by being addressed in writing.

3. REBUTTAL

3.1 Mitigation

- 3.1.1 Within the Proof of Evidence of Jonathan Blacklock **[CD26-08-W4-1, pdf page 29, paragraph 5.5]** it states:
- “5.5 The use of BPM is accepted to be a suitable method for reducing construction noise and vibration levels, however given the noise and vibration levels I predict will be more likely, especially at the closest receptors within Clare Hall, a specific construction noise and vibration assessment should be undertaken, prior to any decisions on the planning being made.”*
- 3.1.2 Assessments of construction noise and vibration impacts have been provided within the ES Technical Report 1 **[CD1-11.01, sections 5.1 and 5.2 respectively]** and they are appropriate and sufficient to underpin a planning decision. They recognize that significant noise effects are possible from the construction phase at receptors at Clare Hall. It is neither necessary nor practicable to undertake very detailed predictions at this stage, before the construction phasing and techniques have been finalized.
- 3.1.3 As I explain in my Proof of Evidence **[CD26-01-APP-W11-1, paragraph 4.3.45]** the approach adopted by WSP in the ES Technical Report 1 **[CD1-11.01]** is appropriate and adequate with subsequent detailed assessments and controls required via the draft CoCP **[CD1-26]** and the commitment to developing more detailed controls in the LEMP **[CD1-26, paragraph 1.2.4]**.
- 3.1.4 Within the Proof of Evidence of Jonathan Blacklock **[CD26-08-W4-1, pdf page 29, paragraph 5.8]** it states:
- “Alternative low noise and low vibration methods would need to be employed for the works along Rifle Range Road, along with extensive acoustic screening. Even with the acoustic screening being used, I predict that the noise levels will be Noticeable and Disruptive or Noticeable and Very Disruptive to the residents of Clare Hall and should be avoided or prevented from happening when considered against the Greater Cambridge Shared Planning SPD.”*
- 3.1.5 As stated in the ES Technical Report 1 **[CD1-11.01, paragraph 4.2.1]** localized acoustic screening may be employed around certain noisy plant or activities on a short-term basis and the need for this will be determined during the development of the

LEMP and its implementation once works have commenced. I'm doubtful that 'extensive' screening would be required or effective. Acoustic screening is most effective in proximity to source or receptor, which is the reason why localized sections tend to be employed in direct proximity to noise plant or activities, and then moved as necessary. Extensive screening would be very inefficient. The potential need for, and extent of, any screening should properly be determined at the appropriate time, when the appointed contractors have finalized operational plans/phasing and agreements have been reached with the LPA and/or neighboring land users.

3.2 Baseline Acoustic Environment

- 3.2.1 Within the Proof of Evidence of Jonathan Blacklock [CD26-08-W4-1, pdf page 34, paragraph 6.13] it states:

"The background sound level, typically determined by the 90th percentile was not reported. I feel that this is an important sound level to report as this assists when determining the overall acoustic climate and indeed context for the area. The background sound level is the underlying sound level that is present most of the time, excluding any intermittent sounds. This is important when assessing the impact of specific noise sources onto an environment, such as the CtoC guided busway onto the residential apartments and study areas at Clare Hall."

- 3.2.2 It was not necessary to report the $L_{A90,T}$ background sound level for assessments undertaken in proximity to Clare Hall as those assessments relied on the $L_{Aeq,T}$ metric. The ES Technical Report 1 did report the $L_{A90,T}$ where it was necessary to do so [CD1-11.01, paragraph 5.4.25] in conjunction with the assessment of noise from the travel hub, as the BS 4142¹ approach utilized there does rely on the $L_{A90,T}$ metric. The data presented in the Proof of Evidence of Jonathan Blacklock [CD26-08-W4-1, Appendix C] does include background sound level ($L_{A90,T}$) data measured by Create at Clare Hall in March 2025 so those data are available to Mr Blacklock, in any event.

- 3.2.3 Within the Proof of Evidence of Jonathan Blacklock [CD26-08-W4-1, pdf page 39, paragraph 6.36] it states:

"It is commonly accepted that at low speeds, electric buses will be far quieter than diesel Euro VI buses. It must be noted however that at speeds lower than 20 kph (approximately 12 mph) electric vehicles must be fitted¹⁹ with acoustic sound systems to improve safety and prevent them from being too quiet. Also, ISO 362-120 acknowledges that at speeds above 50 kph (approximately 30 mph) the tyre noise becomes the dominant noise source."

- 3.2.4 Mr Blacklock's point is irrelevant. Firstly, because the speed limit proposed on the busway in proximity to the critical receptors at Clare Hall is 20 mph (around 32 kph) so one would not expect any artificial sound to be generated by buses. Secondly, because the regulations clearly state (Regulation 2017/1576EU II.2) that:

"The AVAS shall be fitted with a switch which is easily accessible by the vehicle driver in order to allow engaging and disengaging"

And

"The AVAS sound level may be attenuated during periods of operation"

- 3.2.5 So even if it was found that lower vehicle speeds were necessary at times, the vehicle operator would have the option of deactivating or reduction the sound level of the AVAS system.

¹ BS 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound

3.3 Construction Noise

- 3.3.1 Within the Proof of Evidence of Jonathan Blacklock **[CD26-08-W4-1, pdf page 44, paragraph 7.18]** it states:

"It is my opinion that the construction processes and duration of works will be substantially different from those intended for the construction of the road, and therefore this is a significant omission.

- 3.3.2 I disagree as the processes and durations of the bridge construction have clearly not been omitted from the WSP assessment. The construction plant assumed in the WSP predictions are clearly set out **[CD1-11.01, Table1-D-1]** as is the acknowledgement that construction associated with Bin Brook Bridge will be protracted **[CD1-11.01, paragraph 5.1.10]**.

- 3.3.3 Within the Proof of Evidence of Jonathan Blacklock **[CD26-08-W4-1, pdf page 45, paragraph 7.20]** it states:

"As can be seen in Figure 4.6, the length of Rifle Range Road up to Bin Brook has a tarmac finish. This would need to be broken, or cut into smaller sections, then removed from site. This would involve additional plant which has not been accounted for in WSP's calculations. The proposed plans also show the only Accommodation Works for the whole construction site, being in front of the Brian Pippard building. It is likely that there would also be generators used for power, potentially operating continuously, especially if there is a security cabin located in the Accommodation Works. Based on my personal experience, I have assumed that the following plant could be required for these sections;"

- 3.3.4 This quote is followed by a table **[CD26-08-W4-1, pdf page 45, Table 7.2]** which presents ten plant types which Mr Blacklock assumes would be used for site clearance and seven which he assumes would be used for road/structure construction. These compare with a smaller number of plant items adopted by WSP **[CD1-11.01, Table1-D-1]** in its assessment.

- 3.3.5 The choices of plant items assumed by WSP in its noise predictions were informed by infrastructure construction experts within WSP and have been reviewed, again, in the light of Mr Blacklock's evidence. I consider them to be robust. Furthermore, the noise prediction methodology adopted by both WSP and Create assumes that the plant are operating simultaneously within a relatively small, discrete area of the site (at the closest possible point to each assessed receptor). For that reason, it is simply not realistic to base predictions on large numbers of plant as Mr Blacklock has. Assuming such large numbers of plant are all, simultaneously, operating in immediate proximity to noise sensitive receptors is bound to result in over predictions of construction noise levels.

- 3.3.6 Mr Blacklock makes similar claims with respect to bridge construction **[CD26-08-W4-1, pdf pages 47 and 48, paragraph 7.33 and Table 7.35]**, presenting a list of nine plant items which he has assumed would be operational in the same assessment period in his noise predictions. For the reasons I have set out in the paragraph above, that is just not realistic.

- 3.3.7 In general terms Mr Blacklock and I agree that the construction of the bridge at Bin Brook could result in significant adverse noise impacts at noise sensitive receptors within the Clare Hall site. We both acknowledge that mitigation, comprising the Best Practicable Means (BPM) will be necessary to minimise those noise impacts. For that reason, in my opinion, any differences in the details of our respective assessment assumptions and predictions should have no material bearing on the determination of the application, as our conclusions are the same.

3.4 Construction Vibration

3.4.1 Section 8 of the Proof of Evidence of Jonathan Blacklock [CD26-08-W4-1, pdf page 51-53] considers construction vibration.

3.4.2 With reference to the ES Technical Note 1 [CD1-11.01, Table TR1-3-2] Mr Blacklock says [CD26-08-W4-1, pdf page 51, paragraph 8.3]:

“...the report states that all buildings within a 15m radius of the proposed construction works would encounter a Significant Effect.”

3.4.3 That is not correct. In-fact the ES Technical Note 1 [CD1-11.01, paragraph 3.2.7] advises that construction vibration may only be considered a significant effect where a moderate or major impact occurs for a significant period of time. This is important, as the use of vibratory rollers is transient.

3.4.4 Vibratory rollers create the highest level of vibration as they start up or shut down (as the increasing or decreasing operational frequency passes through the reverberant frequency for the plant itself). This is very short lived (seconds only) and does not typically occur in proximity to receptors. For that reason, Mr Blacklocks' references to start-up conditions [CD26-08-W4-1, pdf pages 51 and 52, paragraphs 8.8, 8.10, 8.11, 8.12] are immaterial to any properly conducted predictions or assessment. It is simply not realistic that start-up or shut-down operations could correspond with any significant adverse effect.

3.4.5 Steady operations, when vibratory rollers generate lower levels of vibration, are also transient as the plant moves around the work area. For that reason, protracted periods of significant vibration from steady operation do not occur at individual receptors.

3.4.6 Mr Blacklock predicts relatively high levels of vibration at Clare Hall receptors, due to compaction operations [CD26-08-W4-1, pdf pages 51 and 52, paragraphs 8.8, 8.10, 8.11, 8.12] but makes no comment on the possible duration of exposure to these levels. I do not accept that the levels of impact predicted by Mr Blacklock are credible but, even if they did occur, the impact on residents would not be significant because of the short duration of the events.

3.4.7 This limited duration of exposure would result in significantly lower impact based on two factors:

- 1) In terms of the duration of individual incidents. The impact would be less when assessed based on time averaged exposure based on a reasonable time interval [see CD15.02, Table B.1, Note (C)] such as eight hours.
- 2) The duration of the works that could potentially generate vibration that is perceptible at receptors would be limited [see CD1-11.01, paragraph 3.2.7].

3.4.8 In addition to the above, the actual times when construction vibration may be perceptible at receptors will be controlled via the implementation of the CoCP [CD1-26] and the LEMP [CD1-26, paragraph 1.2.4].

3.4.9 For the reasons set out above, I do not agree that significant adverse effects are likely at Clare Hall from construction vibration. Indeed, I consider the controls available to be entirely adequate to ensure that significant adverse impacts from vibration are avoided.

3.5 Operational Noise

3.5.1 Section 9 of the Proof of Evidence of Jonathan Blacklock [CD26-08-W4-1, pdf page 54-59] considers operational noise.

- 3.5.2 Mr Blacklock states **[CD26-08-W4-1, paragraph 9.1, pdf page 54]** in connection with the use of electric vehicles:
- “...nothing definitive being proposed to be secured. [so] ...it would be inappropriate to assume the future use of electric buses on this proposed busway when assessing likely levels of impact.”*
- 3.5.3 The ES Technical Note 1 **[CD1-11.01, paragraph 5.4.29 and 5.4.30]** did not assume that electric buses would be in use and did base noise predictions on Euro VI diesel buses.
- 3.5.4 As I explain in my Proof of Evidence **[CD26-01-APP-W11-1, paragraph 3.6.15]** significant adverse noise effects from those diesel buses could be avoided by limiting the number of buses during the first and last hours of the proposed operation (those technically within the night-time).
- 3.5.5 I also explain **[CD26-01-APP-W11-1, paragraph 3.6.16]** that noise levels would be reduced still further if electric buses were used and confirm **[CD26-01-APP-W11-1, paragraph 3.6.17]** that the applicant would accept a suitable conditional restriction and provide a suitable draft condition.
- 3.5.6 Most of Section 9 of Mr Blacklock’s Proof of Evidence **[CD26-08-W4-1, pdf page 54-59]** sets out the same evidence that was presented in section 6 of the noise section of the Clare Hall Statement of Case **[CD23-17, pdf page148-149]**. I have already critiqued that evidence in my Proof of Evidence **[CD26-01-APP-W11-1, paragraph 4.3.48-4.3.68]** where I explain why I disagree with Mr Blacklock’s assumptions and predictions and his conclusions that operational noise would result in a significant adverse impact.
- 3.5.7 With respect to the night-time sound levels predicted in the ES Technical Note 1 **[CD1-11.01, paragraph 5.4.68]** (which were based on Euro V1 diesel buses) Mr Blacklock states **[CD26-08-W4-1, paragraph 9.9, pdf page 54]** that:
- “...the internal noise levels would be 35 dB. This is higher than both the internal noise criteria that WSP has provided in Table TR1-3-6 of CD1-11.01 and the LOAEL as defined in TR1-3-4 of CD1-11.01 for the night-time periods.”*
- 3.5.8 In-fact the internal level predicted was 34 dB. Notwithstanding that, for the reasons set out in my Proof of Evidence **[CD26-01-APP-W11-1, paragraph 3.2.8-3.2.9]** the night-time sound levels predicted at the closet receptors at Clare Hall in the ES **[CD1-11.01, paragraph 5.4.65]** cannot be meaningfully compared with the criteria Mr Blacklock cites **[CD1-11.01, Table TR1-3-6, pdf page 12]** because they are different criteria. If the predicted sound levels are appropriately converted (by subtracting 6 dB) the predicted levels are, in-fact, compliant with the most stringent criterion (30 dB $L_{Aeq,8h}$).

4. CONCLUSIONS

- 4.1.1 Most of the information presented in Mr Blacklock’s Proof of Evidence **[CD26-08-W4-1]** repeats that which he had already provided in the Clare Hall Statement of Case **[CD23-17, pdf page136-153]**, albeit in greater detail. I have already explained why I disagree with the majority of Mr Blacklock’s evidence, and why it does not change my conclusions, in my Proof of Evidence **[CD26-01-APP-W11-1, paragraph 4.3.1-4.3.71]**.

5. STATEMENT OF TRUTH

- 5.1.1 The rebuttal which I have prepared and provide is true and is given in accordance with the guidance of my professional institutions. I confirm that the opinions expressed are my true and professional opinions.