Cambourne to Cambridge

Environmental Statement (Addendum 2 and Clarifications)

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1 Introduction and summary

1.1 Purpose of the Environmental Statement Addendum 2 and Clarifications

1.1.1. This ES Addendum 2 and Clarifications (ESA2) has been prepared by the Applicant (Cambridgeshire County Council) in order to provide additional environmental information in support of the Transport and Works Act Order (TWAO) Application for the Cambourne to Cambridge (CtoC) project (the Scheme).

1.1.2. It has been prepared following a Note to Inspectors sent by Clare Hall, University of Cambridge dated 2nd July 2025, (Note) which alleges that the environmental information provided to date is deficient. The Note related to information provided within the Cambourne to Cambridge Environmental Statement (ES)[1] [**CD1-10.01**[2]] on the likely significant effects of the proposed development on Clare Hall Grade II* listed building, the combined ('in-combination') impacts on Clare Hall, the Flood Risk Assessment (FRA), noise assessment and the Options Appraisal of the Adams Road/ Rifle Range Track.

1.1.3. In summary, the assessment presented in this ESA2 in response to the matters raised in the Note, results in no change to the overall conclusions of the ES Main Report[1].

1.2 Legal context

1.2.1. In accordance with section 13B of the Transport and Works Act (TWA) 1992 (as amended)[3], before determining an application for a TWAO for development requiring an Environmental Impact Assessment (EIA), the Secretary of State must consider the EIA information and must reach a reasoned conclusion about the likely significant effects of the proposed works or project on the environment. The reasoned conclusion must be taken into account in determining the application and when doing so, the Secretary of State must be satisfied that the reasoned conclusion is up to date.

1.2.2. For these purposes, Rule 17 of the Transport and Works (Applications and Objections Procedure) (England and Wales) Rules 2006[4] allows the Secretary of State to direct an applicant to supply additional information where the Secretary of State is of the opinion that this is required in respect of an ES. These provisions are intended to ensure that decision-makers and the public have access to a complete and up-to-date

[1] Environmental Statement (Document reference: CtoC-10-ES0)[1].

[2] CD1-10.01 Environmental Statement (ES Main Report). Available online at: https://gat04-live-1517c8a4486c41609369c68f30c8-aa81074.divio-media.org/filer_public/e2/53/e2539433-e8b2-4469-9958-61b52642c45d/cd1-101_environmental_statement.pdf.

[3] Transport and Works Act 1992. Available online at: https://www.legislation.gov.uk/ukpga/1992/42/contents.

[4] The Transport and Works (Applications and Objections Procedure) (England and Wales) Rules 2006. Available online at: https://www.legislation.gov.uk/uksi/2006/1466/contents.

understanding of the likely significant environmental effects of a proposed development to enable those effects to be considered and taken into account in decision making.

1.2.3. In this particular case, no direction has been made by the Secretary of State under Rule 17[4] and the Applicant is submitting this ESA2 of its own volition.

1.3 Additional environmental information and clarifications

1.3.1. In response to the Note, this ESA2 seeks to signpost readers to documents submitted as part of the Application for the Scheme that address the topics raised.

1.3.2. The ES Main Report[1] and its supporting documents and technical reports are listed below. Document references for the Application and Core Document[5] (CD) list have been provided:

- Environmental Statement (Document reference: CtoC-10-ES0) [**CD1-09**];
- Technical Report 1 – Acoustics (Document reference: CtoC-11-TR01) [**CD1-11.01**];
- Technical Report 2 – Air Quality (Document reference: CtoC-11-TR02) [**CD1-11.02**];
- Technical Report 3 – Climate Resilience (Document reference: CtoC-11-TR03) [**CD1-11.03**];
- Technical Report 4 – Community and Human Health, Land Use and Land Take (Document reference: CtoC-11-TR04) [**CD1-11.04**];
- Technical Report 5 – Ecological Impact Assessment (Document reference: CtoC-11-TR05) [**CD1-11.05**];
- Technical Report 6 – Greenhouse Gases (Document reference: CtoC-11-TR06) [**CD1-11.06**];
- Technical Report 7 – Heritage Impact Assessment (incorporating historic environment desk-based assessment) (Document reference: CtoC-11-TR07) [**CD1-11.07.1**];
- Technical Report 8 – Landscape and Visual (Document reference: CtoC-11-TR08) [**CD1-11.08.1**];
- Technical Report 9 – Major Accidents and Disasters (Document reference: CtoC-11-TR09) [**CD-111.09**];
- Technical Report 10 – Materials Assets and Waste (Document reference: CtoC-11-TR10) [**CD1-11.10**];
- Technical Report 11 – Soil, Geology and Land Contamination (Document reference: CtoC-11-TR11) [**CD1-11.11.01**];
- Technical Report 12 – Traffic and Transport (Document reference: CtoC-11-TR012) [**CD1-11.12**];

[5] Gateley Hamer (n.d). Cambourne to Cambridge Order. Available online at: https://gateleyhamer-pi.com/en-gb/c-to-c/core-documents/.

- Technical Report 13 – Water (Document reference: CtoC-11-TR13) [**CD1-11.13.01**]; and
- Technical Report 14 – Arboriculture (Document reference: CtoC-11-TR14) [**CD1-11.14.01**].

1.3.3. In addition, an ESA was published in June 2025 (ESA1) which dealt with matters unrelated to this ESA2 (Document reference: CtoC-10-ES5-00) [**CD1-10.06**].

1.3.4. Point 5 of the Note asserts that the Applicant has not identified how the environmental effects of the main alternatives compare to the proposed works. This has been addressed within **Section 5** and Mott MacDonald's 2018 Options Appraisal Reports:

- Options Appraisal Report (Part 1) [**CD1-20.07**][6]
- Options Appraisal Report (Part 2) [**CD1-20.08**][7]
- Options Appraisal Report (Part 3) [**CD1-20.09**][8]

[6] Mott MacDonald (2018). Options Appraisal Report (Part 1). Available online at: https://www.greatercambridge.org.uk/asset-library/Sustainable-Transport/Public-Transport/Cambourne-to-Cambridge/C2C-OBC-Jan-2021/C2C-OBC-2020-Options-Appraisal-Report-Part-1-Appendix-A.pdf.

[7] Mott MacDonald (2018). Options Appraisal Report (Part 2). Available online at: https://www.greatercambridge.org.uk/asset-library/Sustainable-Transport/Public-Transport/Cambourne-to-Cambridge/C2C-OBC-Jan-2021/C2C-OBC-2020-Options-Appraisal-Report-Part-2-Appendix-B.pdf.

[8] Mott MacDonald (2018). Options Appraisal Report (Part 3). Available online at: https://www.greatercambridge.org.uk/asset-library/Sustainable-Transport/Public-Transport/Cambourne-to-Cambridge/C2C-OBC-Jan-2021/C2C-OBC-2020-Options-Assessment-Report-Part-3-Appendix-C.pdf.

2 Matters raised regarding Clare Hall Grade II* Listed Building

2.1 Issue 2 – Note to Inspectors (OBJ213)

2.1.1. The Note asserts the following point under issue 2:

'Further information on the likely significant effects of the proposed development on cultural heritage, namely Clare Hall Grade II* listed building'

Further information is required in respect of the impacts of the scheme on Clare Hall as a Grade II listed building.*

As Clare Hall's Statement of Case explains, the Applicant has failed to undertake an adequate assessment of the significance of the Grade II Listed Building to provide the essential starting point for an assessment of the potential impact.*

In addition, the existing environmental information on Clare Hall contains at least two significant errors:

- The Heritage Statement states the windows on the southern facades of Clare Hall contain "small windows with frosted glass with limited views south towards the scheme". However, the windows on this facade do not contain frosted glass. The windows on this façade also include a long horizontal window in Clare Hall's main meeting room. As Clare Hall's Statement of Case explains, the college buildings were deliberately designed to provide views to the south and to allow daylight to enter. This error therefore illustrates the fundamental importance of a thorough and reliable assessment of significance as the starting point to assessing impact.

- The Heritage Statement states that the Clare Hall "would not be physically impacted by the works". However, the Scheme will require the removal of part of the fabric of the building, including the removal of original connecting paths and the placing of hedgerows along the boundary.

A revised heritage assessment is therefore required based on an adequate assessment of significance.'

The Applicant's response

2.1.2. The Applicant has carried out an assessment of the impact of the Scheme on the significance of Clare Hall. The method used is outlined in Technical Report 7 – Heritage Impact Assessment [**CD1-11.07.1**, pp. 10-17[9]]; and Appendix TR7.1 – Heritage Statement [**CD1-11.07.2**, pp. 7-9[10]]. The method was reported in the ES Scoping Report [**CD1-10.05**, pp. 115-127[11]], upon which the Secretary of State and Historic England provided responses to which the Applicant had regard in preparing the ES.

2.1.3. In accordance with the National Planning Policy Framework (NPPF) (Para. 207)[12], the significance of Clare Hall has been described to a level of detail that is "...proportionate to its importance, but is also no more than is sufficient to understand the potential impact of the proposal on their significance". However, since the Objector has raised specific questions, the Applicant is providing additional information regarding the approach to the assessment contained within the Application.

2.1.4. Contrary to the Objector's Note, the southern façade of Clare Hall contains at least one frosted glass window, on the upper floor of the western block. Other windows are in general of mirrored glass rather than frosted glass. Some windows, e.g. those to the small study rooms in the eastern block, are of clear glass with blinds. The information provided by the Objector on the glazing on the southern façade of Clare Hall does not affect the outcome of the assessment, which is described in the ES and accompanying reports. The ground-floor windows look out onto Rifle Range Track (also referred to as Rifle Range Road), the boundary fence and the back of the rugby stand, which has been the view since before Clare Hall was built, while the only upper floor window is the frosted on referred to above; these views do not add to the character of Clare Hall as a building of special architectural or historic interest. The degree to which these views "were deliberately designed to provide views to the south" have been considered with these facts in mind.

2.1.5. The three paths leading south from the entrances to Clare Hall to the metalled surface of Rifle Range Track would be

[9] CD1-11.07.1 Technical Report 7 – Heritage & Archaeology (including Historic Environmental Desk Base Assessment. Available online at: https://gat04-live-1517c8a4486c41609369c68f30c8-aa81074.divio-media.org/filer_public/07/d5/07d58778-9a93-4965-9356-48ec47869e39/cd1-11071_technical_report_7_-_heritage__archaeology.pdf

[10] CD-11.07.2 Appendix TR7.1 – Heritage Statement. Available online at: https://gat04-live-1517c8a4486c41609369c68f30c8-aa81074.divio-media.org/filer_public/a8/0d/a80d45d8-00ea-48e8-8686-264ed5edf250/cd1-11072_appendix_tr71_-_heritage_statement.pdf.

[11] CD1-10,05 Appendix ES4 – ES Scoping Report and Opinion. Available online at: https://gat04-live-1517c8a4486c41609369c68f30c8-aa81074.divio-media.org/filer_public/44/39/44397057-9cdb-4b4f-ab94-3f4610e1dcf4/cd1-105_appendix_es4_-_es_scoping_report_and_opinion.pdf.

[12] Ministry of Housing, Communities & Local Government (2024). National Planning Policy Framework. Available online at: https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf.

physically altered by the Scheme. However, their alteration would not comprise removal of fabric of the listed building because the paths are not, and are not to be treated as, part of the listed building. The paths do not form a continuous part of the surface treatment within the building, as they are divided from it by the canal and the concrete slab bridges that cross it. The paths are outside the land ownership boundary of Clare Hall; the land in which they are located has been the property of Jesus College since at least the 19th century, as shown on historic Ordnance Survey maps, tenancy agreement plans and the Land Registry.

2.1.6. The current design for the Scheme would result in alteration of those three paths outside the boundary (and outside the curtilage) of the college. Most of the paths could be replaced if required by reusing the existing materials, having first removed and stored them prior to the busway construction. The three paths are between approximately 3.5m and 4.0m in length. Between approximately 1.2m and 1.6m of those paths intersect with the alignment of the access track. The current design would involve truncation of those southern sections.

2.1.7. Notwithstanding these potential and mitigable impacts, even if considered to be within the curtilage of the listed building, the pathways are not considered to be ‘structures’ or ‘objects’, instead being a surface treatment of the ground. Furthermore, if the paths are considered to be curtilage listed, the removal of approximately a third of their length arguably would not necessitate Listed Building Consent on grounds that the proposed works would not affect the character of Clare Hall as a building of special architectural or historic interest.

2.1.8. If it is desirable to retain the sections of the paths that intersect with the alignment of the access track, the paths could be replaced and incorporated into the track, assured by a condition to that effect, thereby avoiding any permanent physical impact to the paths.

2.1.9. The grass verge would be retained, at a reduced width, between the access track and Clare Hall, and together with sympathetic planting would preserve the soft green edge of the setting. Hedgerow planting along the north side of Rifle Range Track is included in the indicative landscape plan. This would take place on land that is outside the curtilage of Clare Hall (for reasons stated above in paragraph 2.1.5). Even if hedgerow planting was planned within the curtilage of Clare Hall, that would not result in physical impact to the listed building. This is because the only alteration would be to the grass verge, which would not be part of the fabric of the listed building even if it were within the curtilage. As discussed above in paragraph 2.1.4, the views that would be affected by a hedgerow are not important to the historic significance and setting. However, if hedgerow planting is not considered to be desirable, it could be removed from the scheme at detailed design stage, assured by a condition to that effect.

3 Proposed flood prevention works

3.1 Issue 3– Note to Inspectors (OBJ213)

3.1.1. The Note asserts the following point under issue 3:

'Implication of proposed flood prevention works on the environment'

The Applicant's Flood Risk Assessment ('FRA') proposes a 10m clear span bridge over the Bin Brook to mitigate the Scheme's impacts on flooding, with embankments up to a maximum height of 9.67mAOD.4. No information is provided in the FRA or the Environmental Statement ('ES') on the environmental impacts of a bridge of the this scale, including the impacts it would have on the landscape. Furthermore, the Applicant's FRA does not identify or assess the implications of the further mitigation measures that would be required to offset the impacts of the proposed scheme. As explained in Clare Hall's Statement of Case, its own flood risk experts have identified the need for significant further measures, none of which are identified (and therefore assessed for their impacts) within the Applicant's FRA or ES.'

The Applicant's Response Part 1

Flood Risk

3.1.1. As noted in Appendix TR13.1 Flood Risk Assessment [**CD1-11.13.02**[13]] a comparison of modelled water levels, depths and flood extents was made between the baseline and as-proposed models, indicating that the introduction of the new Bin Brook crossing and associated embankment will have little impact on the flood risk. The assessment showed minimal change in predicted flood extents for the 1% Annual Exceedance Probability (AEP) event with a 19% climate change allowance, and increases of between 10mm to 50mm in peak flood depth over an existing flood depth of approximately 900mm within the Order Limits.

3.1.2. Outside of the Order Limits, modelled water levels show a decrease along the Bin Brook downstream of the proposed route, reducing flood risk to third parties including Clare Hall. Water levels along Bin Brook upstream of the crossing point would be similar to the baseline, with minimal 8mm increases in depth over a short reach of the watercourse. These increases are within areas already inundated by up to 900mm, and the flood extent is not increased such that it would affect any additional buildings or assets.

3.1.3. Consequently, it is not proposed to include flood plain compensation equal to that of the introduced embankment as it was found that by removing the to-be redundant downstream existing access bridge, in conjunction with the introduction of

[13] CD1-11.13.02 Appendix TR13.1 – Flood Risk Assessment. Available online at: https://gat04-live-1517c8a4486c41609369c68f30c8-aa81074.divio-media.org/filer_public/f0/f4/f0f4e5ba-1684-442e-81d4-c7130179c10f/cd1-11132_appendix_tr131_-_flood_risk_assessment.pdf.

the scheme embankment and bridge, there was no significant impact on flood levels outside of the Order Limits to compensate. Additionally, due to the generally very flat topography of the catchment, there is limited opportunity for level floodplain compensation local to the area of works.

Landscape

3.1.4. The proposed bridge over Bin Brook has a clear span of 10m, with an approximate height of 2.44m (10.706m Above Ordnance Datum (AOD)) above the brook edge (8.392m AOD) [**CD1-12.02**, Sheet 17[14]]. Notably, the landform on either side of the brook varies, featuring a natural depression at the brook itself, as shown in the longitudinal sections. The ground level rises to around 9.6m AOD approximately 200m west of the brook and to around 9.75m AOD 90m east of the brook. This undulating topography is expected to limit potential adverse landscape or visual effects, and no likely significant effects will occur.

3.1.5. Technical Report 8 – Landscape [**CD1-11.08.1**[15]] references the proposed bridge at Bin Brook in Section 1.1.2. The report assesses the visual and landscape impacts of the proposed bridge structure and associated works at Bin Brook inherently as part of the route section located between the M11 and West Cambridge (LCAB3 Bourn Tributaries Lowland Farmlands and TCA2 West Cambridge). Technical Report 8 evaluates both landscape character and visual impacts across the entire route, including the section of the Scheme in which the Bin Brook bridge is located.

Ecology

3.1.6. Technical Report 5 – Ecology [**CD1-11.05**[16]] assesses the ecological impacts of the Scheme on Bin Brook. Table TR5-11-1 and Table TR5-11-2 provide a summary of the impact assessment upon Ecological Features during construction and operation of the Scheme. Neither report a significant effect to Bin Brook City Wildlife Site (CiWS), or the potential species inhabiting Bin Brook CiWS, following the application of appropriate mitigation.

3.1.7. The Applicant has also received a letter from Dentons, on behalf of Clare Hall, dated 17 July 2025, which asserts the following in respect of flood risk:

[14] CD1-12.02 Longitudinal Sections for Proposed Works. Available online at: https://gat04-live-1517c8a4486c41609369c68f30c8-aa81074.divio-media.org/filer_public/9d/b2/9db2004c-6eb3-4759-94b6-38c0ff3955a2/cd1-122_deposited_order_plans_-_longitudinal_sections_.pdf.

[15] CD1-11.08.1 Technical Report 8 – Landscape. Available online at: https://gat04-live-1517c8a4486c41609369c68f30c8-aa81074.divio-media.org/filer_public/e6/4b/e64b879f-0bc1-4a48-9194-72da16af2751/cd1-11081_technical_report_8_-_landscape.pdf.

[16] CD1.11.05 Technical Report 5 – Ecology. Available online at: https://gat04-live-1517c8a4486c41609369c68f30c8-aa81074.divio-media.org/filer_public/9a/10/9a1006ec-95bc-48c9-8c7b-1d8ef08a8088/cd1-1105_technical_report_5_-_ecology.pdf.

*‘**Sequential Test***

The FRA does not adequately address the sequential test, summarising that "based upon the requirements of the transport route to connect certain areas the scheme cannot completely avoid areas of potential flooding. As a result, the CtoC Scheme is partly located within Flood Zone 3 and an Exception Test is required.

In light of the acknowledgement by the Applicant that the preferred route and the Alternative Route options were judged to be 'finely balanced', and that a key differentiating factor is the location of Rifle Range Road in Flood Zones 2 and 3, further justification for the selection of the preferred route (and discounting the sequentially preferable Alternative Route) is needed in order to address the requirements of the sequential test.’

The Applicant’s Response Part 2

3.1.8. The aim of the sequential test is to steer new development to areas with the lowest risk of flooding from any source.

3.1.9. Alternative routes were considered including a route linking into and utilising Adams Road. Based on the flood data published at the time the Flood Risk Assessment (FRA) [**CD1-11.13.02**] was drafted (October 2024), it is observed that the junction of Adams Road and Grange Road is shown to be at risk of flooding from surface water as well as surface water flooding along Stacey Lane.

3.1.10. A comprehensive update of the published flood mapping was released in March 2025 as part of the National Flood Risk Assessment (NaFRA2) programme. The current flood zones (at the time of writing, July 2025) show fluvial flood risk to the junction of Adams Road and Grange Road and adjacent to Stacey Lane. The current surface water flood risk mapping shows flooding in the region of Stacey Lane and Clerk Maxwell Road as well as the junction of Adams Road and Grange Road.

3.1.11. The fluvial and surface water flood risk highlighted above as well as the flooding forecast in the vicinity of the Bin Brook at the location of the proposed crossing are expected to increase over the lifetime of the Scheme as a result of the impacts of Climate Change. Given the constrained nature of Adams Road (physically and by heritage / conservation considerations) there are limited opportunities to reduce flood risk to a route in this location. The proposed Rifle Range track route is less constrained to mitigation and the proposed crossing of the Bin Brook is designed to be flood free in the event of a 1% AEP flood including an allowance for climate change.

4 Noise assessment

4.1 Issue 4 – Note to Inspectors (OBJ213)

4.1.1. The Note asserts the following point under issue 4:

'Adequacy of the noise assessment'

The Applicant's ES acknowledges that the predicted noise levels of the operational busway could exceed impact thresholds for Clare Hall and that significant adverse effects are therefore possible. However, the assessment fails to adequately assess those impacts, including the extent and severity of the likely significant noise and vibration impacts on Clare Hall, the mitigation needed to address those impacts, whether that mitigation is achievable and if so, its implications. The Applicant's assessment also fails to recognise or properly address the implications of the fact that Clare Hall comprises mainly residential accommodation units and offices/meeting rooms, which will be adversely and significantly impacted by the proposed Scheme.'

The Applicant's response

4.1.2. Technical Report 1 – Acoustics [**CD1-11.01**] recognises that the sound levels at Cambourne and Clare Hall were based on assumed numbers of Euro VI diesel buses which may be over precautionary assumptions [**CD1-11.01,** paragraphs 5.4.40 and 5.4.77]. Potentially significant noise effects were identified during the night-time at Camborne and Clare Hall on that basis (based on the ES significance criteria set out in Table TR1-3-3 of **CD1-11.01** – not the Significant Observed Adverse Effect Level (SOAEL)).

4.1.3. The operational sound levels from the busway could be reduced to below the night-time ES significance criteria threshold and the night-time Lowest Observed Adverse Effect Level (LOAEL) by reducing the numbers of hourly Euro VI diesel bus movements during the 06:00-07:00 and 23:00-00:00 periods to 6 at Cambourne and 9 at Clare Hall.

4.1.4. Sound levels at Cambourne and Clare Hall could be reduced further by using fuel cell electric buses, because these are relatively quiet at low speeds (the speed limits at Camborne and Clare Hall will be 20 mph). Indeed, the sound levels would be below both the ES significance criteria and LOAEL even without any reduction in the relatively high numbers of hourly movements assumed in the ES (16 at Camborne and 20 at Clare Hall).

4.1.5. If considered necessary as mitigation, a planning condition could restrict the numbers of bus movements during the 06:00-07:00 and 23:00-00:00 periods in accordance with the above until such time as the bus fleet are electric. On that basis, no significant noise effects would be likely to arise from the operation of the busway.

5 Alternatives

5.1 Issue 5 – Note to Inspectors (OBJ213)

5.1.1. The Note asserts the following point under issue 5:

'Description of the reasonable alternatives studies by the developer

An ES requires a description of the reasonable alternatives studied by the developer, which are relevant to the proposed works and their specific characteristics, and an indication of the main reasons for the option chosen, taking into account the significant effects of the proposed works on the environment (Transport and Works Rules, Rule 11(1)(d)). This requires the Applicant to undertake a comparison of the environmental effects of the proposed works and the reasonable alternatives (Transport and Works Rules, Schedule 1, Para. 2). Despite Clare Hall requesting the Applicant to provide this information in July 2022 as part of the consultation, the Applicant has not identified how the environmental effects of the main alternatives compare to the proposed works.

In any event, where there are deficiencies in the assessment of environmental impacts of the environment (such as those identified above) it follows that the assessment of alternatives is also deficient. A further description of the main reasons for the option chosen is therefore required following the provision of the further information described above in sections 2 and 3 , where, as here, the Applicant had considered the choice between the Adams Road route and Rifle Range Road options to be "finely balanced".'

The Applicant's response

5.1.2. As noted in the Objectors note, an ES requires "*a description of the reasonable alternatives studied by the developer, which are relevant to the proposed works and their specific characteristics, and an indication of the main reasons for the option chosen, taking into account the significant effects of the proposed works on the environment" (Transport and Works Rules, Rule 11(1)(d))* and that *"This requires the Applicant to undertake a comparison of the environmental effects of the proposed works and the reasonable alternatives" (Transport and Works Rules, Schedule 1, Para. 2).*

5.1.3. The ES Main Report [**CD1-10.01**[1]] provides under Chapter 4: Evolution of the Scheme consideration of reasonable alternatives studied by the Applicant including Alternative Routes (Section 4.3), Park and Ride Locations (Section 4.4) and Operating Alternatives (Section 4.7) together with a section on consultations associated with alternatives (Section 4.8). The ES is informed by (and refers to) the wider options assessment which is presented in the documents supporting the Application. Figure 4-6 of the ES[1], provides a visual representation of the Scheme's Development Process including Mott MacDonald's 2018 Options Appraisal Report Part 1 (OAR 1) that reported on-road and off-road route options. OAR 1 is pertinent to Clare Hall as it contains a comparison (inclusive of environmental effects) of the Adams Road Option with the Rifle Range Track Option within what was known as Area 5. Area 5 is the end of the route, connecting into the existing bus routes around Cambridge city centre. The first option is along Adams Road. This would make a section of Adams Road bus only eastbound prior to the

junction with Grange Road. The second option would be to construct a new dedicated busway along the former Rifle Range Track. Section 4.5 of the ES[1] titled Establishing the Preferred Option describes:

- Options Appraisal Report (Part 1)[6]
- Options Appraisal Report (Part 2)[7]
- Options Appraisal Report (Part 3)[8]

5.1.4. OAR 1[6] used a Mott MacDonald method of assessing options known as INSET scoring which is based on the Department for Transport's recommended EAST (Early Assessment and Sifting)[17] approach. Each criterion could be scored from 0 to 7, with 1 - 3 being a negative impact, 4 being no or neutral impact or as existing, and 5 - 7 being positive impacts as shown below.

1 = Significant Negative
2 = Medium Negative
3 = Slight Negative
4 = No or Neutral
5 = Slight Positive
6 = Medium Positive
7 = Significant Positive

[17] Department for Transport (2022). Transport business case: assessment and process procedures. Available online at: https://www.gov.uk/government/publications/transport-business-case.

5.1.5. Within the INSET table there is an option to weight the scores. It was determined that all the criteria would have a weighting of 1 but journey reliability which is a key objective of the scheme would have a weighting of 2.

5.1.6. Table 20 of OAR 1[6] provided a summary comparison of the off-road options ranked based on the INSET scores and for Area 5 ranks Adams Road second and the Former Rifle Range Track first (i.e. best performing). Section 8.7 of OAR 1[6] provides details to support the scores given for each criterion including in relation to environmental effects associated with each option. Annex A.1 of OAR 1[6] presents the comparison of INSET Scoring by criteria, with Adams Road scoring 3.06 and the Former Rifle Range scoring 4.24. A lower score ranks more poorly. The results are reproduced in **Table 5-1** below.

5.1.7. Appendix B of OAR 1[6] presents INSET Justifications Tables providing information in relation to the scoring outlined in Annex A.1. Outside of the environmental criteria and with regard to transport performance the Rifle Range Track was preferred overall, scoring higher in 7 of the 10 categories and scoring equally with Adams Road in terms of route flexibility and scheme cost. Adams Road scored higher in land acquisition only, as Adams Road uses existing highway.

5.1.8. Under the environmental criteria, Adams Road was considered marginally better, scoring better on visual impacts 4 (No or Neutral impact) compared with 2 (Medium Negative) for Rifle

Range Track, Carbon 5 (Slight Positive) compared with 4 (No or Neutral) for Rifle Range and heritage 3 (Slight Negative) compared with 2 (Medium Negative) for Rifle Range. The Rifle Range Track scored higher with regard to biodiversity with 3 (Slight Negative) compared to 2 (Medium Negative) for Adams Road. All other environmental scoring was the same for each option.

5.1.9. Although the Adams Road was considered marginally better in terms of the environmental themes Rifle Range was selected as the preferred option due to the fact that Rifle Range scored better overall and particularly in relation to the themes of Reliability of Journey, Walking and Cycle Connectivity, Impact on Existing Traffic, Impact on Local Road Network during Construction, Public Acceptability and Future Proofing (see **Table 5-1** below).

5.1.10. With reference to the EIA Regulations (Transport and Works (Applications and Objections Procedure) (England and Wales) Rules 2006 [**CD5-18**][18] and The Town and County Planning (Environmental Impact Assessment) Regulations 2017 [**CD5-22**])[19] and specifically to Clare Hall (i.e. Area 5), OAR 1[6] has outlined the main reasons for the Rifle Range option being chosen.

5.1.11. Following the completion of OAR 1[6], the preferred scheme (including the Rifle Range Track) was submitted to the Executive Board in December 2018. Subsequently this section was revisited in OAR 3[8], which reassessed the issue at the time that an alternative Cambridgeshire Autonomous Metro (CAM) proposal was being debated, which would have rendered the Rifle Range route obsolete. This resulted from a revised Multi-Criteria Assessment Framework (MCAF) which altered the scoring for future proofing in favour of Adams Road, suggesting that it was the better performing option. Although no formal decision was made at the time, residents voiced their opposition to the Adams Road option, which were raised by the Joint Assembly to the Executive Board. Although the Applicant correctly reviewed the earlier appraisal to consider the alternatives, the CAM proposals have now been abandoned. The Scheme taken to the Applicant's Executive Board for approval and reflected in the Independent Audit was based on the use of Rifle Range Track.

5.1.12. OAR 3 contains a reappraisal which reflects how the Adams Road option offered an increased level of future proofing which led to an amended scoring in favour of Adams Road. At the time that the OBC was finally reported to the Executive Board the decision was taken that there was no requirement to

[18] The Transport and Works (Applications and Objections Procedure) (England and Wales) Rules 2006. Available online at: https://gat04-live-1517c8a4486c41609369c68f30c8-aa81074.divio-media.org/filer_public/a7/ee/a7eee3aa-1a3c-4065-9d36-b181c12b7f0d/cd5-18_transport_and_works_applications_and_objections_procedure_england_and_wales_rules_2006.pdf.

[19] The Town and Country Planning (Environmental Impact Assessment) Regulations 2017. Available online at: https://gat04-live-1517c8a4486c41609369c68f30c8-aa81074.divio-media.org/filer_public/46/93/4693addc-15aa-4728-913d-5e0ac20bc19f/cd5-22_town_and_country_planning_environmental_impact_assessment_regulations_2017.pdf.

publish a further appraisal because the July 2021 Executive Board was being asked simply to confirm the position as agreed in December 2018.

5.1.13. That said, and for completeness, if the assessment of Future Proofing in OAR3 reverts to its original OAR 1 value, and any other amendments remain, the Rifle Range remains the highest scoring option with a score of 2.94 when compared to Adams Roads score of 2.82. In reality, on the basis of the stakeholder events it would be likely that the Adams Road scores on safety and acceptability would be lowered further.

Table 5-1 – Area 5: Adams Road / Rugby Club – extract from Annex A. 1 of OAR 1 with Comparison of Scores by Theme

	Reliability of journey	Route flexibility – Links into existing bus routes	Walking and cycle connectivity	Impact on existing traffic	Environmental impacts – Visual impact	Environmental impacts – Noise	Environmental impact – Air Quality	Environmental impacts – CO2 emissions	Environmental impacts – Biodiversity
Adams Road	2: Shared (non-congested)	1: No Links	3: Slight impact on operation of existing cycle routes	1: Shared running	4: No or neutral Visual Impact	3: Slight Noise Impact	4: No or neutral Air Quality Impact	5: Slight Carbon savings/attenuation	2: Medium decrease in biodiversity & ecology
Rugby Club	7: Offline	1: No Links	7: Improved cycle infrastructure and connectivity	3: Offline but minor Junctions with existing roads	2: Visual Impact	3: Slight Noise Impact	4: No or neutral Air Quality Impact	4: No or neutral Impact	3: Slight decrease in biodiversity & ecology

	Environmental impacts – Heritage	Environmental impacts - Green Belt	Safety	Public acceptability	Scheme cost	Land acquisition	Impact on local road network during construction	Future-proofing	Weighted Score For Theme
Adams Road	3: Route in proximity of heritage areas	4: No or neutral Impact	3: Slight interactions with other road users	3: Preference for alternative option	3: New highway infrastructure	4: No Impact	2: Medium Impact	3: Route cannot support proposed underground schemes	**3.06**
Rugby Club	2: Route has minor Impact on heritage areas	4: No or neutral Impact	4: No Impact or as existing	5: Some stakeholder support	3: New highway infrastructure	3: Land required	4: No Impact	6: Route supports future schemes with minor alignment changes	**4.24**

6 Combined effects at Clare Hall

6.1 Issue 6 – Note to Inspectors (OBJ213)

6.1.1. The Note asserts the following point under issue 6:

'***<u>Assessment of the in-combination impacts on Clare Hall</u>***

Clare Hall is a world-class facility for researchers and postgraduate students and, as an institution, it is an important socio-economic receptor for the purposes of EIA and one of high sensitivity. The combination of the adverse environmental impacts on Clare Hall and the impact on its ability to obtain access along Rifle Range Road will significantly affect the amenity of the college and its occupants, its ability to continue to provide an environment conducive to research and its ability to develop its facilities as needed to maintain and enhance its world-class status. The Applicant's ES does not contain any adequate assessment of the combination of these impacts on Clare Hall.'

The Applicant's response

6.1.2. The scope of the Heritage discipline is restricted to effects on heritage assets, and does not include social effects on their occupants or viewers. However, changes to the experience of an asset, including changes to public access, use or amenity, are potential factors in the assessment of setting-related impacts on that asset. These changes were a factor in the assessment carried out for the ES[1], which states that there would be "minor visual and noise impacts". The occurrence of a potential significant noise effect described in paragraph 7.3.4 of the ES Main Report was based on various reasonable worst case assumptions including use of diesel buses. The use of electric buses, which are widely used in Cambridge, is now considered the most likely, which would eliminate this significant effect, as explained in Chapter 4.

6.1.3. Contrary to the Objector's letter, there will not be an impact on Clare Hall related to its ability to obtain access along Rifle Range Track. The ability to access Rifle Range Track will be enhanced by the Scheme, as a new emergency and maintenance access track leading east to Grange Road and west to Bin Brook will be provided.

6.1.4. In relation to consideration of combined effects on Clare Hall as a socio-economic receptor for the purposes of EIA, Technical Report 4 – Community and Human Health, Land Use and Land Take (Document reference: CtoC-11-TR04) [**CD1-11.04**] considers effects on such receptors with Table TR4-3-2 identifying businesses within the study area including *"University of Cambridge buildings, and all other buildings/businesses accessed from Charles Babbage Road, Ada Lovelace Road, JJ Thomson Avenue and Grange Road, Cambridge".* Section 2.2 of Technical Report 4 identifies the Scope of the Assessment referencing the EIA Scoping Report and the EIA Scoping Opinion. Section 2.2.2 sets out that impacts on private property and development land and businesses were scoped out from the ES as these receptors are not expected to be adversely impacted during operation of the Scheme.

6.1.5. Table TR4-5-3 sets out the effects on development land and businesses that are predicted to occur due to the construction of the Scheme for those scoped in elements. It concludes that there would be no significant effects for the University of Cambridge buildings identified above. It can therefore be concluded that there are no significant combined effects to Clare Hall. However, given that the Objector has raised the issue of combined socio-economic effects in their Note the following summarises the operational effects on Clare Hall.

6.1.6. When considering impacts to Clare Hall and the vicinity of the Rifle Range Track, Technical Report 2 – Air Quality [**CD1-11.02**[20]] has reported no significant air quality effects. Technical Report 8 – Landscape [**CD1-11.08.1**[15]] reports no predicted significant effects on visual amenity to R35 (Rifle Range Track – residential receptors) during operation at Year 1 and at Year 15 long term. The ground floor views offer little connection as it is to the wider landscape and are in most cases dominated by the rugby stand, whereas the elevated views also include the rugby stand and pitches beyond, with distant green space to the south west. Daylight would not be obscured from the ground floor by the proposals and the views, where the intermittent presence of buses would be more dominant, are not views that contribute to the significance of the asset, for the aforementioned reasons.

6.1.7. It is only Technical Report 1 – Acoustics [**CD1-11.01**[21]] which reports a potential significant adverse effect as a result of bus movements at night for Clare Hall student accommodation. However, if considered necessary, these effects could be mitigated by restricting bus movements in the shoulder periods until such time as the bus fleet are electric (as already explained in **Section 4** above, see paragraphs 4.1.2 to 4.1.5 for further details).

6.1.8. In summary, there are no likely significant combined effects on Clare Hall during either the construction or operation of the Scheme.

[20] CD1-11.02 Technical Report 2 – Air Quality. Available online at: https://gat04-live-1517c8a4486c41609369c68f30c8-aa81074.divio-media.org/filer_public/62/b4/62b49595-43db-4fcf-82c6-50f18ed28ba7/cd1-1102_technical_report_2_-_air_quality.pdf.

[21] CD1-11.01 Acoustics. Available online at: https://gat04-live-1517c8a4486c41609369c68f30c8-aa81074.divio-media.org/filer_public/ce/1b/ce1b7afd-ed39-46a8-875b-e0dae8f54ad9/cd1-1101_technical_report_1_-_acoustics.pdf.

7 Conclusions

7.1.1. Taking the issues raised by the Objector within the Note and the responses / clarifications provided within this ESA2 into account, the overall conclusions of the ES[1] remain unchanged with respect to the occurrence of likely significant effects on Clare Hall Grade II* listed building, the combined ('in-combination') impacts on Clare Hall, the Flood Risk Assessment (FRA)[13], noise assessment and the Options Appraisal of the Adams Road/ Rifle Range Track. Where relevant, ESA2 seeks to clarify where these matters are assessed within the ES Main Report[1] and how the ES has drawn on and been informed by the other documents submitted in support of the Application.

7.1.2. Further, it can be concluded that the Main ES [**CD1-10.01**], ESA1 [**CD1-10.06**] and this document [**CD1-10.07**] contain the necessary and sufficient environmental information to comply with the requirements of Rule 11 and Schedule 1 of the Transport and Works (Applications and Objections Procedure) (England and Wales) Rules 2006[18] (and Regulation 18 and Schedule 4 of the 2017 EIA Regulations[19]) as well as adequately respond to the request for further environmental information identified by the Objector. In particular, the ES has reported likely significant environmental effects and the additional information and clarifications provided as part of this ESA2 do not alter the conclusions.

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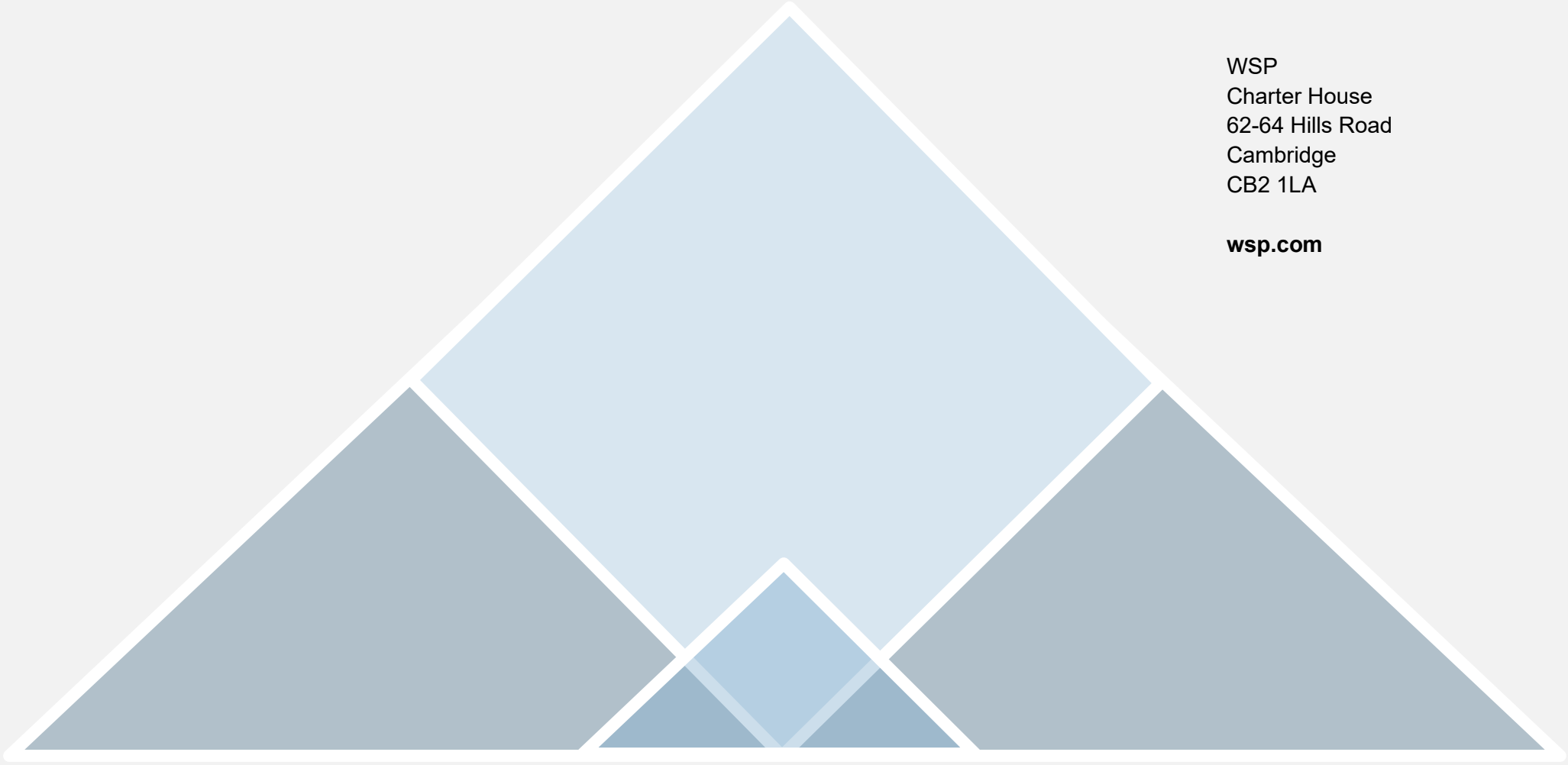
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