

A417 Missing Link TR010056

8.26 Comments on Responses received by Deadline 4

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# Infrastructure Planning Planning Act 2008

# The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

### **A417 Missing Link**

Development Consent Order 202[x]

#### Comments on Responses received by Deadline 4

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#### 1 Introduction

#### 1.1 Purpose of this document

- 1.1.1 This document has been prepared by National Highways (the Applicant) for submission to the Examining Authority (ExA) under Deadline 5 of the Examination of the A417 Missing Link Development Consent Order (DCO) application.
- 1.1.2 This document provides the Applicant's comments on the submissions made to the ExA by Interested Parties and Affected Persons at Deadline 4. This document also provides information requested following the Issue Specific Hearing 4 held on 3 March 2022.
- 1.1.3 This document also takes the opportunity to provide the ExA with an update on two environmental matters set out in the Environmental Statement and the Environmental Management Plan (EMP):
  - Update on measures at Ullen Wood
  - Update on measures for tufaceous formations

#### 1.2 Structure of this document

- 1.2.1 In reviewing the submissions made at Deadline 4 National Highways has determined that, in some instances, the matters raised are similar to those already raised in previous submissions and to which National Highways has provided comment previous deadlines. In particular, the ExA is directed to the following documents which have responded to key themes raised by Interested Parties at previous deadlines:
  - Responses to Relevant Representations (Document Reference 8.3, REP1-008)
  - Response to Written Representations made at Deadline 1 (Document Reference 8.11, REP2-012)
  - Comments on Responses to the Examining Authority's Written Questions (ExQ1) (Document Reference 8.13, REP2-014)
  - Summary of Applicant's Oral Submissions of Hearings (Document Reference 8.16 to 8.19, REP3-008 to REP3-011)
  - Comments on Responses received by Deadline 2 (Document Reference 8.21, REP3-013)
  - Comments on Responses received by Deadline 3 (Document Reference 8.25, REP4-035).
- 1.2.2 In light of the above and to avoid unnecessary duplication, in this document National Highways has sought to respond only where it has identified matters that may benefit from new or further points of clarification or correction, where it may assist a stakeholder and/or the ExA. It also seeks to provide further information where necessary or requested by the ExA, for example through a Hearing Action Point, or as a follow up to its own submissions.
- 1.2.3 The first part of this document provides a response to matters that are of relevance to multiple Interested Parties. This includes providing information to respond to a matter that has been raised by several Interested Parties (a 'theme' of submissions).

- 1.2.4 The second part of this document provides a direct response or comment on specific submissions made at Deadline 4.
- 1.2.5 As set out above, this is not an exhaustive list and National Highways has responded only where it is considered necessary or helpful to do so. This format has been considered necessary at this Deadline due to the specific nature of some of the Deadline 4 submissions.
- 1.2.6 In summary, this document does not provide a detailed response to each individual submission made at Deadline 4 where National Highways considers that its existing submissions to the Examination address the matter in question.
- 1.2.7 Failure to respond to a particular point should not therefore be inferred as National Highways accepting a matter on which its position is already clearly identified. National Highways would, however, be very willing to respond to any additional questions from the ExA arising from the submissions made at Deadline 4, where they consider it would be helpful for National Highways to further comment

#### 2 Comments on Deadline 4 submissions

#### 2.1 Introduction

- 2.1.1 This chapter provides National Highways' comments on matters that are of relevance to multiple Interested Parties, including where this relates to a Hearing Action Point, or matters that have been raised by several Interested Parties (a 'theme' of submissions). National Highways considers the following matters that require comment for the benefit of the ExA:
  - a. Controls of detailed design
  - b. Ullenwood junction lighting assessment update
  - c. Impacts on Cowley
  - d. Traffic modelling at Cowley Lane
  - e. Update on measures at Ullen Wood
  - f. Update on measures for tufaceous formations
  - g. Traffic data regarding usage of the historic bridge northeast of Cowley Manor
  - h. Traffic data at Cowley when the A436 is congested
  - i. Traffic data regarding the operation of Barnwood and Longlevens junctions
  - j. Summary of the mitigation at Alexander and Angell
  - k. Junction design at optioneering stage
- 2.1.2 In addition, Table 2-3 provides a comment on specific submissions made at Deadline 4, where considered necessary by National Highways.

#### 2.2 Controls of detailed design

#### Summary of matters raised in Deadline 4 submissions

2.2.1 Some submissions made at Deadline 4 refer to ongoing concerns raised about controls on the detailed design of the scheme. These are captured in the Joint Councils' Deadline 4 submission (Document Reference REP4-054).

- 2.2.2 National Highways' latest position on controls on the detailed design of the scheme is presented in section 2.8 of its Comments on Responses received by Deadline 3 (Document Reference 8.25, REP4-035).
- 2.2.3 National Highways has continued to discuss the points raised by the Joint Councils on this matter, and has decided to submit to the ExA structures engineering drawings and sections, as an appropriate solution that will satisfy their concerns. National Highways intends to do this at Deadline 6, alongside a revised draft Development Consent Order.
- 2.2.4 National Highways also understands the similar concerns expressed by other stakeholders, including but not limited to the Cotswolds Conservation Board (CCB) and the National Trust. National Highways will continue to engage with those organisations about their concerns, alongside the Joint Councils. However, it is hoped that the provision of structures engineering drawings and sections will also satisfy their shared concerns.

#### 2.3 Ullenwood junction lighting assessment update

#### **Summary of matter**

- 2.3.1 At Issue Specific Hearing 1 (ISH1) on the draft DCO, held 25 January 2022, National Highways was assigned Hearing Action Point ISH1-AP3 [EV036] which stated:
  - "Provide outcome of on-going lighting assessment by D4 with a view to any changes agreed with the Joint Councils to be finalised and submitted by D6"
- 2.3.2 Some stakeholders including the National Trust and Natural England consider or have expressed concerns about potential lighting at Ullenwood junction in their submissions (Document References REP4-051 and REP4-052 respectively).
- 2.3.3 At Issue Specific Hearing 4 (ISH4) on the draft DCO, held 3 March 2022, National Highways was assigned Hearing Action Point ISH4-AP12 which stated:
  - "Provide any assessments and supporting information substantiating the case for an 'unlit' scheme, particularly with regards no lighting at Ullenwood Roundabout."

#### **National Highways response**

- 2.3.4 National Highways provided its previous update on this matter at Deadline 4 at section 2.2 of its 'Comments on Responses received by Deadline 3' (Document Reference 8.25, REP4-035).
- 2.3.5 National Highways considers that the proposed Ullenwood junction design, in which it is unlit, is safe. The decision not to provide lighting in this location (and within the scheme as a whole) has been informed by:
  - A TA49 Lighting Appraisal and a TA501 Lighting Appraisal
  - The stage 1 Road Safety Audit process
  - A GG104 risk assessment
  - Project Safety Control Review Group reviews
  - Operations Technical Liaison Group engagement
  - Environmental considerations, including the impact of lighting on protected species of bats and the Cotswolds AONB dark skies
- 2.3.6 Through the Road Safety Audit and risk assessment process, measures were incorporated into the preliminary design to mitigate the risk of an unlit scheme, such that the overall mitigated safety risk is considered acceptable.
- 2.3.7 National Highways has undertaken an assessment into the potential lighting of Ullenwood junction, and taking into account the conclusions, does not propose to introduce infrastructure that could facilitate future lighting of the proposed Ullenwood junction. National Highways remains confident that the scheme proposed on that basis meets all necessary safety standards. A summary of the assessment is provided below.

#### Assessment Summary

2.3.8 A comparative assessment was undertaken to understand the likely significant effects of lighting Ullenwood junction. This compared the unlit scheme submitted for the DCO application with a lit scheme at Ullenwood junction. This enabled an understanding of whether this would be considered a non-material or material

- change to the scheme, and any difference in the likely significant effects of the two proposals.
- 2.3.9 The assessment was undertaken for those topic factors considered to be potentially impacted by the introduction of lighting at Ullenwood junction. These included cultural heritage, landscape and visual, biodiversity and climate. The results were presented at a collaborative planning session with stakeholders and the Joint Councils on 10<sup>th</sup> February 2022.
- 2.3.10 In summary, no material change was predicted for the cultural heritage and climate assessments from the introduction of road lighting at Ullenwood Junction.
- 2.3.11 For landscape, the introduction of light sources would adversely affect the Special Qualities of the Area of Outstanding Natural Beauty (AONB), including the Cotswold escarpment, tranquillity of the area and extensive dark skies areas. For biodiversity, the provision of lighting at Ullenwood junction would undermine the scheme bat habitat and Site of Special Scientific Interest (SSSI) fragmentation mitigation, and hence necessitate changes to the scheme. In addition, the lighting columns proposed would adversely impact Ullen Wood ancient woodland directly from the installation, necessitating the removal of ancient woodland and also from light spill due to the height of the columns. The introduction of lighting would therefore introduce new likely significant effects on the environment.
- 2.3.12 Taking into consideration the conclusions of the assessment, National Highways does not propose to introduce infrastructure to facilitate future lighting of the Ullenwood junction.

#### 2.4 Impacts on Cowley

#### Summary of matters raised in Deadline 4 submissions

2.4.1 Some submissions made at Deadline 4 refer to ongoing concerns raised over consultation, access to Cowley village, traffic data and modelling at Cowley Lane, and assessment of alternatives

- 2.4.2 Section 2.2 of National Highways' Response to Written Representations made at Deadline 1 (Document Reference 8.11, REP2-012) addressed concerns about consultation with residents of Cowley village. Cowley and Birdlip Parish Council's Comments on Written Representations made at Deadline 2 (Document Reference REP2-028) provided further information on this matter.
- 2.4.3 Section 8 of National Highways' submission at Deadline 3 'Summary of Applicant's Oral Submissions at Issue Specific Hearing 2' (Document Reference 8.19, REP3-011) considered concerns raised about access to Cowley village.
- 2.4.4 Section 2.2 of National Highways' submission at Deadline 3 'Comments on Responses received by Deadline 2' (Document Reference 8.21, REP3-013) further considered concerns raised about access to Cowley village.
- 2.4.5 For further instances where concerns have been expressed about the proposed private means of access along Cowley Wood Lane (also known locally as Daisy Bank Road), in its 'Summary of Applicant's Oral Submissions at Open Floor Hearing 1' (Document Reference 8.16, REP3-008) National Highways has referred those potentially affected landowners and the ExA to paragraphs 2.15.16

- to 2.15.20 of its Responses to Relevant Representations (Document Reference 8.3, REP1-008).
- 2.4.6 Section 3 of National Highways' submission at Deadline 3 'Summary of Applicant's Oral Submissions at Issue Specific Hearing 1' (Document Reference 8.17, REP3-009) considered concerns raised about weather and microclimate, some instances with an interest in and around Cowley village. Section 13 of National Highways' Response to Written Representations made at Deadline 1 (Document Reference 8.11, REP2-012) further addresses concerns about weather and microclimate with specific consideration of local concerns including those expressed by residents of Cowley village.
- 2.4.7 Sections 2.6 and 2.7 of National Highways' submission at Deadline 4 'Comments on Responses received by Deadline 3' (Document Reference 8.25, REP4-035) considered concerns raised about traffic modelling at Cowley Lane and a historic bridge over the River Churn, respectively. Table 2-2 of that document provides responses to specific Deadline 3 submissions, some of which involve concerns expressed about impacts on Cowley and/or weather/microclimate, for example in response to Tim Broomhead obo Alison Besterman (REP3-027); Alistair Miller (REP3-028); Linda Dawson (REP3-048); Linda Turner (REP3-050); and Joanna Pearce (REP3-047).

#### 2.5 Traffic modelling at Cowley Lane

#### Summary of matters raised in Deadline 4 submissions

2.5.1 A number of submissions made by local residents of Cowley village during the Examination have expressed concern about the traffic modelling carried out for Cowley Lane, considering baseline data and forecasting results.

- 2.5.2 National Highways' detailed response on this matter is provided in Summary of Applicant's Oral Submissions at Issue Specific Hearing 4 (ISH4) (Document Reference 8.27), further to the relevant matters raised and discussed at the hearing held on 3 March 2022.
- 2.5.3 In summary, across Cowley Lane and Cowley Wood Lane, known locally as Daisy Bank Road, the base year observed traffic flow is 197 vehicles travelling to/from Cowley with the base year modelled traffic flow closely matching this with 206 vehicles. This would be a combination of traffic travelling to/from Cowley itself and through traffic from Brimpsfield/Stroud and from the south travelling to/from Cheltenham via Cowley to access the A435. In the 2041 Do-Minimum (DM) this would increase to 322 vehicles across both roads. In the Do-Something (DS) scenario the traffic would decrease to 118 vehicles on Cowley Lane following the closure of Cowley Wood Lane. This decrease occurs as the scheme traffic model forecasts that in the DS scenario traffic would no longer travel through Cowley to/from Cheltenham. This is due to the improved journey times on the A417 and vehicles changing to accessing Cheltenham via Leckhampton Hill rather than the A435.
- 2.5.4 In relation to the comment raised regarding the age of the baseline data of the scheme traffic model the traffic model is based on the South-West Regional Traffic Model (SWRTM) and this has a base year of 2015.

- 2.5.5 In the calibration/validation of the scheme traffic model data collected in 2015 is the preferred year for the data to be consistent with the base year. Therefore, the data National Highways have for Cowley Lane and Cowley Wood Lane (known locally as Daisy Bank Road) is for 2015. This data was provided by Gloucestershire County Council.
- 2.5.6 An assessment of traffic growth on the Strategic Road Network (SRN) and the local road network was undertaken as part of the Preliminary Design stage of the scheme. This assessment used traffic data from 2019, 2019 was selected due to the impact of COVID-19 on traffic flows in 2020. This assessment showed that that observed traffic growth on the SRN and the local road network is comparable to the Department of Transport TEMPro forecast traffic growth. Furthermore, any differences do not have a material impact on uncertainty underlying the use of the existing scheme traffic model or the scheme appraisal.
- 2.5.7 The assessment undertaken by National Highways is summarised in Section 3.2 of the Combined Modelling and Appraisal (ComMA) Report (Document Reference 7.6, APP-422) with the technical note providing details on the assessment included as Appendix E of the ComMA.

#### 2.6 Update on measures at Ullen Wood

- 2.6.1 Paragraph 8.9.16 of the Environmental Statement (ES) Chapter 8 Biodiversity (Document Reference 6.2, APP-039) considers enhancement, and sets out that:
  - Areas of Ullen Wood ancient woodland have been the focus of a woodland restoration project in recent years funded by the Forestry Commission and supported by CCB. This comprises the implementation of conservation-led woodland management measures including selective thinning of trees, rotational coppicing of hazel, and erection of deer exclusion fencing. The restoration project is understood to have been implemented across a relatively small proportion of Ullen Wood. Opportunities will be sought to expand the woodland restoration project to additional areas of Ullen Wood, in conjunction with CCB and the landowner/s. The aim would be to reduce the impact of typical threats and pressures to ancient woodland that are relevant to Ullen Wood such as browsing by deer, decline in woodland management and increasing levels of shade. Enhancement measures would aim to alleviate these pressures and improve the overall conservation status of the ancient woodland by improving woodland structure, creating variation of light conditions in the woodland and increasing diversity of the ground flora.
- 2.6.2 Table 3-2 of the Register of environmental actions and commitments (REAC) found in ES Appendix 2.1 Environmental Management Plan (EMP) (Document Reference 6.4 Rev 2, REP4-027) then provides commitment BD50:
- 2.6.3 Subject to landowner agreement, a Woodland Management Plan would be prepared to implement conservation-led woodland management measure to areas of Ullen Wood during operation of the scheme (see section 4.3 EMP (construction) Management Plans).
- 2.6.4 This provides enhancement measures for Ullen Wood to increase its resilience against existing environmental threats and pressures, with additional woodland habitat planting provide to compensate for the predicted degradation of 2.1ha of ancient woodland within Ullen Wood from nitrogen deposition. This is secured by

- DCO Requirement 3 and is set out in the EMP Annex D Landscape and Ecological Management Plan (Document Reference 6.4, APP-321).
- 2.6.5 As set out in matter agreed 15.3 of Appendix E of the Statement of Commonality, Draft Statement of Common Ground with Cotswolds Conservation Board (Document Reference 7.3 Rev 2, REP3-005), CCB and National Highways agree to co-develop a Woodland Management Plan for Ullenwood, in order to progress the proposed enhancement measures identified within the Environmental Statement and Environmental Management Plan, subject to landowner agreement.
- 2.6.6 To help progress this matter, CCB and National Highways met on 17 January 2022 and then exchanged correspondence to agree in principle to collaborate in the preparation of an Ullen Wood Woodland Management Plan. This work is likely to be undertaken during the detailed design stage of the project but will be informed by early engagement between the parties and relevant landowners as soon as possible. National Highways intends to arrange a further meeting with CCB to discuss this in more detail, during the Examination.

#### 2.7 Update on measures for tufaceous formations

- 2.7.1 Tufa is an Annex 1 habitat for which Special Areas of Conservation can be designated under the Habitat Regulations. Tufa is a limestone habitat formed from calcium carbonate deposited by springs on which bryophyte habitat forms.
- 2.7.2 8.10.109 to 8.10.111 of the Environmental Statement (ES) Chapter 8 Biodiversity (Document Reference 6.2, APP-039) considers tuffaceous formations and sets out that:
- 2.7.3 Off-site restoration of existing tuffaceous formations in degraded condition will be undertaken. Three areas of tuffaceous vegetation have been identified within the vicinity of the Scheme where opportunities for improvement and enhancement exist, i.e. degraded habitat which could be restored and enhanced via changes to land and/or habitat management to remove the cause of degradation. Habitat improvement works considered to be suitable across these sites are straightforward, comprising the reduction of encroaching scrub and trees to reduce shading of the springs, exclusion of livestock to prevent damage through poaching and removal of debris. Such habitat improvement works would encourage development of the kind of tuffaceous vegetation that can be regarded as the M37 (Palustriella commutata Festuca rubra) spring community.
- 2.7.4 The methodology and results for the assessment of compensation options are provided within ES Appendix 8.25 Tufa-forming springs: selection of potential compensation sites (Document Reference 6.4, APP-379) and full compensatory measures are included in ES Appendix 2.1 EMP (Document Reference 6.4 Rev 2, REP4-027).
- 2.7.5 Taking into account ES Appendix 8.25 (Document Reference 6.4, APP-379) Tufaforming springs: selection of potential compensation sites, National Highways met and corresponded with Natural England and the Environment Agency throughout 2021 to discuss tufaceous formations, and on 23 November 2021 National Highways agreed positions with all parties. These are recorded with the Environment Agency in their matters agreed 4.2 and 4.3, and with Natural England in their matter agreed 6.17 of Appendices B and C of the Statement of Commonality, respectively (Document Reference 7.3 Rev 2, REP3-005).

- 2.7.6 Following consultation with Natural England and the Environment Agency, all three potential compensation areas (sites) provided within ES Appendix 8.25 were deemed suitable to proceed with the restoration proposals (pending adequate monitoring), in addition to the on-site mitigation of the realigned Norman's Brook. This would comprise of designing spring diversions into the realigned Norman's Brook channel to support tufa forming conditions, as well as looking to slow down processes by creating localised pooling using local stone.
- 2.7.7 Restoration works to benefit tufaceous vegetation would be undertaken with a long-term management plan secured to maintain the improved conditions. The enhancement of degraded tufaceous vegetation would be a permanent improvement to this resource that would positively affect the integrity of the resource. This habitat improvement would represent a major beneficial impact upon this biodiversity resource.
- 2.7.8 Table 3-2 of the Register of environmental actions and commitments found in ES Appendix 2.1 Environmental Management Plan (EMP) Rev 2 (Document Reference 6.4, REP4-027) provides commitment BD9:
  - Offsite restoration of existing tufaceous formations in degraded condition.
  - This will ensure the implementation of this work, secured by DCO Requirement 3 and set out in the EMP Annex D Landscape and Ecological Management Plan.
- 2.7.9 To help progress the proposals, National Highways has acquired land for one of the compensation sites. For the other two locations, National Highways met with the landowner with a freehold of the land on 21 February 2022. Discussions were very positive and next steps are being taken to help secure the long term management of these sites in the future, likely through a separate legal agreement. To assist, National Highways intends to produce a Management Plan for the three sites. A progress update can be provided to the ExA on request, but it is not expected that there will be any difficulties in securing all necessary land rights to deliver the necessary works on the three identified compensation sites.

## 2.8 Traffic data regarding the historic bridge northeast of Cowley Manor

#### Summary of matters raised

- 2.8.1 At Issue Specific Hearing 4 (ISH4) on the draft DCO, held 3 March 2022, National Highways was assigned Hearing Action Point ISH4-AP1 which stated:
  - "Provide traffic data regarding usage of the 'historic bridge' northeast of Cowley Manor."
- 2.8.2 The location of the 'historic bridge' northeast of Cowley Manor is provided in Figure 2-1.



Figure 2-1 Location of the 'historic bridge' to the northeast of Cowley Manor

- 2.8.3 National Highways has extracted the forecast traffic flows from the scheme traffic model that would pass over this 'historic bridge' (Figure 2-1 provides the location of this 'historic bridge') for the 2041 Do-Minimum (DM) and Do-Something (DS) scenarios. The DM scenario would not include the scheme proceeding, whereas the DS scenario includes the proposed scheme.
- 2.8.4 The two-way Annual Average Daily Traffic (AADT) figures decrease from 793 in the 2041 DM to 494 in the 2041 DS. By direction the AADT traffic flows for the DM and DS scenarios would be:
  - 2041 DM eastbound 388, 2041 DS eastbound 209
  - 2041 DM westbound 405, 2041 DS westbound 285.
- 2.8.5 It should also be noted that this link was not part of the formal model validation represented in the ComMA (Document Reference 7.6, APP-422). A traffic count from 2015 however does exist for the Cowley village junction on the A435. Traffic counts are utilised in the development of the base traffic model and allow comparisons between the observed and modelled traffic flows to take place. This is the calibration/validation process of the base traffic model and ensures that the model reacts realistically in relation to the distribution of traffic. The Transport Analysis Guidance (Unit M3-1 Highway Assignment Modelling) sets out the criteria that the model needs to achieve, these are provided in Table 8-1 of the ComMA Report.
- 2.8.6 The 2015 observed traffic flows based on the traffic counts undertaken for the three time periods on the Cowley arm are as follows:
  - Eastbound AM average hour 25 vehicles, IP average hour 18 vehicles and PM average hour 23 vehicles.

- Westbound AM average hour 18 vehicles, IP average hour 18 vehicles, PM average hour 35 vehicles.
- 2.8.7 As stated above, although this link is not validated as part of the formal process represented in the ComMA (Document Reference 7.6, APP-422), the modelled flows have been compared to the observed flows. The modelled traffic flows are sufficiently close to the observed traffic flows that this road achieves the TAG criteria (TAG Unit M3-1 Highway Assignment Modelling). In addition, the A435 arms to the north and south of the Cowley junction achieve the TAG criteria when the observed traffic flows are compared to the modelled traffic flows. Therefore, as all the traffic on each arm achieves the TAG criteria the overall traffic flowing through this junction in the base model is comparable to the 2015 observed traffic count data.

#### 2.9 Traffic data regarding Cowley when the A436 is congested

#### Summary of matters raised

2.9.1 At Issue Specific Hearing 4 (ISH4) on the draft DCO, held 3 March 2022, National Highways was assigned Hearing Action Point ISH4-AP2 which stated:

"Respond to suggestion that traffic will continue to divert through Cowley when A436 is congested."

- 2.9.2 National Highways have assessed the scheme traffic model and this forecast's that congestion and delay on the A436 would decrease as a result of the scheme.
- 2.9.3 In the 2041 DM scenario the delay on the A436 approach to Air Balloon roundabout from the A436 direction would be as follows:
  - AM average hour 1 minute 45 seconds.
  - IP average hour 1 minute 8 seconds.
  - PM average hour 5 minutes 14 seconds.
- 2.9.4 The reason for the delay on the A436 approach to Air Balloon would be due to the high volume of A417 traffic travelling eastbound. The high volume of traffic making this movement reduces the ability for vehicles on the A436 to enter the roundabout. In addition, the roundabout was not designed to accommodate the current and forecast traffic flows, and this exasperates the congestion issues at the Air Balloon roundabout.
- 2.9.5 In the 2041 DS scenario the delay on the A436 approach to Ullenwood junction (which would replace the Air Balloon roundabout) would be as follows:
  - AM average hour 5 seconds.
  - IP average hour 5 seconds.
  - PM average hour 6 seconds.
- 2.9.6 As can be seen in the DS scenario there would be a significant decrease in delay at the Ullenwood junction when compared to the 2041 DM scenario, especially for the PM average hour. The reason for this decrease is two-fold. Firstly, and most importantly the scheme removes the A417 traffic from this junction. Secondly the Ullenwood junction has been designed so that it would accommodate the forecast peak hour traffic flows in 2041.

#### Impact of the scheme on A436 journey times

- 2.9.7 As a result of the access route between the A417 and A436, via the A436 Link Road, there would be some longer distance journeys where there would be an increase in journey times as a result of the additional distance required to access the A417 at Shab Hill.
- 2.9.8 The increase in journey times between the 2041 DM and 2041 DS scenario would be for routes between the A40 and M5 Junction 11a via the A436 (reported in Table 5-6 and Table 5-7 of the Transport Report Document Reference 7.10, APP-426). Although these are the specific journey routes reported in the Transport Report, journey times for those travelling to/from the Gloucester/M5 area via the A436 would generally increase.
- 2.9.9 Although there may be an increase in journey time in the DS for those travelling to/from Gloucester/M5 area via the A436, trips to the south and those utilising Leckhampton Hill would see a decrease in journey time when compared to the DM scenario. This decrease in journey time between the 2041 DM and 2041 DS scenarios would be due to the reduction in delay at the Ullenwood junction.
- 2.9.10 Although the traffic modelling does forecast an increase in journey time for certain origin/destinations using the A436, the traffic modelling forecasts there would be a decrease in congestion at the Ullenwood junction. This decrease in congestion at Ullenwood junction decreases journey times via the A417, or Leckhampton Hill. This makes travelling via the A417, or Leckhampton Hill, a more attractive option for certain trips between origin/destinations to the south (including Stroud) and Cheltenham. As a result of the improved journey times the traffic modelling forecasts that trips that would travel through Cowley in the DM scenario would no longer travel through Cowley in the DS scenario.

## 2.10 Traffic data regarding the operation of Barnwood and Longlevens junctions

#### **Summary of matters raised**

2.10.1 At Issue Specific Hearing 4 (ISH4) on the draft DCO, held 3 March 2022, National Highways was assigned Hearing Action Point ISH4-AP3 which stated:

"Provide traffic data regarding the operation of Barnwood and Longlevens junctions with the Proposed Development in place."

#### **National Highways response**

2.10.2 National Highways have extracted the requested traffic data from the forecast 2041 DM and DS scenario scheme traffic model for the Barnwood and Longlevens junctions and this is presented in Table 2-1 and Table 2-2. The data has been provided in terms of Annual Average Daily Traffic (AADT) flows to be consistent with those provided in the ComMA (Document Reference 7.6, APP-422) and the Transport Report (Document Reference 7.10, APP-426).

Table 2-1 Traffic flows for Barnwood junction for 2041

Arm	Direction	2041 DM AADT	2041 DS AADT	Difference	Percentage difference
A417 (north arm)	Northbound	24,752	25,926	1.174	5%
aiiii)	Southbound	26,116	26,252	136	1%
A417 (east	Eastbound	23,198	23,733	535	2%
arm)	Westbound	23,159	24,954	1,795	8%
Corinium	Eastbound	18,836	19,149	313	2%
Avenue	Westbound	19,988	20,491	503	3%

Table 2-2 Traffic flows for Longlevens junction for 2041

Arm	Direction	2041 DM AADT	2041 DS AADT	Difference	Percentage difference
A40 (north arm)	Northbound	21,434	22,143	708	3%
	Southbound	23,368	23,483	115	0%
Cheltenham Road East	Eastbound	8,701	8,904	203	2%
	Westbound	9,899	9,863	-36	0%
A40 (east arm)	Eastbound	26,510	26,574	64	0%
	Westbound	25,037	24,961	-76	0%
A417	Northbound	24,752	25,926	1,174	5%
	Southbound	26,116	26,252	136	1%
A40 through traffic	Westbound	10,456	10,446	-10	0%

- 2.10.3 As shown in Table 2-1 and Table 2-2, overall the scheme would increase traffic passing through both the Barnwood and Longlevens junctions. But, for Longlevens the scheme would decrease traffic on the Cheltenham Road East arm, the A40 east arm and the A40 through traffic there would be a small decrease in traffic. The increase in traffic for AADT flows would be less than 5% for most arms of the two junctions. The only exception would be the A417 (east arm) in the westbound direction for the Barnwood junction where the percentage increase would be approximately 8%. The decrease in traffic at Longlevens would be less than 100 vehicles and the percentage decrease would be less than 1%.
- 2.10.4 A review of the scheme traffic model forecasts that for Barnwood junction the maximum change in delay would be on the A417 northern arm where delay on the approach would increase from 30 seconds in the 2041 DM to 36 seconds in the 2041 DS scenario for the AM average hour. On the A417 east arm, the delay on the approach would increase from 19 seconds in the 2041 DM to 21 seconds

- in the 2041 DS for the average AM hour. For Barnwood, for all other arms and time periods, any change in delay would be less than two seconds. For Longlevens any changes in delay would be less than one second as a result of the increased traffic passing through the junction.
- 2.10.5 Although there would be an increase in traffic passing through both these junctions, a review of model outputs undertaken by National Highways show that the increase in traffic would have a minor impact on the operation of these junctions.

#### 2.11 Summary of the mitigation at Alexander and Angell

#### Summary of matters raised

- 2.11.1 At Issue Specific Hearing 4 (ISH4) on the draft DCO, held 3 March 2022, National Highways was assigned Hearing Action Point ISH4-AP9 which stated:
- 2.11.2 "Provide a summary of the mitigation at Alexander and Angell following Natural England's stated preferences for neutral grassland."

- 2.11.3 The primary justification for habitat creation within the Alexander and Angell Ltd land is to provide mitigation for the loss of commuting and foraging habitat for bats that would arise from the widening of the existing A417.
- 2.11.4 Radiotracking surveys identify that this location is adjacent to existing core areas for several of the rarest bat species impacted by the scheme (see Figure 4 of Environmental Statement Appendix 8.8 Bat Advanced Survey Technical Report (Confidential) (Document Reference 6.4, APP-362). The land parcel is also immediately adjacent to an existing underpass (where Bentham Lane passes beneath the A417) that is an important safe crossing point used by greater horseshoe bats (see Figures 22 and 23 of ES Appendix 8.8 Bat Advanced Survey Technical Report (Confidential) (Document Reference 6.4, APP-362). These findings make this an optimal location to deliver new bat foraging and commuting habitat to mitigate losses. The environmental masterplan includes a belt of woodland up to 50m wide and an open area of grassland within the Alexander and Angell Ltd land to provide such habitats.
- 2.11.5 The mitigation strategy for this land is not dependent upon the provision of calcareous grassland specifically, because the bat foraging habitat could take the form of a number of other insect-rich habitats including neutral species-rich grassland. Calcareous grassland was specified to align with the overall scheme vision to maximise provision of this habitat type agreed with stakeholders including Natural England, and because it is likely that there will be limestone substrate available to create this habitat.
- 2.11.6 Prior to habitat creation on this land, it would be cleared of its existing agricultural topsoil and used as a construction compound for three years. The type of habitat that could be created following removal of the compound would be influenced by the substrate and soils used to reinstate this land. Creation of calcareous grassland would depend upon placement of limestone, to a depth that will ensure free drainage, which is a characteristic of this habitat type.
- 2.11.7 The environmental mitigation strategy in relation to the Alexander and Angell Ltd land remains sound whether this land is reinstated with limestone and lime-rich

- soil to facilitate creation of species-rich calcareous grassland, or whether the land is reinstated with soils to more closely resemble the existing soil profile to facilitate creation of species-rich neutral grassland. The key mitigation requirement is that species-rich grassland is created that is not subject to intensive grazing or agricultural nutrient inputs, in order to provide the habitat required to mitigate for impacts to foraging bats.
- 2.11.8 Natural England has not previously raised concerns with regards to the creation of calcareous grassland at this location. At ISH4 Natural England stated that its soil and grassland specialists would likely prefer neutral grassland to be delivered at this location, in order to maintain the existing soil profile.
- 2.11.9 The input of Natural England soil and grassland specialists into the detailed landscape and ecological design of this area is welcomed by National Highways. Such involvement is already proposed through a commitment within Section 1.2 of the Landscape and Ecological Management Plan (LEMP) (Annex D of ES Appendix 2.1 EMP (Document Reference 6.4, APP-321) to form a Working Group including Natural England 'to provide independent advice on the development of the landscape and ecological detailed design, construction and management of the scheme'.
- 2.11.10 As such, National Highways considers that the mechanism is already provided within the LEMP for Natural England to shape the habitat creation at the detailed design stage, at which point further detailed ground investigation information will be available to confirm the existing soil profile and ground conditions. If Natural England's soil and grassland specialists consider that creation of neutral grassland is more appropriate than calcareous grassland at this stage, then this habitat would form the basis of the detailed design without risk of undermining the mitigation function of this land for bats.

#### 2.12 Junction design at optioneering stage

#### **Summary of matters raised**

2.12.1 At Issue Specific Hearing 4 (ISH4) on the draft DCO, held 3 March 2022, National Highways was assigned Hearing Action Point ISH4-AP6 which stated:

"Provide written response regarding the number of junctions intended for Option 30 compared to the number of junctions in Option 12."

- 2.12.2 Section 3 of National Highways' Summary of Applicant's Oral Submissions at Issue Specific Hearing 2 (Document Reference 8.19, REP3-011) considered concerns raised about the assessment of alternatives and junction layouts. Technical constraints were discussed, including engineering constraints related to level differences and geology.
- 2.12.3 The Scheme Assessment Report (SAR) (Document Reference 7.4, APP-420) summarises the options assessment phase and describes how the assessment has resulted in the preferred route of Option 30.
- 2.12.4 Section 6.7 of the SAR (Document Reference 7.4, APP-420) details the assumptions that were applied to both Option 12 and Option 30.
- 2.12.5 These were:

- Inclusion of a major junction at the top of the escarpment
- Major junction to be grade separated
- Minor junction at Cowley junction
- 2.12.6 A General Arrangement Plan of Option 12 and Option 30, showing the associated junction arrangements, are shown in Appendix C and D respectively of the SAR (Document Reference 7.4, APP-420). On this basis, National Highways does not agree that the options consulted on had different junction arrangements.

#### 2.13 Response to specific submissions

2.13.1 In some instances, National Highways considers that it is useful to the ExA or to an Interested Party to provide a direct comment on a matter raised in a submission made at Deadline 4. This is set out in Table 2-3.

Table 2-3 Responses to specific Deadline 4 submissions

Interested Party/Affected Person	Examination Library Reference	National Highways Comment
Cirencester College	REP4-038	National Highways acknowledges the College's strong support for the scheme, alongside asks for engagement with its students and access to the Golden Heart Inn.
		National Highways is very willing to engage with the College to help facilitate its students visiting the project. National Highways does not consider this needs to be secured through the DCO but intends to correspond with the College at the appropriate time.
		National Highways is also able to clarify, as set out in the Consultation Report Appendices - Part 2 of 2 (Document Reference 5.2, APP-029) that the Golden Heart Inn will be accessible from the Air Balloon Way and the surrounding Public Rights of Way network. However, vehicular access by road to the Golden Heart Inn would be available via Cowley junction. Furthermore, new areas of parking for disabled users and also horse boxes would be provided near the Golden Heart Inn and the turning to Stockwell, for people wishing to access the area.
Cotswolds Conservation Board	REP4-039	CCB provides further information on the Board's position on the proposed scheme's approach to the historic landscape. Its submission explains how the report 'Crickley Hill, Gloucestershire. Exemplar case study-A holistic evaluation of heritage and natural landscape significance and an assessment of impact, relative to National Highways' A417 Missing Link road scheme proposals' (Document Reference REP1-098) covers most of the points they intended to raise and they support the report's findings and recommendations. To contribute towards mitigating the impact on the historic environment, CCB add the following to the recommendations in the Crickley Hill report:
		a) Ensure any historic environment assets, such as drystone walls, removed to facilitate construction (e.g. for construction access roads, compounds, etc.) are fully and properly reinstated.
		b) Any historic environment assets not removed to facilitate construction, but within the red line boundary or cross the redline boundary, are conserved, enhanced or restored. This could include removing scrub from features and restoring drystone walls.
		National Highways has provided a response to that report as part of its submission 'Response to Cultural Heritage Issues Raised' (Document Reference 8.14, REP2-015).
		In response to the additional recommendations offered:

Interested Party/Affected Person	Examination Library Reference	National Highways Comment
		EMP Commitment L14 already states "Create a mix of new Cotswold drystone walling and hedgerows to field boundaries affected by the road infrastructure. Cotswold walls to be built in accordance with local practices and skills."
		<ul> <li>Emma's Grove scheduled monument would be protected from accidental damage or loss during construction and will be subject to selective vegetation clearance to conserve and enhance the barrows. This is secured by EMP Commitments CH5 and CH6. No further historic environment assets have been identified for conservation, enhancement or restoration.</li> </ul>
Cowley and Birdlip Parish	REP4-040 to REP4-046	Cowley and Birdlip Parish Council raise their interest in the existing bus shelter on the current A417 east of the Air Balloon roundabout. The Parish Council contends that it does have substantial and material interest in this building.
Council		National Highways updated the Book of Reference at Deadline 4 (Document Reference 4.3 Rev 1, REP4-022) to reflect the interest of Cowley and Birdlip Parish Council in the bus shelter. Discussions are ongoing between the applicant and the Parish Council on the status of this interest and the applicant will update the ExA on these discussions as soon as possible.
Environment Agency	REP4-047	The Environment Agency provide comments on protected provisions, and other consents, licences and permits. With regard to the Water Discharge Activities and Water Abstraction License, they continue to express some hesitancy about agreeing that these can be disapplied as part of the DCO.
		Since the submission of REP4-047, National Highways has engaged further with the Environment Agency who confirmed that they are continuing to consider the proposed disapplication of legislation in relation to water discharge activities and water abstraction licenses and have not yet reached a position on these matters. National Highways have offered examples of similar schemes and has also offered a further meeting with the Environment Agency in order that an updated Consents and Agreements Position Statement can be provided at a future deadline.
Lisa Field	REP4-050	Ms Field expresses concerns about the installation of a layby. Ms Field raises a concern that there is no justification for the installation of a layby adjacent to the property and that land is being taken to install it.
		Regarding Ms Field's concerns that land is being taken for the layby at plot 1/3d, this is not the case. National Highways responded to this point at ISH1 to state that the layby is not positioned on the Field's land parcel. The layby would be constructed on existing National Highways land.
		National Highways responded to Written Question 1.11.28 setting out the layby strategy and optioneering that had been done during the preliminary design stage. National Highways are aware of Ms Field's concerns regarding the position and use of the layby and as such, National Highways will revisit the layby strategy at detailed design. The position statement (Document Reference 8.22, Rev 1) states that the public layby will be removed from the scheme and replaced

Interested Party/Affected Person	Examination Library Reference	National Highways Comment
		with a smaller Emergency Area subject to Traffic Road Orders to restrict public use. Alternatively, it will be removed from the scheme altogether.
		These changes will not affect the proposals to provide essential mitigation planting on Ms Field's land parcel and therefore will not affect the land acquisition proposed.
National Trust	REP4-051	Scheme design
		Section 2.2 of this document provides further information about controls of detailed design.
		Limits of deviation and National Trust inalienable land
		National Highways can confirm the position outlined within the National Trust's submission in that no National Trust land outside of the Order Limits, or beyond that which is due to be acquired from the National Trust, can be utilised for operations forming part of the authorised development. The Order Limits set for the scheme form a hard boundary within which the scheme much be delivered as confirmed through Part 2, 5(1) which states "Subject to the provisions of this Order, including the requirements in Schedule 2 (requirements), the undertaker is granted development consent for the authorised development to be carried out within the Order limits".
		As shown on the Works Plans (Document Reference 2.4 Rev 1, AS-038), National Highways has allowed sufficient space to construct, operate and maintain the scheme in the vicinity of National Trusts wider land holding and are confident that works can be delivered within the land to be acquired.
		Limits of deviation as set through the draft DCO are all within the Order Limits and relate primarily to the A417 mainline and associated earthworks.
		This position is confirmed through the Position Statement between National Highways and the National Trust which is submitted at Deadline 5 alongside the Statement of Common Ground.
		Recreational pressures on SSSI
		The National Trust express concerns regarding the impact of the scheme on the SSSI at Crickley Hill. It is suggested that the lack of parking charges at Barrow Wake would potentially encourage visitors to park at this location to access the Country Park via the Cotswold Way crossing, to avoid the car park charges at Crickley Hill Country Park. The National Trust state that 'one person crossing the Cotswold Way bridge, will be one more that currently does not because of the road'.
		In response to these points, National Highways has the following comments:

Interested Party/Affected Person	Examination Library Reference	National Highways Comment
		Existing Crickley Hill users who currently park at the Country Park, but who would instead park at Barrow Wake and access the Country Park via the Cotswold Way crossing to avoid parking charges, would not represent any increase in recreational pressure on the SSSI at Crickley Hill.
		<ul> <li>Visitors for whom free parking is a high priority would have the new option of parking provision associated with Air Balloon Way adjacent to the Golden Heart Pub. This location is over 3km in walking distance from Crickley Hill and is therefore likely to reduce the amount of time such visitors spend within the SSSI (if at all).</li> </ul>
		<ul> <li>Provision of the Cotswold Way crossing may result in additional visits to Crickley Hill from visitors parking at Barrow Wake, but National Highways does not agree with the National Trust's view that any additional visits from this source means that there must be increased recreational pressure on the SSSI. This is because any increase is likely to be outweighed by existing visitors spending time away from the Country Park, facilitated by the Cotswold Way crossing, as described within National Highways Response to Written Representations made at Deadline 1 (Document Reference 8.11, REP2-012) as submitted at Deadline 2.</li> </ul>
		• The amount of recreational pressure upon the SSSI is not only related to the absolute number of visitors, but also the amount of time that those visitors spend within the site. For visitors parking within the Country Park, the alternative and improved recreational provision within the scheme (including the Cotswold Way crossing, the Air Balloon Way, Gloucestershire Way crossing and the connected other PRoW improvements) could not divert their visits away from the SSSI entirely. However, such provision includes a range of options for attractive circular routes of different lengths using several new bridge crossings over the scheme that would be likely to encourage a majority of Country Park visitors to venture beyond the SSSI boundaries and spend more of their visit outside of the SSSI, thus reducing recreational pressure upon the SSSI habitats.
		Holistic approach to scheme mitigation
		Commitment CH9 was added to Appendix 2.1 Environmental Management Plan (EMP) at Deadline 2 (Document Reference 6.4 Rev 2, REP4-027). The detail of the signage and interpretation boards would be developed at detailed design. National Highways would engage with the environmental stakeholders on this, as per commitment GP8.
		Scheme impacts at Crickley Hill
		National Highways' position remains as detailed in the Response to Cultural Heritage Issues Raised (Document Reference 8.14, REP2-015) submitted at Deadline 2 (D2) and as elaborated further on 27 January 2022 at the Issue Specific Hearing 2 (Session 3).
		Possible lighting of the scheme
		Comments on Ullenwood junction lighting proposals are addressed in section 2.3 of this document.

Interested Party/Affected Person	Examination Library Reference	National Highways Comment
Natural England	REP4-052	Comments on Ullen Wood lighting proposals are addressed in section 2.3 of this document.
		Natural England also provide further advice on disapplying SSI Consents. National Highways provides the latest position in the Consents and Agreements Position Statement submitted at Deadline 5 (Document Reference 7.2 Rev 1). National Highway's position is clarified below, as is reflected in matter outstanding 1.1 of their Statement of Common Ground, Appendix C of the Statement of Commonality (Document Reference 7.3 Rev 2, REP3-005).
		The Applicant notes the comments made by Natural England in their submission at Deadline 4 (REP4-052). The Applicant's preference is to come to an agreed position with Natural England and it will continue to engage on this point. However, the Applicant's position remains as set out in its Deadline 3 submission Summary of Applicant's Oral Submissions at Issue Specific Hearing 1 (Document Reference 8.17, REP3-009). The Applicant's response to the specific points raised by Natural England at Deadline 4 is as follows.
		Natural England have referred to PINS Advice Note 11 Working with Public Bodies and specifically Annex C in relation to Natural England. There is a short section within this document that deals with SSSIs and it refers to the SoS' duties under section 28I of the Wildlife and Countryside Act. It does not expressly cover sections 28E and 28H of the Act, which the Applicant is seeking to disapply.
		To clarify, the Applicant accepts that the SoS has a duty under section 28I to notify Natural England before authorising the carrying out of operations likely to damage the special interest features of a SSSI. The Applicant's concern relates to sections 28E and 28H, which place duties in connection to SSSIs on owner/occupiers and statutory bodies respectively when undertaking operations.
		The legislative framework in the Wildlife and Countryside Act 1981 clearly envisages that, where a planning consent covers works that may affect a SSSI, a separate consent from Natural England should not be required. This is demonstrated by the reasonable excuse defence under section 28P. Where a person or section 28G authority would be guilty of an offence under sections 28E or 28H (as applicable), the reasonable excuse defence may apply if either the operation in question was authorised by a planning permission or permitted by a section 28G authority that has acted in accordance with section 28I. The rationale for this defence is that the decision maker would be required to notify Natural England under section 28I and take account of its advice.
		Natural England confirmed in its Deadline 4 Submission (REP4-053) that, if the SoS complies with its section 28l duty in relation to this DCO, the statutory reasonable excuse defence would in its view apply.
		However, the Applicant does not consider that it is appropriate for the delivery of an NSIP to be reliant on a statutory defence to criminal proceedings, particularly where that defence is dependent on a process that is outside of the Applicant's control. NSIPs are subjected to extensive environmental impact assessment, wide ranging public consultation, and a public examination during which suitable controls to protect SSSIs can be addressed. The SoS also has the ability to consult with stakeholders prior to determination. In this context, the duties under sections 28E and 28H

Interested Party/Affected Person	Examination Library Reference	National Highways Comment
		are unnecessary and create uncertainty. The purpose of the DCO regime is to provide a one stop shop for NSIPs, and legislative requirements can be disapplied for that purpose.
		In practice, Natural England has agreed to disapply section 28E on previous highways schemes. On the A14 scheme granted in 2016 Natural England agreed to the disapplication of section 28E on the basis that "it would have the same degree of influence that it would under the relevant legislative provision to be disapplied" (ExA Report 8.2.11). This approach was also followed in relation to the A303 Stonehenge DCO (currently awaiting re-determination), with no objection from Natural England. This is the accepted approach from the Applicant's perspective. Further to its discussions with Natural England in relation to this scheme, the Applicant considers that section 28H should also be disapplied under National Highways DCOs, for the same reasons.
		For completeness, the Applicant notes that the SoS could also disapply section 28I on the basis that the DCO process effectively satisfies the section 28I duty. However, this would be a matter for the SoS rather than the Applicant.
		The Applicant maintains that there are sufficient controls within the DCO to protect SSSIs (existing or prospective) where operations forming part of the authorised development are carried out, as secured by the requirements. Specifically, commitment BD63 of the EMP requires all works within a SSSI to be subject to a method statement to be agreed and signed off by Natural England.
		The Applicant therefore maintains that sections 28E and 28H should be disapplied, as permitted by section 120 of the Planning Act 2008.
Carol Gilbert	REP4-036/037	Ms Gilbert continues to raise concerns about the scheme, including the lack of preliminary design detail, traffic data and modelling, consultation, environmental impacts of Option 30 and assessment of Option 12.
Joanna Pearce	REP4-048	Section 2.2 of this document considers controls on detailed design.
Linda Turner	REP4-049	Section 2.3 of this document provides information about impacts on Cowley village.
Pascale Gysi	REP4-053	Ms Gilbert, Ms Pearce, Ms Turner, Mr Hamilton and Mr Gysi express concerns about traffic data and modelling. Section 2.6 of National Highways' submission at Deadline 4 'Comments on Responses received by Deadline 3' (Document
Richard Hamilton	REP4-056	Reference 8.25, REP4-035) addresses concerns raised about traffic data and modelling at Cowley Lane. Section 2.4 of this document provides further clarification about traffic modelling at Cowley Lane, seeking to assist their understanding.
		Mr Gysi also raises concerns about the suitability of Cowley Lane to accommodate the traffic and maintain safety. National Highways' Comments on Responses received by Deadline 3 document explains how the scheme traffic model indicates that through-traffic is removed from Cowley village and that given the forecast reduction in traffic, the road would continue to be within capacity and the safety performance would not deteriorate.

Interested Party/Affected Person	Examination Library Reference	National Highways Comment
		Ms Turner reiterates National Highways should undertake an environmental assessment to be carried out in line with the Institute of Environmental Management & Assessment (IEMA) (1993) Guidelines for the Environmental Assessment of Road Traffic, in relation to the effects of the scheme on Cowley. National Highways responded to this matter at Deadline 4 in Table 2-2 of the submission 'Comments on Responses received by Deadline 3' (Document Reference 8.25, REP4-035).
The Joint	REP4-054	Section 2.2 of this document provides further information about controls of detailed design.
Councils		Section 2.3 of this document provides an Ullenwood junction lighting assessment update.
		The Joint Councils' other concern raised in their Deadline 4 submission relates to the drawing 'Areas subject to archaeological surveys' (REP3-016) submitted by National Highways at Deadline 3. The Joint Councils have raised concern that there are some discrepancies between what is shown on the drawing and the records that the Joint Councils has. In relation to the specific areas of discrepancy identified by the Councils in their submission, National Highways can confirm that the draft 'greyscale' results for these areas were provided to the Joint Council on 15/02/21 The final interpretation and report for these areas will be produced upon completion of all surveys in 2022.
		The Joint Councils have also asked what is intended in the areas containing trenches T96, T98 and T99. National Highways can confirm that this area will be subject to archaeological monitoring, as described in ES Appendix 2.1 EMP Annex C Detailed Archaeological Mitigation Strategy and Overarching Written Schemes (DAMS/OWSI) (Document Reference 6.4, APP-320).
		Finally, the Joint Councils have queried how the area now being proposed for extra geophysical survey was chosen and if it was on the basis of access being available. National Highways can confirm that the survey extent was defined to include areas where the DCO boundary had altered since the initial geophysical survey was completed.
Tim Knox	REP4-055	Mr Knox expresses concerns about why the two designs that went to non-statutory consultation in 2018 had very different junction designs, with Option 12 having three junctions, whilst Option 30 only one. Mr Knox is asks whether at the time of the consultation, if the junction layouts had been of similar number and design, would the monetised costs and benefits of both options have been more similar or even in favour of Option 12. This point is addressed at section 2.12 of this document.
		Mr Knox also sets out how at the time of consultation, it was stated that Option 30 would divert the strategic road network away from the Cotswolds escarpment and expresses concerns that at the time of consultation was that the existing A417 (on the Cotswold escarpment) would be used to connect the A436 to the Shab Hill junction. Mr Knox suggests that assuming that Option 12 would have been along the same alignment of the current A417, it could be fairly assumed that the feeder route for Option 30 would have the same impact on the escarpment as Option 12 would have. Mr Knox asks what impact, if any, Option 12 would cause on the escarpment over and above what is there now with the current A417.

Interested Party/Affected Person	Examination Library Reference	National Highways Comment
		In addition, as to what design measures could be undertaken to mitigate any perceived impacts on the escarpment, caused by Option 12.
		In relation to the point raised by Mr Knox in relation to the microclimate, National Highways provided a response to this in relation to the written submission from Joanna Pearce (REP3-037) in Comments on responses received by Deadline 4 (Document Reference 8.25, REP4-035). In this National Highways stated the following:
		The scheme traffic model is representative of an annual average weekday within the year as required to support the design, environmental assessment and the business case for the scheme. The scheme benefits are therefore representative of the average conditions, and this is the basis of the design and business case.
		The accident assessment undertaken for the scheme is based on observed accident data for the A417 and the wider network covering the entire period and therefore periods when adverse weather occurs.
		Other concerns expressed by Mr Knox have already been addressed as outlined above.
Carter Jonas LLP on behalf of Hanson Quarry Products Europe Limited	AS-063	Hanson Quarry Products raise queries associated with the Book of reference in relation to plots 6/5c, 6/7a and 6/7b.  National Highways wrote to Carter Jonas LLP on behalf of Hanson Quarry Products to respond directly to these queries on 22 February 2022. In summary:
		<ol> <li>National Highways acknowledge that Plot 6/5c on the Land Plans (Document Reference 2.2 Rev 2, REp4-006) is currently attributed incorrectly within the Book of Reference and this should be attributed to Hanson Quarry Products. This will be updated in a future update to the Book of Reference.</li> </ol>
		2. In relation to Plot 6/7a, an up to date position is provided through the Landowner Position Statement submitted alongside this document at Deadline 5. In summary, Severn Trent Water have confirmed that the asset through Hanson Quarry is abandoned and therefore they do not require access rights moving forward. Through preliminary design, National Highways are seeking acquisition which provides for a worst case, with rights acquired. However, through discussions with Hanson, National Highways have confirmed that should we be able to confirm that no future access is required through the detailed design and construction phases, no rights would be sought post construction with only temporary possession powers utilised.
		3. In relation to Plot 6.7b and the south-eastern most extent of Plot 6/7c and the query in relation to a proposed drainage ditch, the correspondence provided an image to assist the points raised, with written confirmation that:
		<ul> <li>The attenuation basins are linked, so 11a drains to 11b and 11b drains to 11c with the pipes linking the basins shown in blue on the provided drawing.</li> </ul>
		<ul> <li>The feature shown linked to the southern end of the basin and leading onto their land is a drainage ditch and is not linked to the attenuation basin though leads up to its edge.</li> </ul>

