highways england

A417 Missing Link
TR010056

6.4 Environmental Statement Appendix 4.1 The Planning Inspectorate Scoping Opinion

Planning Act 2008

APFP Regulation 5(2)(a)
Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

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A417 Missing Link

Development Consent Order 202[x]

6.4 Environmental Statement
Appendix 4.1 The Planning Inspectorate Scoping Opinion

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Planning Inspectorate Scheme Reference	TR010056
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The Planning Inspectorate
Yr Arolygiaeth Gynllunio

SCOPING OPINION:

Proposed A417 Missing Link

Case Reference: TR010056

Adopted by the Planning Inspectorate (on behalf of the Secretary of State pursuant to Regulation 10 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

June 2019

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1. INTRODUCTION

1.1 Background

1.1.1 On 14 May 2019, the Planning Inspectorate (the Inspectorate) on behalf of the Secretary of State (SoS) received a scoping request from Highways England (the Applicant) under Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) for the proposed A417 "Missing Link" project (the Proposed Development).

1.1.2 In accordance with Regulation 10 of the EIA Regulations, an Applicant may ask the SoS to state in writing its opinion '*as to the scope, and level of detail, of the information to be provided in the environmental statement'.*

1.1.3 This document is the Scoping Opinion (the Opinion) provided by the Inspectorate on behalf of the SoS in respect of the Proposed Development. It is made on the basis of the information provided in the Applicant's report entitled "A417 Missing Link Environmental Impact Assessment Scoping Report" (the Scoping Report). This Opinion can only reflect the proposals as currently described by the Applicant. The Scoping Opinion should be read in conjunction with the Applicant's Scoping Report.

1.1.4 The Applicant has notified the SoS under Regulation 8(1)(b) of the EIA Regulations that they propose to provide an Environmental Statement (ES) in respect of the Proposed Development. Therefore, in accordance with Regulation 6(2)(a) of the EIA Regulations, the Proposed Development is EIA development.

1.1.5 Regulation 10(9) of the EIA Regulations requires that before adopting a scoping opinion the Inspectorate must take into account:

(a) any information provided about the proposed development;

(b) the specific characteristics of the development;

(c) the likely significant effects of the development on the environment; and

(d) in the case of a subsequent application, the environmental statement submitted with the original application.

1.1.6 This Opinion has taken into account the requirements of the EIA Regulations as well as current best practice towards preparation of an ES.

1.1.7 The Inspectorate has consulted on the Applicant's Scoping Report and the responses received from the consultation bodies have been taken into account in adopting this Opinion (see Appendix 2).

1.1.8 The points addressed by the Applicant in the Scoping Report have been carefully considered and use has been made of professional judgement and experience in order to adopt this Opinion. It should be noted that when it comes to consider the ES, the Inspectorate will take account of relevant legislation and guidelines. The Inspectorate will not be precluded from requiring additional information if it is considered necessary in connection with

the ES submitted with the application for a Development Consent Order (DCO).

1.1.9 This Opinion should not be construed as implying that the Inspectorate agrees with the information or comments provided by the Applicant in their request for an opinion from the Inspectorate. In particular, comments from the Inspectorate in this Opinion are without prejudice to any later decisions taken (eg on submission of the application) that any development identified by the Applicant is necessarily to be treated as part of a Nationally Significant Infrastructure Project (NSIP) or Associated Development or development that does not require development consent.

1.1.10 Regulation 10(3) of the EIA Regulations states that a request for a scoping opinion must include:

(a) a plan sufficient to identify the land;

(b) a description of the proposed development, including its location and technical capacity;

(c) an explanation of the likely significant effects of the development on the environment; and

(d) such other information or representations as the person making the request may wish to provide or make.

1.1.11 The Inspectorate considers that this has been provided in the Applicant's Scoping Report. The Inspectorate is satisfied that the Scoping Report encompasses the relevant aspects identified in the EIA Regulations.

1.1.12 In accordance with Regulation 14(3)(a), where a scoping opinion has been issued in accordance with Regulation 10 an ES accompanying an application for an order granting development consent should be based on '*the most recent scoping opinion adopted (so far as the proposed development remains materially the same as the proposed development which was subject to that opinion)*'.

1.1.13 The Inspectorate notes the potential need to carry out an assessment under The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations). This assessment must be co-ordinated with the EIA in accordance with Regulation 26 of the EIA Regulations. The Applicant's ES should therefore be co-ordinated with any assessment made under the Habitats Regulations.

1.2 The Planning Inspectorate's Consultation

1.2.1 In accordance with Regulation 10(6) of the EIA Regulations the Inspectorate has consulted the consultation bodies before adopting a scoping opinion. A list of the consultation bodies formally consulted by the Inspectorate is provided at Appendix 1. The consultation bodies have been notified under Regulation 11(1)(a) of the duty imposed on them by Regulation 11(3) of the EIA Regulations to make information available to the Applicant relevant to the

preparation of the ES. The Applicant should note that whilst the list can inform their consultation, it should not be relied upon for that purpose.

1.2.2 The list of respondents who replied within the statutory timeframe and whose comments have been taken into account in the preparation of this Opinion is provided, along with copies of their comments, at Appendix 2, to which the Applicant should refer in preparing their ES.

1.2.3 The ES submitted by the Applicant should demonstrate consideration of the points raised by the consultation bodies. It is recommended that a table is provided in the ES summarising the scoping responses from the consultation bodies and how they are, or are not, addressed in the ES.

1.2.4 Any consultation responses received after the statutory deadline for receipt of comments will not be taken into account within this Opinion. Late responses will be forwarded to the Applicant and will be made available on the Inspectorate's website. The Applicant should also give due consideration to those comments in preparing their ES.

1.3 Article 50 of the Treaty on European Union

1.3.1 On 23 June 2016, the United Kingdom (UK) held a referendum and voted to leave the European Union (EU). On 29 March 2017 the Prime Minister triggered Article 50 of the Treaty on European Union, which commenced a period of negotiations regarding the UK's exit from the EU. On 26 June 2018 The European Union (Withdrawal) Act 2018 received Royal Assent and work to prepare the UK statute book for Brexit has begun. The European Union (Withdrawal) Act 2018 will make sure that UK laws continue to operate following the UK's exit. There is no immediate change to legislation or policy affecting national infrastructure. Relevant EU Directives have been transposed into UK law and those are unchanged until amended by Parliament.

2. THE PROPOSED DEVELOPMENT

2.1 Introduction

2.1.1 The following is a summary of the information on the Proposed Development and its site and surroundings prepared by the Applicant and included in their Scoping Report. The information has not been verified and it has been assumed that the information provided reflects the existing knowledge of the Proposed Development and the potential receptors/ resources.

2.2 Description of the Proposed Development

2.2.1 The Applicant's description of the Proposed Development, its location, and technical capacity (where relevant) is provided in sections 2.3 and 2.4 of Chapter 2 ('The Scheme') to the Scoping Report.

2.2.2 The Proposed Development Site comprises a 5.5km section of the existing A417, which provides an important link between the Midlands/North and South of England, between Gloucester and Swindon, and as an alternative to the M5/M4 route via Bristol. A site location plan / Provisional Red Line Boundary Plan is presented in Appendix A of the Scoping Report.

2.2.3 The Proposed Development is to upgrade and improve the 5.5km section of the existing A417, across the Cotswold escarpment. The works would upgrade the current single carriageway to a dual carriageway between the Brockworth bypass (base of Crickley Hill) and Cowley roundabout in Gloucestershire. The Proposed Development aims to deliver a safe and resilient free-flowing road whilst conserving and enhancing the special character of the Cotswolds Area of Outstanding Natural Beauty (AONB), within which the Proposed Development Site falls. The surrounding area of the existing A417 route contains a mix of agricultural land, woodland, and common land.

2.2.4 The nearest village to the Proposed Development, Birdlip, is situated approximately midway between Cowley roundabout to the east and Brockworth bypass to the west. Farms, private properties, and private enterprises are intermittently present either side of the existing A417 over its route, and Crickley Hill Country Park is situated immediately west of the Air Balloon roundabout. Details of pertinent designated sites in the vicinity of the Proposed Development are presented in the Environmental Constraints Plans in Appendix B of the Scoping Report (2 sheets).

2.2.5 The Scoping Report states that the construction of the Proposed Development is expected to commence in 2021, with the duration of the construction phase being approximately 3 years, thereby being complete and operational in 2024

2.3 The Planning Inspectorate's Comments

Description of the Proposed Development

2.3.1 Chapter 2 of the Scoping Report provides a description of the Proposed Development. The Inspectorate notes that the Scoping Report lacks in-depth

detail on all elements of the Proposed Development and proposes to allow flexibility in the final design (as detailed in Section 2.4.4 to 2.4.5). The ES must include a description of all physical characteristics of the Proposed Development. Where uncertainty exists and flexibility is sought this should be explained not only in terms of the maximum parameters but also the anticipated limits of deviation, the dimensions, locations, and alignments of the various project elements, including points of access and key structures. This information is important to ensure that any potential significant effects associated with the construction and operation stages have been appropriately assessed. The ES should provide figures to support the project description and depict the necessary detail.

2.3.2 The ES should contain a general construction programme (building on the information contained in section 2.4 of the Scoping Report) so that it is clear how and when the specific works / phases will take place, how the resulting effects on the road network will be managed and how the potential for likely significant effects on relevant environmental aspects associated with these works has been assessed. It should provide a description of the land use requirements during both the construction and operational phases. It is also important that the ES clearly identifies and distinguishes areas of land within the order limits which are required either permanently or on a temporary basis, as well as their intended use and duration of use. For example, immediately to the east of Birdlip, a roughly triangular land parcel is shown as being within the order limits, as well as a larger parcel located north-west of Little Witcombe. The Scoping Report doesn't make reference to the purpose of these land parcels.

2.3.3 Section 2.4.23 of the Scoping Report indicates that the proposals allow for temporary traffic management, temporary working and storage areas, construction compounds, haul roads, material stockpiling and provision for site compounds. The ES should detail the locations and extents of these features and factor them into the assessments undertaken. Section 2.4.25 states that details of the construction methodologies and activities would be included as a part of the ES.

2.3.4 It is considered that the Proposed Development may require the diversion of various cables and utilities. This will necessitate associated ground moving activities, such as excavation and the establishment of temporary work areas. However, limited further information is provided on any such diversions. The Applicant should ensure that the ES provides specific detailed information on this element of the Proposed Development, including plans to identify the diversions, and should ensure that any assessment is consistent with works specified within the dDCO.

2.3.5 The Scoping Report states that the proposals allow for 'installation of drainage, which will include excavation and placement of pipes and chambers' and mentions attenuation measures within the scheme. The ES should provide a sufficiently clear and specific description of the proposed drainage arrangements, indicating the location of any proposed pipework or attenuation features by reference to plans. Any significant effects associated with the drainage design (including attenuation features) should be assessed within

relevant aspect chapters of the ES, particularly in the context of landscape, biodiversity and the water environment.

2.3.6 Paragraph 2.4.13 of the Scoping Report explains that a new "green" bridge is proposed as part of the design to connect Public Rights of Way and provide landscape and ecology connectivity. Whilst section 4 of the Scoping Report makes reference to ongoing stakeholder consultation as to the design, location and overall green bridge concept in general, the Inspectorate expects that the detailed design parameters / specifications, location and appearance of the green bridge should be presented and considered in the ES and secured appropriately within the DCO.

2.3.7 The Scoping Report states that street lighting is not currently proposed as part of the Proposed Development (Section 2.4.8) however, this is subject to a 'further safety assessment during the preliminary design phase'. Should the Applicant decide that lighting is required the ES should assess any impacts associated with lighting, such as light spill, as part of the relevant aspect assessments with evidence as to how this has been taken into account. Further comments on this point are provided in Section 4 of this Scoping Opinion below in relation to the relevant aspect assessments.

2.3.8 The Scoping Report indicates that temporary road diversions and closures will be required throughout the construction phase. The ES should contain a full explanation of such closures and diversions, including whether they are temporary or permanent, and associated impacts should be fully assessed. This should also include any closures or diversions to Public Footpaths or Rights of Way. This information should also be depicted on figures in the ES, to provide further clarity.

Alternatives

2.3.9 The EIA Regulations require that the Applicant provide 'A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects'.

2.3.10 Supplementary to the detail provided in the Scoping Report (in Chapter 3), The Inspectorate acknowledges the Applicant's intention to consider alternatives within the ES and the Inspectorate would expect to see a discrete section in the ES that provides details of the reasonable alternatives studied and the reasoning for the selection of the chosen option(s), including a comparison of the environmental effects.

Flexibility

2.3.11 The Inspectorate notes the Applicant's desire to incorporate flexibility into their draft DCO (dDCO) and its intention to apply a Rochdale Envelope approach for the purposes of their EIA process and the resultant ES and notes the reference to the Inspectorate's Advice Note nine 'Using the 'Rochdale

Envelope' in this regard. Where the details of the Proposed Development cannot be defined precisely, the Applicant will apply a worst-case scenario.

2.3.12 The Applicant should make every attempt to narrow the range of options and explain clearly in the ES which elements of the Proposed Development have yet to be finalised and provide the reasons. At the time of application, any Proposed Development parameters should not be so wide-ranging as to represent effectively different developments. The development parameters will need to be clearly defined in the dDCO and in the accompanying ES. It is a matter for the Applicant, in preparing an ES, to consider whether it is possible to robustly assess a range of impacts resulting from a large number of undecided parameters. The description of the Proposed Development in the ES must not be so wide that it is insufficiently certain to comply with the requirements of Regulation 14 of the EIA Regulations.

2.3.13 It should be noted that if the Proposed Development materially changes prior to submission of the DCO application, the Applicant may wish to consider requesting a new scoping opinion.

3. ES APPROACH

3.1 Introduction

3.1.1 This section contains the Inspectorate's specific comments on the scope and level of detail of information to be provided in the Applicant's ES. General advice on the presentation of an ES is provided in the Inspectorate's Advice Note Seven 'Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements'[1] and associated appendices.

3.1.2 Aspects/ matters (as defined in the Inspectorate's Advice Note Seven) are not scoped out unless specifically addressed and justified by the Applicant and confirmed as being scoped out by the Inspectorate in this Opinion. The ES should be based on the Scoping Opinion in so far as the Proposed Development remains materially the same as the Proposed Development described in the Applicant's Scoping Report.

3.1.3 The Inspectorate has set out in this Opinion where it has/ has not agreed to scope out certain aspects/ matters on the basis of the information available at this time. The Inspectorate is content that the receipt of a Scoping Opinion should not prevent the Applicant from subsequently agreeing with the relevant consultees to scope such aspects/ matters out of the ES, where further evidence has been provided to justify this approach. However, in order to demonstrate that the aspects/ matters have been appropriately addressed, the ES should explain the reasoning for scoping them out and justify the approach taken.

3.1.4 Where relevant, the ES should provide reference to how the delivery of measures proposed to prevent/ minimise adverse effects is secured through DCO requirements (or other suitably robust methods) and whether relevant consultees agree on the adequacy of the measures proposed.

3.2 Relevant National Policy Statements (NPSs)

3.2.1 Sector-specific NPSs are produced by the relevant Government Departments and set out national policy for NSIPs. They provide the framework within which the Examining Authority (ExA) will make their recommendation to the SoS and include the Government's objectives for the development of NSIPs. The NPSs may include environmental requirements for NSIPs, which Applicants should address within their ES.

3.2.2 The designated NPS relevant to the Proposed Development is the NPS for National Networks (NPSNN).

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[1] Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements and annex. Available from: https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/

3.3 Scope of Assessment

General

3.3.1 The Inspectorate recommends that in order to assist the decision-making process, the Applicant uses tables:

- *to demonstrate how the assessment has taken account of this Opinion;*
- *to identify and collate the residual effects after mitigation for each of the aspect chapters, including the relevant interrelationships and cumulative effects;*
- *to set out the proposed mitigation and/ or monitoring measures including cross-reference to the means of securing such measures (e.g. a dDCO requirement);*
- *to describe any remedial measures that are identified as being necessary following monitoring; and*
- *to identify where details are contained in the Habitats Regulations Assessment (HRA report) (where relevant), such as descriptions of European sites and their locations, together with any mitigation or compensation measures, are to be found in the ES.*

3.3.2 The Inspectorate considers that where a DCO application includes works described as 'Associated Development', that could themselves be defined as an improvement of a highway, the Applicant should ensure that the ES accompanying that application distinguishes between; effects that primarily derive from the integral works which form the proposed (or part of the proposed) NSIP and those that primarily derive from the works described as Associated Development. This could be presented in a suitably compiled summary table. This will have the benefit of giving greater confidence to the Inspectorate that what is proposed is not in fact an additional NSIP defined in accordance with s22 of the PA2008.

3.3.3 The Inspectorate notes the statements in the Scoping Report regarding the demolition of structures namely, a single dwelling and the Air Balloon Public House (Sections 2.4.21 – 2.4.22), which is necessary in order to facilitate the Proposed Development in its current form.

3.3.4 Section 2.4.20 also indicates that there is a need to remove part of the A417 between Air Balloon and Stockwell Lane. The Applicant intends to remove these sections of carriageway and reinstate 'the landscape and ecology connectivity'. Clear detail of such demolition / removal works would be expected in the ES along with an assessment of the likely significant effects in relevant aspect chapters.

3.3.5 Section 5.2.3 of the Scoping Report states that the treatment of the existing A417 is yet to be decided and options are presented in the text including its removal and reinstatement '*to match adjacent land use'*. The Applicant should ensure that the ES appropriately assesses any significant effects from options included within the DCO.

3.3.6 The Inspectorate accepts that, as the Proposed Development will form part of the strategic highway network, its decommissioning is not envisaged and therefore that decommissioning of the scheme as a whole can be excluded from consideration in the ES (Section 5.2.3). The Inspectorate considers that this is a reasonable approach taking into account the specific nature and characteristics of the Proposed Development.

3.3.7 However, the Inspectorate considers that any 'decommissioning' associated with periodic dismantling and planned replacement of particular elements of the Proposed Development (e.g. lighting columns or other large structures) once they reach the end of their design life should be assessed if significant effects are likely to occur. The design life should be specifically defined for these elements.

Baseline Scenario

3.3.8 The ES should include a description of the baseline scenario with and without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge.

Forecasting Methods or Evidence

3.3.9 The ES should contain the timescales upon which the surveys which underpin the technical assessments have been based. For clarity, this information should be provided either in the introductory chapters of the ES (with confirmation that these timescales apply to all chapters), or in each aspect chapter.

3.3.10 The Inspectorate expects the ES to include a chapter setting out the overarching methodology for the assessment, which clearly distinguishes effects that are 'significant' from 'non-significant' effects. Any departure from that methodology should be described in individual aspect assessment chapters.

3.3.11 It is acknowledged that in Section 5.4.5 of the Scoping Report there are statements relating to some (but not all) aspects that depart from the general approach to determining the significance of effects given in Chapter 5. For example, there is no reference to Chapter 8 (Landscape and Visual Effects) in section 5.4.5 of the Scoping Report. The ES should ensure that the approach to the determination of sensitivity, magnitude and significance is clearly stated and explained in each aspect chapter, particularly where aspect chapters depart a general approach (if adopted).

3.3.12 The ES should include details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.

Residues and Emissions

3.3.13 The EIA Regulations require an estimate, by type and quantity, of expected residues and emissions. Specific reference should be made to water, air, soil

and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases, where relevant. This information should be provided in a clear and consistent fashion and may be integrated into the relevant aspect assessments.

Mitigation

3.3.14 Any mitigation relied upon for the purposes of the assessment should be explained in detail within the ES. The likely efficacy of the mitigation proposed should be explained with reference to residual effects. The ES should also address how any mitigation proposed is secured, with reference to specific DCO requirements or other legally binding agreements.

Risks of Major Accidents and/or Disasters

3.3.15 The ES should include a description and assessment (where relevant) of the likely significant effects resulting from accidents and disasters applicable to the Proposed Development. The Applicant should make use of appropriate guidance (e.g. that referenced in the Health and Safety Executives (HSE) Annex to Advice Note 11) to better understand the likelihood of an occurrence and the Proposed Development's susceptibility to potential major accidents and hazards. The description and assessment should consider the vulnerability of the Proposed Development to a potential accident or disaster and also the Proposed Development's potential to cause an accident or disaster. The assessment should specifically assess significant effects resulting from the risks to human health, cultural heritage or the environment. Any measures that will be employed to prevent and control significant effects should be presented in the ES.

3.3.16 Relevant information available and obtained through risk assessments pursuant to European Union legislation such as Directive 2012/18/EU of the European Parliament and of the Council or Council Directive 2009/71/Euratom or relevant assessments carried out pursuant to national legislation may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.

Climate and Climate Change

3.3.17 The ES should include a description and assessment (where relevant) of the likely significant effects the Proposed Development has on climate (for example having regard to the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change. Where relevant, the ES should describe and assess the adaptive capacity that has been incorporated into the design of the Proposed Development. This may include, for example, alternative measures such as changes in the use of materials or construction and design techniques that will be more resilient to risks from climate change.

3.3.18 Further consideration to this aspect is given in section 4.10 of this Scoping Opinion.

Heat and Radiation

3.3.19 Section 5.2.10 of the Scoping report states that owing to the nature of the Proposed Development it is considered unlikely that heat and radiation effects associated with the proposals are likely to arise. Given this, any further assessment has been scoped out. The Inspectorate considers that this is a reasonable approach to adopt.

Transboundary Effects

3.3.20 Schedule 4 Part 5 of the EIA Regulations requires a description of the likely significant transboundary effects to be provided in an ES.

3.3.21 The Scoping Report makes no reference to the likelihood of the Proposed Development having significant effects on the environment in another European Economic Area (EEA) State. Having considered the nature and location of the Proposed Development, the Inspectorate is not aware that there are potential pathways of effect to other EEA states but recommends that, for the avoidance of doubt, the ES details any such consideration and assessment.

A Reference List

3.3.22 A reference list detailing the sources used for the descriptions and assessments must be included in the ES.

3.4 Confidential Information

3.4.1 In some circumstances it will be appropriate for information to be kept confidential. In particular, this may relate to information about the presence and locations of rare or sensitive species such as badgers, rare birds and plants where disturbance, damage, persecution or commercial exploitation may result from publication of the information. Where documents are intended to remain confidential the Applicant should provide these as separate paper and electronic documents with their confidential nature clearly indicated in the title and watermarked as such, on each page. The information should not be incorporated within other documents that are intended for publication or which the Inspectorate would be required to disclose under the Environmental Information Regulations 2004.

4. ASPECT BASED SCOPING TABLES

4.1 Air Quality

(Scoping Report Chapter 6)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.1.1	N/A	N/A	No matters have been proposed to be scoped out of the assessment.

ID	Ref	Other points	Inspectorate's comments
4.1.2	6.1.1	Study Area	In the Applicant's definition of local and regional study areas, there is reference to the "affected road network" (ARN) criteria and relevant receptors within 200m thereof. The finalised traffic model should be used to determine the extent of the ARN and the process adopted should be described in the ES. For the avoidance of doubt, the Inspectorate expects the ES to define the study areas considered and explained separately in the context of both human health and ecological receptors.
4.1.3	6.1.1	Study Area – Ecological Receptors	The Inspectorate notes that the Cotswold Beechwoods Special Area of Conservation (SAC) is located within 500m of the Proposed Development Site. An assessment of the impacts to the SAC from changes in air quality during construction and operation (and cross referred in the biodiversity aspect chapter as necessary) should be presented where significant effects are likely. . As discussed in paragraph 1.1.13 of this Scoping Opinion, there may be also be implications in terms of the Habitats Regulations in this regard.

ID	Ref	Other points	Inspectorate's comments
4.1.4	6.2.8 to 6.2.9	Baseline Conditions - General	The Scoping Report states that while diffusion tube monitoring is undertaken by Cheltenham Borough Council (CBC), Tewkesbury Borough Council (TBC) and Gloucester City Council (GCC), there are no diffusion tubes in close proximity to the Proposed Development within these districts; the baseline effects are to be determined using a six-month air quality monitoring survey (the results of which are presented in table 6.2 of the Scoping Report) and Defra projected background concentrations. Further justification should be provided as to the establishment of baseline conditions along all links within the ARN, particularly given the apparent reliance on a six-month diffusion tube survey and in the absence of any Defra Automatic Urban and Rural Network (AURN) sites located nearby. Figures showing the location of monitoring data (relied on as part of the assessment) against the defined ARN should also be provided as part of the ES. Notwithstanding the above, information that is not readily available, but which has been used to inform the baseline conditions should be clearly referenced and appended to the ES.
4.1.5	6.2.14	Baseline conditions – EU limit values	The Scoping Report states that there are no links exceeding 40µg/m^3 NO_2 present within 6.2 miles (10km) of the A417 Missing Link, and one PCM link exceeding 40µg/m^3. The ES should explain why a distance of 10km has been used to determine impacts from road contributed concentrations of pollutants with reference to the definition of the ARN.
4.1.6	6.3.1 to 6.3.4	Potential Impacts	The expected impacts on sensitive receptors have been listed; a plan that illustrates the locations of the sensitive receptors and their proximity to the 'affected road network' (ARN) should be included within the ES.

ID	Ref	Other points	Inspectorate's comments
4.1.7	6.3.1 – 6.3.2	Construction Impacts	The defined area of potential construction air quality impacts is stated as being within 200m in accordance with the Design Manual for Roads and Bridges (DMRB) methodology. The Inspectorate notes that the widely accepted Institute of Air Quality Management (IAQM) guidance on the assessment of dust from demolition and construction advocates a wider 350m study area, and a different approach to the assessment of risk of construction effects. The assessment in the ES should include a suitably robust study area sufficient to encompass the extent of the impacts and likely significant effects including those resulting from construction related activities. .
4.1.8	6.3.3 to 6.3.4	Assessment Methodology	The Scoping Report makes no reference to $PM_{2.5}$ as specific pollutant to be assessed within the ES. The Inspectorate considers that the ES should include an assessment of impacts associated with increased $PM_{2.5}$ resulting from the Proposed Development where significant effects are likely to occur. In determining significance of effects, the assessment should take into account performance against relevant target/limit values.
4.1.9	6.4.1	Impacts and Mitigation	Construction dust and emissions are identified in the Scoping Report as a having 'temporary' impacts to human health during construction and that these will be managed by the application of standard mitigation measures within a Construction Environmental Management Plan (CEMP). Where reliance is being placed on a CEMP to be prepared by the contractor prior to construction, the ES and the Outline Environmental Management Plan (OEMP) that will support the application should be sufficiently detailed to give confidence to the efficacy of the mitigation measures that are to be ultimately delivered by the CEMP.
4.1.10	6.6.3	Study Area	The Inspectorate notes that as part of the air quality assessment, local

ID	Ref	Other points	Inspectorate's comments
			and regional air quality will be individually assessed using study areas defined on the basis of separate criteria. The study areas used for local and regional air quality assessment should be clearly defined and justified within the ES and include a plan that illustrates the extent of each study area. Where necessary, the ARN boundary and the 200m boundary from the ARN should be depicted within such plans.
4.1.11	N/A	Monitoring	It is unclear what the arrangements for ongoing air quality monitoring will be during long term operation of the Proposed Development. The ES should clearly explain the need for, and scope of, long term air quality monitoring proposals and any agreement with key stakeholders in this regard.

4.2 Cultural Heritage

(Scoping Report Chapter 7)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.2.1	7.6.2 and Table 17.1	Below-ground archaeological deposits	The Applicant states that below-ground archaeological deposits would not be affected by the operation of the new dual carriageway and therefore propose to scope this matter out of the assessment. The Inspectorate notes that the location, significance, and sensitivity of buried archaeological deposits has not yet been determined. In absence of this information the Inspectorate cannot agree to scope this matter out of the assessment. The ES should assess impact to below ground archaeological deposits during the operational phase (eg from noise / vibration and land drainage) where significant effects may occur.

ID	Ref	Other points	Inspectorate's comments
4.2.2	7.1.1 and 8.1.1	Study area	The Scoping Report states that, "*The cultural heritage assessment is based on a 1 km study area, although designated heritage assets lying outside the study area and with potential views of the Scheme have also been considered*". The Inspectorate notes that, due to areas of higher ground within the vicinity of the Proposed Development, the study area for the Landscape and Visual Impact Assessment (LVIA) may require extension beyond 1km in places to include potential far reaching receptors (para 8.1.1.). The Inspectorate also notes that the HER data analysed to inform the baseline assessment does not include the full 1km from the A436 Link Road Alternative 3 via South Hill.

ID	Ref	Other points	Inspectorate's comments
			The Inspectorate does not agree that study areas should be determined according to an arbitrary distance. The study area should instead be established relevant to the extent of impacts and likely significant effects. The ES should include a robust justification in support of the chosen study area, taking into account for example, visual intrusion and/ or increased noise emissions and vibration. To support this justification, the ES should cross refer to the Zone of Visual Influence (ZVI) developed for the LVIA, as well as conclusions of the noise impact assessment in the determination of relevant assets within the study area.
4.2.3	7.2.1	Baseline conditions	The Inspectorate notes that impacts to geoarchaeological and palaeoenvironmental deposits during intrusive site investigation and construction works are not addressed in the Scoping Report. There is also no consideration of historic landscape features, such as hedges and field boundaries. The Inspectorate considers that such features may make an important contribution to the assessment of cultural heritage and should therefore be included within the scope of the assessment.
4.2.4	7.3.1	Potential impacts - construction	The ES should assess significant effects associated with increased construction vehicle activity on buried heritage assets within the site (eg due to compaction) and explain how any effects will be mitigated. The ES should also explain what methods would be applied should the Applicant encounter unexpected archaeological remains during intrusive site investigation and construction works. The methods to employed should clearly set out in the OEMP appended to the ES.
4.2.5	7.6.3	Detailed assessment	The ES should provide details and results of the surveys used to inform the assessment including any intrusive site surveys

ID	Ref	Other points	Inspectorate's comments
			undertaken. The ES should also explain how such surveys inform the proposed mitigation strategy through the OEMP, CEMP and other relevant provisions. The Inspectorate is concerned that the assessment approach proposed by the Applicant excludes any form of detailed archaeological evaluation e.g. geophysical, lidar and aerial photography. The Inspectorate considers that archaeological evaluation is necessary to ensure appropriate characterisation of the baseline environment. The evaluation should be sufficient to undertake the assessment of significant effects. The Inspectorate draws the attention of the Applicant to the comments from Historic England and GCC in this regard. The Applicant should make effort to agree the approach to archaeological evaluation with relevant consultation bodies including GCC and Historic England.
4.2.6	7.6.4	Policy requirements, guidance and advice	The Scoping Report references 2014 Chartered Institute for Archaeologists guidance. The Chartered Institute for Archaeologists (2014) 'Standard and Guidance for Historic Environment Desk-Based Assessment' was updated in January 2017. The ES should be based on up-to-date and relevant guidance documents.
4.2.7	7.6.5	Duration of effect	The Cultural Heritage chapter does not reference explain how the duration of effect is anticipated to influence whether likely significant effects would occur. The heritage assessment should include a definition of short, medium, and long-term effects or cross reference to a definition in the overarching ES Assessment Methodology chapter.

4.3 Landscape and Visual Effects

(Scoping Report Chapter 8)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.3.1	N/A	N/A	No matters have been proposed to be scoped out of the assessment.

ID	Ref	Other points	Inspectorate's comments
4.3.2	8.1.1, Table 8.1, 8.6.2	Guidelines and Study Area	The Scoping Report refers to DMRB Volume 11 Section 3 Part 5 Landscape Effects, although IAN135/10 states on page 1 that the IAN replaces existing guidance in DMRB Volume 11 Section 3 Part 5. The ES should clarify which guidelines form the basis of the methodology. The study area should be sufficiently wide to enable the assessment of potentially significant landscape and visual effects. Given the sensitivity of the receiving landscape, the settlement pattern and public rights of way (PRoW) in the area, and the potential scale of the earthworks and structures associated with the project, the study area may need to be wider than 1km in many areas. It may therefore also be necessary to consider key features, designations, and effects to landscape character and views more than 1km from the proposed scheme. (See also the Inspectorate's comments in ID 4.2.2, above)
4.3.3	8.2.1	Function of the AONB Management Plan	The Applicant should take care to ensure that the ES correctly identifies the functions and purposes of relevant bodies and documents, e.g., the AONB Management Plan helps to guide the management of the designation in order to support the designation's statutory purpose which is to conserve and enhance the natural beauty of the area. It is a purpose of the AONB Conservation Board to increase the understanding and enjoyment of the special qualities of

ID	Ref	Other points	Inspectorate's comments
			the designation. The ES should also pay specific regard to the interactive environmental characteristics and qualities that underpin the Cotswolds AONB across the range of aspect chapters (noting particularly paragraph 5.150 of the NPSNN in this regard). This should be addressed as part of the combined effects assessment presented in Chapter 16 of the ES (Cumulative Effects).
4.3.4	8.2.7-8.2.16	Landscape character	The assessment should, where relevant, cross refer to the cultural heritage assessment but particularly with regards to the historic landscape character.
4.3.5	8.3	Potential impacts	The review of potential impacts cannot be regarded as exhaustive at this stage and the ES should identify and assess all potentially significant effects arising from the Proposed Development, including those that may occur from any proposed removal of existing vegetation.
4.3.6	8.3.3	Potential impacts	The ES should also assess any likely significant effects associated with the severance of the Cotswold Way National Trail.
4.3.7	8.3.5	Potential impacts	The ES should assess visual impacts that may arise from temporary or permanent diversion of PRoW during the construction and operation period where significant effects are likely.
4.3.8	8.3.16, 8.4	Mitigation measures	The Inspectorate expects that where earthworks are proposed as mitigation measures, that the design of these will take account of the existing topography and sensitivity of the Cotswolds AONB landscape. Areas proposed for mitigation planting need to be assessed for potential impacts on archaeological receptors.

ID	Ref	Other points	Inspectorate's comments
4.3.9	8.4.5	Mitigation and Scheme objectives	The ES should clearly state any the scheme objectives, management plan objectives or design principles that are used to form the basis of the design of mitigation measures and should not cross reference to other documents outside of the ES. The Scoping Report lacks clarity in this regard, for example, paragraph 8.4.5 and section 2.2 of the Scoping Report refer to scheme objectives, (with reference to a separate Scheme Assessment Report), and Chapter 4 of the Scoping Report to a Design Principles Register, and it is not clear as to the relationship that these documents will have to the ES.
4.3.10	8.4.11, Glossary	Environmental Designated Funds	The Inspectorate notes that Environmental Designated Funds projects may be proposed independent of the Proposed Development. The ES should make a clear distinction between mitigation measures to be included within the scheme, which are relied on in the assessment of residual effects in the ES, the delivery of which should be secured through the DCO or other legally binding commitment, and any other measures which may be under consideration but are not to be so secured. If mitigation measures such as Environmental Designated Funds projects are not secured through the DCO or other legally binding commitment they should not be relied on in the assessment of residual effects.
4.3.11	8.4.13	Green bridge	The Inspectorate expects that the location, siting and detailed design, including appearance and landscape treatment, of any proposed green bridge/s should be clearly described in the ES so that its landscape, biodiversity, recreational and other functions are clear and can be taken into account in the assessment of significant effects.
4.3.12	8.5	Description of likely significant effects	The review of likely significant effects cannot be regarded as exhaustive at this stage and the ES should assess all likely significant effects from the Proposed Development.

ID	Ref	Other points	Inspectorate's comments
			The Scoping Report describes alternatives to the A436 Link Road proposals and some subjective judgements regarding the relative benefits or disbenefits of elements of each alternative are made. These do not all relate to the landscape and visual aspect, for example the safety of PRoW users. Whilst such judgements may be relevant in respect of the overall selection of the preferred alignment for the A436 Link Road, the Inspectorate expects that the landscape and visual assessment of the Proposed Development will clearly assess the negative or beneficial effects of each element of the scheme in terms of the assessment criteria adopted.
4.3.13	8.5.16, 8.7.5,(and 2.4.8)	Assessment of the impact of lighting	The Inspectorate notes that street lighting is not at present proposed but that confirmation of the provision of lighting is to be reported in the ES. If street lighting is to be provided, then a lighting impact assessment should be included in the ES. The lighting assessment should be clearly signposted from the relevant aspect chapters in the ES and should include the assessment of impact to the Cotswolds AONB, local residents and effects on dark night skies. Having regard to the intrinsic links between lighting and visual impacts it is logical that the assessment forms part of the Landscape and Visual chapter, but the Inspectorate expects that other aspect assessments are informed by the findings, including biodiversity and the settings of heritage assets.
4.3.14	8.5.16	Audible tranquillity effects	The Scoping Report refers to the potential for significant effects resulting from changes in audible tranquillity at various sensitive receptors, including PRoW. The assessment methodology should provide appropriate cross reference to the outcomes of the noise assessment in understanding where (in relation to relevant viewpoints) audible tranquillity has been assessed and how it relates to the overall assessment of tranquillity.

ID	Ref	Other points	Inspectorate's comments
4.3.15	8.5.28. 8.6.7	Visual receptors, viewpoints	The assessment in the ES should make a clear distinction between visual receptors, who experience visual effects, and viewpoints, locations from where such effects would be experienced.
4.3.16	8.6.6 – 8.6.11 and Tables 8.2 – 8.6	Assessment of value, sensitivity and significance of effect	The Tables appear to follow, in the main, those set out in IAN135/10. IAN135/10 also sets out Typical Descriptors of Significance of Effect Categories for landscape and visual effects. The ES should include these Tables as they will assist in explaining the findings of the assessment. The Inspectorate expects that there should be text describing the landscape and visual effects and the judgements made about their significance. Tables and matrices should be used to support and summarise the text, not to replace it. The Inspectorate notes that GLVIA3 is referenced at paragraph 8.6.2 of the Scoping report as part of the guidance and best practice to be followed. The Applicant's assessment should be robust and based on relevant and up to date guidance. The ES should explain the relationship between the approach proposed in GLVIA3 and that described in DMRB (and IAN135/10) where both are being referred to.
4.3.17	8.6.7	Representative viewpoints	The Inspectorate expects effort to be made to agree the locations of representative viewpoints with relevant consultation bodies. Viewpoint locations should be clearly mapped and the direction, distance to the scheme and area covered by the view recorded. The information should be sufficient to enable the viewpoints to be located on site. Appropriate cross-referencing between the Landscape and Visual and Cultural Heritage aspect chapters should be included.
4.3.18	N/A	Figures	The Inspectorate expects the assessment to also be accompanied by appropriate figures, showing the study area, topography, the ZTV (including the design envelope on which it is based), PRoW, landscape character areas and relevant designations.

ID	Ref	Other points	Inspectorate's comments
4.3.19	N/A	Photomontages / visualisations	It is unclear from the Scoping Report whether the Applicant intends to produce any photomontages or visualisations to support the landscape and visual impact assessment. The ES should include photomontages of both baseline views and views incorporating the Proposed Development, which should be numbered and cross-referenced to accurately plotted locations on an OS map of appropriate scale, which should also show the direction and angle of the views. The Applicant should make effort to agree the methodology, the viewpoint locations, the assessment years and other scenarios which are to be portrayed with relevant consultation bodies. Any assumptions made on the height and deemed success of mitigation planting at the future assessment years should be stated.

4.4 Geology and Soils

(Scoping Report Chapter 9)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.4.1	Section 9.6.3 & Table 17.1	Potential effects on all geology and soils receptors	The Scoping Report indicates that this matter is scoped out of this aspect chapter for the operational phase of the Proposed Development. The Scoping Report does not clearly demonstrate that the Proposed Development is unlikely to result in significant effects to geological receptors during operation. The Inspectorate has had regard to the specific characteristics of the Proposed Development and the sensitivity of the receiving environment (including its relationship with the Cotswold escarpment) and considers that significant effects are likely and should be assessed in the ES. The Applicant should make effort to agree the nature and approach of the assessment with relevant consultation bodies including GCC, TBC and Cotswold District Council.

ID	Ref	Other points	Inspectorate's comments
4.4.2	9.2	Baseline Conditions - General	The Scoping Report notes that the Baseline Conditions have been informed by the 'A417 Missing Link Preliminary Sources Study Report' (PSSR). This report is stated to contain a summary of information gathered from numerous historic reports held on the Highways Agency Geotechnical Data Management System (HAGDMS), coupled with a review of available historic Ground Investigation (GI) reporting and a 'Landmark Envirocheck Report'. Reference is also given to publicly available information which is referenced in the footnotes.

ID	Ref	Other points	Inspectorate's comments
			The Applicant should ensure that a full description of baseline conditions is included within the ES (including specific references to information from relevant sources including HAGDMS) and information that is not readily available, but which has been used to inform the baseline conditions should be clearly referenced and appended to the ES where relevant.
4.4.3	9.2	Baseline Conditions – Solid Geology	The Inspectorate is aware that the Proposed Development passes through a complex and diverse geological and hydrogeological setting, as set out in paragraphs 9.2.1 – 9.2.28. The Inspectorate expects the ES to include further consideration and detailed assessments into the challenging characteristics of the geological setting; within which the Proposed Development would sit. Any significant effects associated with the Proposed Development and the engineering required to overcome development in this challenging environment should be described and assessed.
4.4.4	9.2.22	Baseline Conditions - Designated Sites (SSSI)	The Scoping Report identifies sites of geological interest (as SSSIs) in the locale (within 500m). • Crickley Hill and Barrow Wake SSSI (the Scoping Report states that there is the potential for additional encroachment into the SSSI 'if the section of the existing A417 between Barrow Wake and the Stockwell access is removed'); • Bushley Muzzard SSSI (has the potential to be adversely impacted through changes in groundwater levels); and • Knap House Quarry and Cotswold Commons and Beechwoods SSSI, which are stated as being unaffected. Section 9.4.3 of the Scoping Report acknowledges that structures would be designed to have minimal impact on designated sites and

ID	Ref	Other points	Inspectorate's comments
			reduce encroachment within the SSSIs. However, a full and comprehensive assessment of the potential impact on the identified SSSI should be undertaken and detailed in the ES; providing justification and the rationale for determining Likely Significant Effect. The assessment should also demonstrate the extent to which alternatives have been considered and provide evidence to show how / where the environmental effects on these SSSI's have been considered in arriving at the chosen route option.
4.4.5	9.2.26 & Table 9.1	Baseline Conditions – Made Ground	The Inspectorate agrees that Made Ground deposits are expected along the existing road alignment (Table 9.1). The historic mapping used to inform the Scoping Report indicates the potential presence of infilled ground at former quarries and gravel pits present within the extents of the Proposed Development (Section 9.2.26 and Table 9.1). The ES should assess any impacts associated with the presence and disturbance of Made Ground during construction including the chemical and physical composition and risks associated. Any likely significant effects to identified receptors should be assessed and described in the ES.
4.4.6	9.2.26 9.2.28	Baseline Conditions- Geological Resources and Mining	The scoping report has identified numerous historic quarries to the north of the existing A417 (west of the Air Balloon Roundabout) and to the east of the A417 (south of and east of the Air Balloon Roundabout) and also highlights the potential for mining instability in the vicinity of Birdlip, associated with limestone extraction. The Inspectorate considers that for completeness the Local Authority's Mineral and Waste Plan should be specifically referred to and considered in the definition of baseline conditions and subsequent impact assessment in respect of mineral resources (where likely significant effects could occur). It is acknowledged that details of minerals safeguarding areas are

ID	Ref	Other points	Inspectorate's comments
			discussed further in Chapter 11 of the Scoping Report and appropriate cross reference should be made between these aspect chapters in this respect.
4.4.7	9.2.16	Baseline Conditions - Groundwater Abstractions and Source Protection Zones	A major potable groundwater abstraction is located approximately 11km to the south-east of the Proposed Development and it is noted that adjoining the southern end of the Proposed Development, lies the associated total catchment (SPZ3). It is stated that the Proposed Development 'encroaches across the SPZ3 boundary'. Local abstractions are listed to be 'generally small' and are used for domestic, agricultural and commercial purposes. It is acknowledged in the Scoping Report that additional unlicensed abstractions may exist. ES should identify any abstraction locations likely to be impacted and assess impacts including to the identified SPZ where significant effects are likely. The Applicant should make effort to discuss and agree the sensitivity of the SPZs with relevant consultation bodies including the EA. The Applicant should also consult with relevant consultation bodies regarding the presence of unlicensed abstraction points and the impacts that may occur.
4.4.8	9.3	Potential Impacts	The construction phase of the Proposed Development has the potential to generate road planings/waste which may contain coal tars. The Scoping Report does not explicitly mention such arisings during site preparation and construction works (beyond 'Made Ground associated with construction of the current highway network' in Table 9.1). Such materials are classified as hazardous waste and should be dealt with accordingly. The ES should assess impacts associated with these materials where significant effects are likely to occur.
4.4.9	9.4.5	Design, Mitigation and	Section 9.4.5 of the Scoping Report suggests that a Soils Management

ID	Ref	Other points	Inspectorate's comments
		Enhancement Measures	Plan will be included as part of the CEMP in line with appropriate guidelines. The Inspectorate considers that such appropriate guidelines would include the Defra 'Construction Code of Practice for the Sustainable Use of Soil on Development Sites' and Defra's 'Good Practice Guide for Handling Soils'. Where materials are proposed to be retained and re-used; an appropriate Material Management Plan, (MMP) (as mentioned in Section 11.4.6) should be formulated to ensure suitability of materials, describe the certainty associated with re-use and the anticipated volumes involved (in accordance with the Definition of Waste Code of Practice, v2, 2011). In addition, the description of the Proposed Development and the contents of Chapter 9 indicates that some topsoil and subsoil stripping (including agricultural soils) will be undertaken. Further details of the proposed plan should be provided in the ES, to provide assurance that industry best practice is being followed. The relationship between the separate OEMP, CEMP, Site Waste Management Plan MMP and others will need to be clearly set out demonstrating an integrated approach. It is acknowledged the proposed sustainable use of materials is discussed further in Chapter 11 of the Scoping Report.
4.4.10	9.4.8	Design, Mitigation and Enhancement Measures	The Inspectorate considers there is potential for the creation of preferential pathways for contaminants through excavation works, penetrative ground improvement and pile emplacement (particularly when considering the permeability of superficial and confining solid deposits). The Inspectorate agrees that the GI works to inform the design of the Proposed Development and collation of an appropriate Foundations Risk Assessment (and if required, Remediation Strategy) will be important particularly where contamination is identified and/or

ID	Ref	Other points	Inspectorate's comments
			plausible pollutant linkages are determined. The Inspectorate considers that the potential options for 'mitigation' in terms of pile design, concrete class and use of temporary casing may affect the potential for likely significant effects across this and other aspects of the EIA, and details of the proposed techniques (and potential optionality) should be included and assessed in the ES where relevant.
4.4.11	9.4.10	Design, Mitigation and Enhancement Measures	The scope of the intrusive GI phase has been informed by the PSSR and would be undertaken to gather both geotechnical and geo-environmental information for the design phase of the Proposed Development. The detail provided in Section 2.4.10 suggests that a tiered assessment would be undertaken in relation to contaminated land in line with CLR11 (confirmed in Section 9.6.6). Where contamination is identified it is stated that a Remediation Strategy would be formulated and that all material (including contaminated materials) would undergo 'basic characterisation' prior to re-use or disposal. The ES should detail this 'basic characterisation', in terms of the determinands selected for the analyses undertaken. Details of where and how more comprehensive testing may be deemed appropriate to adequately characterise the material should also be presented in the ES, particularly as reliance appears to be placed on this being determined and controlled post-consent by adherence to the CEMP and associated plans. The Applicant should take care to ensure that the ES includes a robust assessment of likely significant effects addressing any uncertainty or assumptions applied.
4.4.12	9.5.2	Description of Likely Significant Effects	Adverse effects on the identified SSSIs are acknowledged through the cross-boundary encroachment of the Proposed Development. The effects are based on the likely land take and disturbance during construction (of both the roadway and also associated structures, such as the proposed Green Bridge). The Inspectorate expects that the design and location of any proposed green bridge/s should be clearly

ID	Ref	Other points	Inspectorate's comments
			described in the ES. This would lead to permanent loss or alteration of 'a small section of the nationally important geological exposures located in the study area'. The ES should include an assessment of all likely significant effects associated with the loss of geological exposures.
4.4.13	9.5.3	Description of Likely Significant Effects	The Scoping Report indicates the permanent removal of between 20-50 hectares of Grade 3a (Medium Value) agricultural land. The ES should detail; with more precision, the area of permanent loss associated with the Proposed Development and provide adequate justification for this loss, particularly when considering the economic value of such land on a local, regional and national scale. When considering the temporary situation of topsoil stripping, the Scoping Report suggests that the effects associated with stockpiling, consolidation and deterioration of the material is not considered significant. The ES should detail the rationale for this finding and provide justification and detail of the proposed mitigation measures. The Inspectorate agrees that a Soils Management Plan should be included as part of the CEMP as proposed in paragraph 9.4.5 of the Scoping Report.
4.4.14	9.6.5 & 9.6.9	Identification of Sensitive Receptors & Significance of Effect	Where professional judgement has been used to assess sensitivity of receptors; information should be provided on the criteria used to determine the resulting sensitivities. The ES should include a full explanation of how sensitivity is determined and state explicitly where professional judgment has been applied.

4.5 Biodiversity

(Scoping Report Chapter 10)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.5.1	N/A	N/A	No matters have been proposed to be scoped out of the assessment.

ID	Ref	Other points	Inspectorate's comments
4.5.2	10.1.1	Study area(s)	Various study areas have been defined in section 10.1. However, it is not clear how these study areas relate to the extent of the impacts and likely significant effects associated with the Proposed Development or how they have been used to determine a Zone of Influence (ZoI). The Inspectorate considers that study areas in respect of designated sites should be determined on the basis of the extent of the likely impacts (ZoI) rather than arbitrary distances which may result in sites being omitted from consideration in the assessment. It is noted that the air quality assessment will consider ecological receptors within 200m as part of the assessment of construction and operational effects. The ES should assess likely significant effects beyond this distance, but which are within the Proposed Development's ZoI. The ES should provide a robust justification as to why the defined study areas are appropriate for assessing potential impacts. Where appropriate, study areas should be refined based on the results of updated survey data, including the forthcoming Phase 2 protected species surveys. No reference is made in section 10.1.1 of the Scoping Report to

ID	Ref	Other points	Inspectorate's comments
			potential impacts on relevant migratory fish species including the European Eel. The Inspectorate notes that reference is made in the Scoping Report to further surveys for aquatic invertebrates starting in 2019, but there is no specific reference to any fish surveys. The Applicant should undertake these surveys where significant effects are likely to occur. The Applicant should make effort to agree the need for and approach to such surveys with relevant consultation bodies including Natural England (NE) and the Environment Agency (EA).
4.5.3	10.1.1, 10.2.16, 10.3.13	Otters	The assessment of the impacts and the description of required mitigation for otters should be included within the ES and should take into account the location of the Proposed Development with reference to the watersheds of the rivers Severn and Thames.
4.5.4	10.2.6.	Baseline conditions	The Scoping Report states that an Extended Phase 1 Habitat survey was undertaken between April and June 2017 to assess the 'current ecological importance of the site' and to inform the forthcoming Phase 2 protected species surveys, which will be presented in the ES. The Applicant should make effort to agree the sufficiency of the ecological baseline with relevant consultation bodies. Inspectorate notes recent advice provided by CIEEM's Advice Note (April 2019) 'On the Lifespan of Ecological Reports and Surveys') in this regard. The ES should include evidence of any agreement reached between the Applicant and relevant consultation bodies regarding the sufficiency of baseline ecological information.
4.5.5	10.3.3, 10.3.12 and 10.5.4	Potential impacts – habitat loss	The Scoping Report states that vegetation clearance and earthworks will be required to facilitate construction of the Proposed Development. The ES should demonstrate the effort made to sensitively locate the Proposed Development and associated works (including all permanent

ID	Ref	Other points	Inspectorate's comments
			and temporary land-take) in order to avoid direct and indirect impacts on species and habitats. Any habitat lost as a result of the Proposed Development should be identified according to type and the area of loss, which should include the extent of any anticipated vegetation / tree clearance. The location of any affected hedgerows and / or ancient / veteran trees (that may be part of a wider area of ancient woodland) should be depicted on a supporting plan. Any avoidance or mitigation measures proposed should be described in the ES and details provided to explain how such measures will be secured.
4.5.6	10.3.3	Designated sites	The Applicant states 'There is a potential that bat roosts affected by the Scheme could be associated with the bat population at the Wye Valley and Forest of Dean Bat Sites SAC'. The ES should identify functionally-linked bat habitats (including habitats used for roosting, foraging, and/or commuting) that connect the Proposed Development to offsite SACs. The use of functionally-linked land by other qualifying interest features should also be considered within the ES.
4.5.7	10.3.16 and 10.3.25	Potential impacts – road mortality	Paragraphs 10.3.16 and 10.3.25 of the Scoping Report note that there is the potential for the new dual carriageway to sever habitat connectivity and kill / injure species, including the potential to cause significant bat mortality resulting from collisions with traffic. The Scoping Report does not consistently indicate whether road mortality impacts to bats will be assessed. For the avoidance of doubt, the Inspectorate considers that this matter should form part of the assessment and advises that the ES clearly assesses these impacts where significant effects are likely. The ES should also assess the potential of the Proposed Development

ID	Ref	Other points	Inspectorate's comments
			to cause disturbance to nest sites (eg from noise or lighting), and the risk of increased mortality through traffic collisions, of breeding birds and barn owls. Where significant effects are likely to occur, the ES should make an assessment of impacts to breeding bird / barn owl populations.
4.5.8	10.4	Mitigation and enhancement - general	The ES, should distinguish between mitigation measures proposed to address significant effects from the Proposed Development and enhancement proposals which are included for other purposes.
4.5.9	14.3.39	Culverts and watercourse realignment	The Scoping Report states that construction activities may include the culverting and the realignment of watercourses. No information is provided in relation to the scale and dimensions of these structures, or detail of the nature of any associated construction works. The ES should describe where any bridge/ culvert structures are proposed and demonstrate that there is sufficient detail regarding the design as to inform a meaningful assessment of likely significant effects on watercourse hydraulics and ecology.

4.6 Material Assets and Waste

(Scoping Report Chapter 11)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.6.1	Section 11.6.2 & Table 17.1	Significant effect on material resource use during construction.	The Inspectorate considers that although current cut/fill balance estimations in the Scoping Report indicate that a surplus is available (suggesting that there may be no importation of fill material, paragraph 11.5.1); the use of primary and secondary aggregates are an integral part of road construction. Therefore, the Inspectorate does not agree that this matter should be scoped out. At this stage doubt remains over the need for import of fill material to the site which could result in significant effects. Any such assessment should also include detail of the potential volumes of recovered/recycled materials utilised.
4.6.2	Section 11.6.3 & Table 17.1	Significant effect on material use and waste generation during operation.	The Inspectorate agrees that impacts associated with the consumption of material resources, site arisings and waste production during operation is unlikely to result in significant effects. The Inspectorate considers that this matter can be scoped out of the ES.

ID	Ref	Other points	Inspectorate's comments
4.6.3	11.7.1	General	The baseline information presented in the Chapter is based on publicly available information only (Section 11.7.1) and the report states that Gloucestershire County Council will be consulted to obtain the most up to date information when compiling the ES (in respect of the availability / capacity of waste management infrastructure). The ES should explain the consultation undertaken, the currency and spatial coverage of the data used in the assessment(s), with reference

ID	Ref	Other points	Inspectorate's comments
			to the defined study areas (see below). For example, the Inspectorate notes reference at paragraph 11.2.19 to source data in excess of 10 years old, which may need to be brought up to date.
4.6.4	11.1.1	General	The Scoping Report presents two proposed study areas for the Material Assets and Waste assessment; the first, is the based on the extent of the Red Line Boundary where construction materials would be used, re-used and recycled. The second study area comprises 'an area sufficient to identify suitable waste infrastructure that could accept arisings of waste generated'. For the purposes of the assessment, the county of Gloucestershire was chosen. The Inspectorate notes the comments of the EA in respect of this issue (and paragraph 11.4.5) where they state that it is "probably unlikely that a suitable local waste management option is located close to the project site, given the volume of material involved." The ES should quantify the anticipated volumes of waste for disposal and having regard to the EA's comments on waste infrastructure capacity, explain any assumptions made as part of this assessment. These assumptions should also be addressed in other relevant aspect chapters (eg in respect of traffic, noise and air quality).
4.6.5	Table 11.6	General	Table 11.6 of the Scoping Report presents the estimated volumes of materials in the cut and fill exercise for the Proposed Development (at the A436 link road section) and also an indication of the balance of material (i.e. surplus or shortfall). The values presented indicate that a surplus of material is likely to be realised and therefore 'it is unlikely that fill would need to be imported to site' and therefore no significant effect on material resources is anticipated. It should be noted that the table presents volumes associated with the 'A436 Link Road Alternative'. The A436 is a local road off of the A417 and the volumes presented in Table 11.6 do not appear to account for

ID	Ref	Other points	Inspectorate's comments
			materials associated with the realignment of the A417 / construction of the Missing Link across the remainder of the Proposed Development. The ES should include sufficient detail to ensure there is a robust description of the materials that will be required (and that will be produced) within the ES across all areas of the Proposed Development.
4.6.6	11.5 (and Section 4.4)	General	As discussed in Section 4.4 of this document, there is the potential for the generation of road planings/waste which may contain coal tars. Such coal tar bearing materials would be classified as hazardous waste and should be dealt with accordingly. The ES should assess impacts associated with these materials where significant effects may occur.
4.6.7	11.2	Baseline Conditions/Sensitivity of Receptors	No information is provided on the criteria used to determine the sensitivity of receptors. The ES should include a full explanation of how the sensitivity is determined and if/when professional judgment has been applied.
4.6.8	11.2.6	Mineral Safeguarding Areas (MSA) and Peat Resources	The Scoping Report indicates that there is an MSA for limestone, sandstone, clay and coal in Gloucestershire County Council's Policies (Proposals) Map (to the emerging Minerals Local Plan for Gloucestershire). The MSA is located within the extents of the Proposed Development. The Applicant should ensure that significant effects on the MSA are identified and assessed in this aspect chapter and any other relevant aspect chapters (for construction and operation of the Proposed Development), noting that the Inspectorate has also raised this point in the context of comments on Chapter 9 (Geology and Soils) of the Scoping Report (see section 4.4 of this Scoping Opinion).

ID	Ref	Other points	Inspectorate's comments
4.6.9	11.3.5	Generation and Management of Waste	The Scoping Report does not quantify the anticipated waste to be generated as a part of the Proposed Development. Section 11.3.5 of the Scoping Report does provide a list of potential sources of waste (waste streams). The listing in Section 11.3.5 includes 'surplus excavated materials (soils and substrata)' and indicates that the excess material would be used in landscaping proposals but acknowledges that not all of the material may be re-used. Any surplus material and impacts associated with it should be assessed in the ES (on the basis of relevant worst-case assumptions around quantities and types of material and their method(s) of disposal). Assumptions around material types and quantities that are to be reused in landscaping or in construction, should be appropriately characterised and considered as part of the ES, including discussion around the relationship to and reliance upon any MMP that is to be produced by the appointed contractor (Section 11.4.6).
4.6.10	11.6.5 – 11.6.6	Determination of Significant Effects	The Scoping Report states that no guidance on significance criteria is available when considering assessments of the generation and management of waste and that professional judgement will be applied. The ES should include a full explanation of how the approach was determined and if/when professional judgment has been applied.

4.7 Noise and Vibration

(Scoping Report Chapter 12)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.7.1	12.6.1-12.6.4, 12.6.30	Ground-borne vibration from operational road traffic	The Scoping Report states that no changes in ground-borne vibration are expected from operational road traffic as the new carriageway surfaces would have no significant discontinuities. The Proposed Development may include bridges and grade separated junctions which would incorporate movement joints and these should be taken into consideration in the assessment of any ground-borne vibration in the operational period, given the apparent proximity of the Proposed Development to noise sensitive receptors and nose important areas. The Inspectorate expects the ES to include an assessment of ground-borne vibration during the construction period where significant vibration effects are likely.

ID	Ref	Other points	Inspectorate's comments
4.7.2	Table 12.1, 12.6.11, 12.6.12	Threshold levels for construction noise and ground borne vibration	The Inspectorate expects that threshold levels for construction noise and ground-borne vibration, including relevant receptors for the assessment, will be agreed with relevant consultees and stakeholders in accordance with the methodology set out.

ID	Ref	Other points	Inspectorate's comments
4.7.3	12.2.3, second bullet	Sensitive receptors	The Study Area is defined as being 1km from the Proposed Development, but PRoW are only noted as sensitive receptors within 200m of the scheme. The Inspectorate expects the ES to include all sensitive receptors within the study area to be included in the assessment, or a clear justification provided for their exclusion. Heritage assets should also be considered as noise sensitive receptors with appropriate cross reference between these aspect chapters in the ES in this regard.
4.7.4	12.3.1	Construction traffic	Consideration should be given to potential impacts of any diverted 'normal road use' traffic and 'rat running' on sensitive noise receptors, (i.e. traffic flows through local communities) alongside consideration of haul route and construction traffic effects.
4.7.5	12.2.3, eighth and ninth bullets	A436 Link Road Alternatives	Two conflicting sets of baseline data appear to be provided for Alternative Two, and no data is provided for Alternative Three. This should be clarified in description of alternatives in the ES.
4.7.6	12.4.1	Mitigation measures, construction	Mitigation measures during the construction period should include measures to address significant effects associated with construction traffic and noise to sensitive receptors including the Cotswolds Beechwoods SAC.
4.7.7	12.4.3	Mitigation measures, operation	Where acoustic barriers or bunds are considered as mitigation measures, the Inspectorate expects that the design of these will be discussed with relevant consultation bodies and stakeholders with regards to the potential impact on the landscape character of the Cotswolds AONB.

ID	Ref	Other points	Inspectorate's comments
4.7.8	12.4.4	Mitigation measures, operation	The Scoping Report states that additional measures in the form of secondary glazing may be offered for those properties affected. The ES should define the circumstances in which there is an obligation to provide such mitigation under the Noise Insulation Regulations and any other regulation or statute. The ES should also explore the feasibility of installing secondary glazing to individual properties where relevant.
4.7.9	12.6.15	Significance of vibration levels	The Scoping Report states that BS5228 does not indicate whether particular vibration levels are significant. The Inspectorate notes that British Standard BS7385, Part 2 'Evaluation and measurement for vibration in buildings – Guide to damage levels from ground borne vibration' (BSI, 1993), may be relevant in this respect and should be addressed in the ES.
4.7.10	12.6.16	Receptors for the assessment of construction vibration	The Inspectorate expects the Applicant to make effort to agree the receptors for the assessment of construction vibration with relevant consultation bodies.
4.7.11	12.6.27	Professional judgement	The Scoping Report states that in all cases where a potentially significant effect is indicated, professional judgement is used to determine if a significant effect is likely to arise. The ES must clearly explain where professional judgement has been applied and the reasoning behind it.
4.7.12	12.7.1	Baseline noise monitoring	The Inspectorate expects the Applicant to make effort to agree the location for baseline noise monitoring with relevant consultation bodies.
4.7.13	N/A	In combination effects	The results from the noise assessment should be taken into account in the assessment of effects to landscape and tranquillity, and in the assessment of effects to the settings of cultural heritage assets.

4.8 Population and Human Health

(Scoping Report Chapter 13)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.8.1	N/A	N/A	No matters have been proposed to be scoped out of the assessment.

ID	Ref	Other points	Inspectorate's comments
4.8.2	13.1.1	Study Area	The ES should include a clear justification for each of the study areas defined for the assessment of land use, severance, amenity, driver stress, road views, human health and local economy, with corresponding figures to aid understanding the variability between these. In particular, the study area for severance and amenity assessment should be clearly set in the context of the ARN (once it has been defined).
4.8.3	13.3.1 to 13.3.19	Methodology	Whilst the socio-economic assessment will assess a number of matters, there is no consistent methodology provided for these collectively. The ES should clearly set out the methodology for each assessment including the how significance will be determined for each of the matters considered. The use of summary tables will be important to draw together the various components of the assessment in a coherent form so as to understand the overall significance of effects.
4.8.4	13.4.2 and	Design, Mitigation and	The Scoping Report refers to management plans including the CEMP

	13.4.3.	Enhancement Measures	and a Traffic Management Plan. The ES should include draft copies of these documents which can be appended to the ES. The ES should also explain how implementation of such plans will be secured through the DCO or other legally robust method as appropriate. The Applicant should make effort to consult with relevant consultation bodies in effort to agree the Traffic Management Plan.

4.9 Road Drainage and the Water Environment

(Scoping Report Chapter 14)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.9.1	N/A	N/A	No matters have been proposed to be scoped out of the assessment.

ID	Ref	Other points	Inspectorate's comments
4.9.2	14.1	Study Area	The overall study area proposed includes a 1km buffer surrounding the maximum extents of the Proposed Development. The Scoping Report states that the study area 'is based on professional judgement to ensure that potential effects are appropriately identified, and it is extended where there are features downstream of the Scheme that may be affected'. The information provided in the Scoping Report does not detail the rationale for the approach or justify the use of professional judgement. The ES should include a detailed justification in support of the selected study area. The chosen study area should be sufficient to encompass the extent of the impacts from the Proposed Development.
4.9.3	14.2	Baseline Conditions – Non-licensed abstractions - consultation	The Inspectorate notes the identification of groundwater and surface water abstractions and the acknowledgement that there may be other unlicensed abstractions in the vicinity. Consultation with the EA and other relevant consultation bodies should be undertaken in an effort to obtain any details of non-licenced abstractions in the vicinity of the Proposed Development. The ES should include an assessment of any likely significant effects associated with these receptors.

ID	Ref	Other points	Inspectorate's comments
4.9.4	14.3	Hydrogeology & Potential Impacts	As discussed in 4.4 above, the geology of the study area is complex and varied. The Proposed Development has the potential to affect groundwater flow pathways, levels and recharge rate. The Inspectorate considers that the assessment of impacts to hydrogeology should be based upon independent monitoring of groundwater levels near/within the Proposed Development extents. Detailed consideration of the potential for settlement of materials and activation of slip plains (new or ancient) within slopes is expected and should be detailed in the ES. The Scoping Report indicates that pathways through less permeable materials (between aquifers) may occur. The Scoping Report also indicates that changes in the groundwater regime may lead to reductions/loss of supply within abstractions, streams and springs and strategically important aquifers for drinking water. Impacts to habitat (SSSIs) are also a likely consequence and these impacts should be assessed where significant effects are likely to occur. The Proposed Development may also lead to the creation of new springs and increase groundwater flooding risk. The ES should assess impacts to these matters during both the construction and operational phases of the Proposed Development where significant effects are likely to occur.
4.9.5	14.2.23	Realignment/Diversion of Watercourse	The Scoping Report indicates that there are an unspecified number of springs that feed into the existing channel of Crickley Hill stream. The ES should detail the precise number of springs entering Crickley Hill stream and assess any impacts to the springs and brook that may occur from the Proposed Development.
4.9.6	14.3	Potential Impacts – Construction &	The Scoping Report highlights many impacts which may occur during

ID	Ref	Other points	Inspectorate's comments
		Operation	construction of the Proposed development. The Applicant should ensure that the ES appropriately assesses all of the identified potential impacts and describe the measures necessary to mitigate any likely significant effects.
4.9.7	14.3	Potential Impacts – Construction & Operation	The ES should also detail the assessment undertaken relating to the impacts to local watercourses from contaminants (including sediments/suspended solids) entering the identified surface water features during construction and operation. The ES should detail any associated mitigation which would be implemented in agreement with relevant consultation bodies, including the EA.
4.9.8	14.4.11 & 14.4.12	Design, Mitigation and Enhancement Measures	The ES should clearly describe the mitigation measures relied upon for the assessment of likely significant effects. The ES should explain how the delivery of any such measures will be appropriately secured. The Scoping Report indicates that attenuation and subsequent discharge will be used to mitigate flood risk. Paragraph 14.4.11 of the Scoping Report describes the use of Sustainable urban Drainage systems (SuDS) such as 'swales and soakaways' within the Proposed Development. The ES should assess impacts from changes in ground conditions from the chosen drainage design (including to archaeological remains) during both the construction and operational phases. For completeness, the Inspectorate would expect to see details of the how future maintenance programmes for any outfalls, attenuation/drainage ponds, swales etc. will be delivered and what they might entail. If there is potential for significant effects associated with these activities they should be assessed in the ES

ID	Ref	Other points	Inspectorate's comments
4.9.9	14.5.10 – 14.5.14 & 14.6.9	Design, Mitigation and Enhancement Measures - Operation	Section 14.5.10 – 14.5.14 of the Scoping Report highlights the likely installation/creation of piled foundations, retaining structures, embankments, cuttings, bridge piers and culverts. All these features may affect hydraulic flows both over land and in the subsurface (including ephemeral springs). The potential impacts of these should be specifically considered as part of the ES. Detailed assessments (including Flood Risk Assessment(s)) should be undertaken taking into account the proposed structural elements and this should be presented in the ES. Section 14.5.11 of the Scoping Report indicates that features of the proposed drainage design have the potential to reduce flood risk downstream of the study area and also 'provide water quality benefits' through attenuation of pollutants. Full details of these features should also be included in the ES. Section 14.6.9 suggests that a 'simple' FRA would be performed and that this 'may include a Detailed Assessment' which would include hydrological and hydraulic modelling. The Inspectorate considers that a sufficiently detailed assessment of flood risk should be undertaken.
4.9.10	General	Design, Mitigation and Enhancement Measures - Operation	The ES should include a figure(s) depicting the location of any proposed SuDS systems; attenuation ponds, soakaways; swales; any watercourse diversions; culverts; watercourse crossings and other mitigation measures (e.g. treatment).
4.9.11	14.5.12	Permanent Dewatering	The Scoping Report states that permanent dewatering may be required to maintain stability of the landslip material along the Proposed Development and 'may significantly affect flow paths to springs rising from the escarpment'. The hydraulic linkages between the Proposed Development Site and surface and groundwaters on the escarpment should be specifically set out in the ES with reference to supporting

ID	Ref	Other points	Inspectorate's comments
			data. The Inspectorate understands that further studies are currently being undertaken in this regard. The ES should detail the mitigation measures required in connection with any permanent dewatering and how they are to be specifically delivered as part of the DCO. The Inspectorate also expects that the 1km study area would need to be extended where dewatering is proposed, the basis for which should be explained within the ES.
4.9.12	14.6.10	Geomorphological Assessment & River Modelling	No details of the likely geomorphological assessment or River Modelling are given in the Scoping Report. The Applicant should ensure that the assessment of geomorphological effects and modelling works in the ES also address effects from both temporary and permanent works. The Applicant should make effort to agree the methodology for the assessment with the EA and other relevant consultation bodies.
4.9.13	14.6.16	Proposed Methodology – Water Framework Directive	Considering that the Proposed Development could result in 'potential adverse direct effects', this section of the Scoping report indicates that a Water Framework Directive (WFD) compliance assessment will be required. The Applicant's attention is drawn to the Inspectorate's Advice note eighteen for guidance on undertaking WFD assessments and the relationship of such assessments to the EIA process.
4.9.14	14.7	Assessment Assumptions and Limitations	The Scoping Report acknowledges the limitations of the assessment, compiled on the basis of the publicly available information regarding Road Drainage and The Water Environment. Results of ongoing investigations (ground investigation works, groundwater monitoring and water feature survey) have not been included in the Scoping Report (when assessing groundwater quality) available at the time of writing was considered to be representative at

ID	Ref	Other points	Inspectorate's comments
			the time of writing. The resulting ES should explicitly detail any remaining areas of uncertainty and ambiguity within the assessments undertaken.

4.10 Climate

(Scoping Report Chapter 15)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.10.1	15.1.5.	The Applicant proposes that emissions relating to the end of life stage of the development is scoped out of the assessment.	Having had regard to the characteristics of the Proposed Development the Inspectorate agrees that decommissioning is unlikely to occur. The Inspectorate therefore agrees that significant effects to climate from decommissioning may be scoped out of the ES.
4.10.2	15.6.3	The Applicant proposes that the vulnerability of the scheme to climate change during construction is scoped out of further assessment.	The Inspectorate agrees that the vulnerability of the Proposed Development to impacts from climate change during construction is not anticipated to result in significant effects. The Inspectorate is satisfied that this matter may be scoped out of the assessment. The ES should, however, assess impacts over the longer term particularly with regards to the vulnerability of the Proposed Development to anticipated impacts associated with climate change e.g. increased summer temperature and rainfall, and detail any assumptions made with reference to relevant prevailing guidance.

ID	Ref	Other points	Inspectorate's comments
4.10.3	15.1	Study area	The footnotes in section 15.1 explain that embodied carbon data used to calculate material emissions will include end-of-life emissions for the material, however paragraph 15.1.5 specifically excludes end-of-life stages. This should be clarified to ensure end-of-life elements are consistently included / excluded and the basis for this explained.
4.10.4	15.4	Design, Mitigation and Enhancement Measures	The ES should ensure that the climate assessment is used to inform and influence other aspect assessments and mitigation measures proposed, within other ES aspect areas (for example, drainage and

ID	Ref	Other points	Inspectorate's comments
			effects on ecological receptors). The ES should ensure that relevant consultation bodies are consulted regarding the potential for climate change effects to ensure a robust assessment and maximise the effectiveness of any proposed mitigation measures.
4.10.5	15.4.4. 15.4.7.	Design, Mitigation and Enhancement Measures	The Scoping Report refers to implementation of a CEMP in order to mitigate effects during construction. The ES should provide a draft copy of this document appended and demonstrate how it is intended to be secured through the DCO. Any offsetting and sequestration type mitigation that is proposed should be set out and considered in the context of other relevant aspects, including landscape and biodiversity elements.
4.10.6	15.4.9	Climate change allowances	The Scoping Report refers to EA guidance on climate change allowances, and the Applicant should be aware that allowances may change in the near future following the release of the UKCP18 (Climate Projections) data. This will need to be kept under review to ensure that the assessment is undertaken against the most current guidance / projections.
4.10.7	N/A	Assumptions, limitations and uncertainties	Where information on energy use, types and quantities of materials used and waste generated require assumptions based on industry approximations, professional judgement or best practice will be made. Where relevant, these should be consistent with other aspects within the ES, for example the materials assessment (reasons should be provided where different assumptions between aspect chapters are applied).
4.10.8	15.2	Baseline, future baseline and assessment years	The dates for the assessment of baseline and future baseline conditions against which the Proposed Development's climate effects are assessed should be clearly identified and explained in the ES, particularly where these may differ across other relevant aspects

ID	Ref	Other points	Inspectorate's comments
			within the ES. The Applicant should discuss and agree with relevant statutory consultees the most appropriate data sets and assessment years to be used.

4.11 Cumulative Effects

(Scoping Report Chapter 16)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.11.1		N/A	No matters have been proposed to be scoped out of the assessment.

ID	Ref	Other points	Inspectorate's comments
4.11.2	16.1.2 & 16.1.5	Effects of the proposed scheme and interaction with other schemes	The Scoping Report explains in Section 16.1.2 that the cumulative assessment will be based upon guidance contained within DMRB and PINS Advice Note 17. If and when there is any departure or adaptation of the guidance; the ES must clearly explain where adaptation has occurred and if/where professional judgement has been applied (which should be supported by sound reasoning).
4.11.3	16.1.15	Use of Professional Judgement	Section 16.1.15 of the Scoping Report indicates that the significance of the identified cumulative effects 'upon each environmental resource would then be made based on the balance of scores and using professional judgement'. The ES must clearly explain where professional judgement has been applied and the reasoning behind it.
4.11.4	16.1.21	Study Area & Table 16.3	The Scoping Report suggests that a 2km ZoI beyond the extents of the Proposed Development is sufficient to assess cumulative effects for both the construction and operational phase. Table 16.3 provides detail on the specific ZoI for differing environmental aspects. The ES should detail and justify the selection of the study area for the relevant aspect when considering contributions to cumulative effects.

ID	Ref	Other points	Inspectorate's comments
4.11.5	16.2	Combined Effects	Section 16.2 of the Scoping Report discusses the potential for combined effects during both the construction and operational phases of the Proposed Development. When considering the combined effects to receptors in the construction phase, these are considered to be temporary in nature and implementation of mitigation measures would minimise the effects. The combined effects assessment in the ES must provide sufficient detail of any mitigation measures to provide confidence that any identified cumulative effect will not result in a likely significant effect.
4.11.6	16.3.1	Assessment of Cumulative Effects	Section 16.3.1 of the Scoping Report indicates that the list of other developments included in the assessment will be agreed with the relevant Local Authorities. The ES should clearly describe the list of other developments and the process and rationale used to arrive at the final 'short list' (if applicable).

5. INFORMATION SOURCES

5.0.1 The Inspectorate's National Infrastructure Planning website includes links to a range of advice regarding the making of applications and environmental procedures, these include:

- Pre-application prospectus[2]
- Planning Inspectorate advice notes[3]:
  - Advice Note Three: EIA Notification and Consultation;
  - Advice Note Four: Section 52: Obtaining information about interests in land (Planning Act 2008);
  - Advice Note Five: Section 53: Rights of Entry (Planning Act 2008);
  - Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements;
  - Advice Note Nine: Using the 'Rochdale Envelope';
  - Advice Note Ten: Habitat Regulations Assessment relevant to nationally significant infrastructure projects (includes discussion of Evidence Plan process);
  - Advice Note Twelve: Transboundary Impacts;
  - Advice Note Seventeen: Cumulative Effects Assessment; and
  - Advice Note Eighteen: The Water Framework Directive.

5.0.2 Applicants are also advised to review the list of information required to be submitted within an application for Development as set out in The Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009.

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[2] The Planning Inspectorate's pre-application services for applicants. Available from: https://infrastructure.planninginspectorate.gov.uk/application-process/pre-application-service-for-applicants/

[3] The Planning Inspectorate's series of advice notes in relation to the Planning Act 2008 process. Available from: https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/

APPENDIX 1: CONSULTATION BODIES FORMALLY CONSULTED

TABLE A1: PRESCRIBED CONSULTATION BODIES[4]

SCHEDULE 1 DESCRIPTION	ORGANISATION
The Health and Safety Executive	Health and Safety Executive
The National Health Service Commissioning Board	NHS England
The relevant Clinical Commissioning Group	NHS Gloucestershire Clinical Commissioning Group
Natural England	Natural England
The Historic Buildings and Monuments Commission for England	Historic England
The relevant fire and rescue authority	Gloucestershire Fire and Rescue Service
The relevant police and crime commissioner	Gloucestershire Police and Crime Commissioner
The relevant parish council(s) or, where the application relates to land [in] Wales or Scotland, the relevant community council	Coberley Parish Council
	Brimpsfield Parish Council
	Cowley Parish Council
	Badgeworth Parish Council
The Environment Agency	The Environment Agency
The relevant AONB Conservation Board	Cotswolds Conservation Board
The Relevant Highways Authority	Gloucestershire County Council Highways Authority
The relevant strategic highways company	Highways England
The relevant internal drainage board	Lower Severn Drainage Board

[4] Schedule 1 of The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (the 'APFP Regulations')

SCHEDULE 1 DESCRIPTION	ORGANISATION
Public Health England, an executive agency of the Department of Health	Public Health England
The Crown Estate Commissioners	The Crown Estate
The Forestry Commission	The Forestry Commission
The Secretary of State for Defence	Ministry of Defence

TABLE A2: RELEVANT STATUTORY UNDERTAKERS[5]

STATUTORY UNDERTAKER	ORGANISATION
The relevant Clinical Commissioning Group	NHS Gloucestershire Clinical Commissioning Group
The National Health Service Commissioning Board	NHS England
The relevant NHS Foundation Trust	South Western Ambulance Service NHS Foundation Trust
Universal Service Provider	Royal Mail Group
Homes and Communities Agency	Homes England
The relevant Environment Agency	The Environment Agency
The relevant water and sewage undertaker	Severn Trent
The relevant public gas transporter	Cadent Gas Limited
	Energetics Gas Limited
	Energy Assets Pipelines Limited
	ES Pipelines Ltd
	ESP Connections Ltd

[5] 'Statutory Undertaker' is defined in the APFP Regulations as having the same meaning as in Section 127 of the Planning Act 2008 (PA2008)

STATUTORY UNDERTAKER	ORGANISATION
	ESP Networks Ltd
	ESP Pipelines Ltd
	Fulcrum Pipelines Limited
	Harlaxton Gas Networks Limited
	GTC Pipelines Limited
	Independent Pipelines Limited
	Indigo Pipelines Limited
	Murphy Gas Networks Limited
	Quadrant Pipelines Limited
	National Grid Gas Plc
	Scotland Gas Networks Plc
	Southern Gas Networks Plc
	Wales and West Utilities Ltd
The relevant electricity distributor with CPO Powers	Eclipse Power Network Limited
	Energetics Electricity Limited
	Energy Assets Networks Limited
	Energy Assets Power Networks Limited
	ESP Electricity Limited
	Fulcrum Electricity Assets Limited
	Harlaxton Energy Networks Limited
	Independent Power Networks Limited
	Leep Electricity Networks Limited
	Murphy Power Distribution Limited
	The Electricity Network Company Limited
	UK Power Distribution Limited

STATUTORY UNDERTAKER	ORGANISATION
	Utility Assets Limited
	Vattenfall Networks Limited
	National Grid Electricity Transmission Plc

TABLE A3: SECTION 43 CONSULTEES (FOR THE PURPOSES OF SECTION 42(1)(B))[6]

LOCAL AUTHORITY[7]
Cotswold District Council
Tewkesbury Borough Council
Vale of White Horse District Council
West Oxfordshire District Council
Stratford-on-Avon District Council
Malvern Hills District Council
Wychavon District Council
Forest of Dean District Council
Stroud District Council
Gloucester City Council
Cheltenham Borough Council
South Gloucestershire Council
Swindon Borough Council
Wiltshire Council
Gloucestershire County Council

[6] Sections 43 and 42(B) of the PA2008

[7] As defined in Section 43(3) of the PA2008

LOCAL AUTHORITY[7]
Monmouthshire County Council
County of Herefordshire
Oxfordshire County Council
Warwickshire County Council
Worcestershire County Council

TABLE A4: NON-PRESCRIBED CONSULTATION BODIES

ORGANISATION
West of England Combined Authority

APPENDIX 2: RESPONDENTS TO CONSULTATION AND COPIES OF REPLIES

Consultation bodies who replied by the statutory deadline:

Cotswold District Council
Cotswolds Conservation Board*
Cowley and Birdlip Parish Council
Environment Agency
ESP Utilities Group
Fulcrum Pipelines
Gloucestershire County Council
Harlaxton Gas Networks
Health and Safety Executive
Historic England
Ministry of Defence
National Grid
Natural England
Public Health England
Royal Mail
South Gloucestershire Council
Stratford on Avon District Council
Stroud District Council
West Oxfordshire District Council

* Due to an administrative error, the Cotswolds Conservation Board received the Regulation 11(3) notification on 29 May 2019. A response was received by the Inspectorate from the Cotswolds Conservation Board by 24 June 2019.

Hoare, Owen

From: Pauline Duff [redacted]
Sent: 12 June 2019 18:09
To: A417 Missing Link at Air Balloon
Cc: Woods, Marnie
Subject: RE: TR010056 - A417 Missing Link - EIA Scoping Notification and Consultation/ Reg 11 Notification

Importance: High

Follow Up Flag: Follow up
Flag Status: Completed

Dear Ms Woods

YOUR REF: TR010056-000002

Further to your letter dated 15.05.19 in respect of the above, we have the following comments in respect of the submitted Scoping Report.

In relation to section 10 (Biodiversity), we question the extent of the physical study area of influence proposed and whether this should be increased. This issue should therefore be subject to the consultation responses of Natural England and the Glos Wildlife Trust. Additionally, whilst the Report recognises the importance of "… reconnecting habitats and ecosystems, enhancing the setting of historic and cultural heritage features, respecting and enhancing landscape character, improving water quality and reducing flood risk, avoiding significant adverse effects from noise and vibration, and addressing areas of poor air quality."; amongst other relevant issues, we feel that the report should be improved by making clear that national policy expects proposals to, "…minimis[e]ing impacts on and providing net gains for biodiversity". NPPF para 170(d). A case in point is para 10.4.11 which states, "…This strategy would replace and enhance lost habitat and will aim to provide an overall net gain in biodiversity as a result of the Scheme." There is a policy expectation that net gain in biodiversity will be delivered.

In respect of the other sections of the Report, we believe that the issues covered are thorough, although we reserve the right to comment on the detailed content of the Environmental Statement in due course in accordance with the relevant Regulations. We trust that the consultation responses of all technical consultees will be fully taken into account in the Scoping Opinion.

Yours sincerely

Pauline Duff on behalf of Kevin Field, Planning and Development Manager
Planning & Strategic Housing Cotswold District Council Trinity Road Cirencester Gloucestershire GL7 1WY
[redacted]

21st June 2019

The Planning Inspectorate
Major Casework Directorate
Temple Quay House
2 The Square
Bristol BS1 6PN

By email to A417MissingLink@PlanningInspectorate.gov.uk

Dear Sir / Madam

A417 Missing Link Environmental Impact Assessment Scoping Report

Thank you for consulting the Cotswolds Conservation Board ('the Board') on the A417 Missing Link Environmental Impact Assessment (EIA) Scoping Report. Thank you, also, for giving the Board until the 24th June 2019 to respond due to the delay in notifying the Board of the EIA Scoping Report consultation.

Context

The proposed A417 Missing Link scheme is located entirely within the Cotswolds Area of Outstanding Natural Beauty (AONB). The statutory purpose of AONB designation - and the Board's primary statutory purpose[1] - is to conserve and enhance the natural beauty of the AONB. 'Relevant authorities', including Highways England and the Planning Inspectorate, have a statutory duty to have regard to this purpose ('the duty of regard'). This duty is re-iterated in the National Policy Statement for National Networks (NPSNN). The expectation of this duty is that adverse impacts will be avoided or mitigated where possible. The fact that the A417 Missing Link is wholly located within an AONB is the only national policy test which, on that basis alone (regardless of the degree of harm to the environment), triggers a presumption of refusal unless a series of stringent tests of 'exceptional circumstances' are met to justify its being in the public interest.

The Board accepts that there is a pressing need for a scheme to improve the Missing Link section of the A417. But we have also stressed from the outset that this must be a landscape-led scheme which delivers the agreed Vision, Design Principles, Objectives and Sub-Objectives (see Annex 1). We have played a very active role in working with Highways England and other stakeholders in defining and drafting these goals and trying to ensure that the scheme delivers these aspirations. We appreciate where our suggestions have been taken on board.

However, as stated in the *Scheme Assessment Report* (pp 172-3), the effects of the proposed scheme (option 30) on landscape, heritage, wildlife and water environment – all of which contribute to the character of the AONB – would be 'large adverse' in each case, and for water 'very large adverse'. We are very concerned that the scheme as presented cannot adequately deliver its overall Vision, Design Principles and Objectives. Critically, the proposed scope of the EIA does not provide the framework for an adequately robust assessment to address the key policy tests of the NPSNN and other relevant policies and legislative duties and requirements that represent the material considerations that must

[1] The Board's two purposes are::

- To conserve and enhance the natural beauty of the Cotswolds AONB.
- To increase the understanding and enjoyment of the special qualities of the Cotswolds AONB.

inform the determination of any application based on this scheme in accordance with s.104 and s.105 of the Planning Act 2008 (see Annex 2)

Alternative Options to Achieve Scheme Vision Design Principles and Objectives

The Board is very concerned that there is a lack of detail regarding exactly which alternative options will be considered in the EIA. We accept that any alternative options considered in terms of comparing their environmental effects with the preferred scheme need to be proportionate, reasonable and viable, and as such, we recognise that it would not be appropriate to include all previously considered options in the EIA. But this must also be considered in the context of the NSPNN tests for infrastructure development within the AONB

We have advised Highways England that there are alternative options that were not identified in the options appraisal process that could meet (or at very least much more fully address) the scheme Vision, Design Principles and Objectives. These would also much more fully inform the NPSNN tests to demonstrate the 'exceptional circumstances' required to justify construction of new infrastructure in an AONB; and would fully take into account other relevant policies and legislation.

We believe that this policy context means the EIA must consider more ambitious but still – in a national context – proportionate measures to 'ameliorate' (ie 'avoid', 'remedy' and 'reduce') adverse environmental effects, taking account of costs and achieving high environmental standards (Annex 4). For example, given the substantial depth of cuttings that are now being proposed through a very sensitive part of the Cotswolds escarpment and the potentially difficult ground and groundwater conditions, the Board has identified that the cost difference between the cuttings proposed and an alternative involving a 'cut-and-cover' tunnel may not be significant.

Taking these points into account, the Board's principle recommendation is that the alternative options that are assessed and compared in the EIA should include the 'Gold', 'Red' and 'Blue' options shown in Annex 3. It is worth noting that:

- all three alternatives are significantly different from tunnel options considered prior to public consultation
- all of the Board's alternatives are presented as holistic landscape-led vision incorporating other beneficial considerations such as a Birdlip relief road instead of the proposed Birdlip Link.
- all the options are within the range of best past practice for protected landscapes (Annex 4).

Information provided

The Board is concerned that there are shortcomings in terms of the information presented to inform the scope of the EIA. Examples are:

- absence of plans, long sections and cross sections to define the scheme
- absence of any preliminary quantification of cut and fill balance; overall surplus of the main scheme (figures only presented for A436 options)
- lack of sufficient information or plans to demonstrate the basis for defining the draft 'red line' boundary
- lack of systematic identification of the sources of different impacts relative to different permanent, temporary, indirect effects
- lack of systematic identification of interactive effects especially in respect of different characteristics of the AONB that contribute to its special qualities and character

- overall failure to recognise the national policy, legislative and scheme specific standards against which significant effects need to be identified, assessed and addressed through design and other mitigation
- lack of information on policy and legislative basis for consideration of scope of cumulative effects.

Recommendations

The following recommendations are made to address shortcomings in the proposed scope of the EIA. These are based on more detailed analysis to follow, which includes more topic specific issues.

Recommendation 1
We request that these observations and recommendations be considered within the context of how the Environmental Impact assessment, EIA should be shaped by and meet the statutory requirement for PINS to be fully informed of all matters falling under s.104 of the Planning Act 2008.

The whole scope of the EIA needs to be far better anchored into the stated vision, design principles and objectives of the scheme when set within the relevant statutory requirements and policy frameworks. In particular this must recognise the implications of the National Policy Statement for National Networks, NPSNN paragraph 1.150 and the tests that flow from that, giving full weight to the interactive environmental characteristics and qualities that underpin the natural beauty of the Cotswolds AONB and the additional legislative and policy considerations that apply to them.

Recommendation 2
The overall statement of legislative and policy framework and assessment methods and reporting need to be radically overhauled to:

- Ensure that all legislative and policy considerations relevant to compliance with s.104 of the Planning Act 2008 are fully explained.
- Ensure that the methods and criteria used in the identification and assessment of environmental effects, including interactive, indirect and cumulative effects fully reflect the weight to be accorded to relevant aspects of the environment in accordance with national policy statements, tests and criteria and relevant statutory duties.
- In particular to reflect all issues relevant to the tests set out in NPSNN (especially para 5.150 to 5.153); the frameworks set by para 2.10; and requirements for assessment of cumulative effects (including consideration of whether or not 'upstream' plans and programmes that set the delivery framework of which this scheme is part have been subject to Strategic Environmental Assessment, SEA).

Recommendation 3
The approach to describing all relevant alternatives studied by the developer/applicant should be brought fully in line with EIA requirements to include actual alternatives put before Highways England and sufficiently 'studied' to have been rejected hitherto as well as those accepted for further consideration.

In particular suggestions for modifications and alternative solutions already made by the Conservation Board (and/or other statutory consultees) that would substantially improve the likelihood of the scheme meeting key statutory duties, policy criteria and tests and scheme specific environmental objectives should be included in the consideration of alternatives, fully comparing their adverse and beneficial environmental effects.

Recommendation 4
In order to address the need to meet NPSNN policy tests in respect of the AONB and other national or international designations and to ensure that PINS will be in a position to advise the Secretary of State.

- The red line boundary needs to be altered to accommodate these suggestions; areas representing alternative options not all of which would be adopted should be indicated.
- Provision of evidence and conclusions reached in respect of meeting the criteria and tests set by NPSNN in this context should be taken into account by PINS both in respect of whether an application is adequately documented and in its determination.
- Where it appears that nationally protected landscape sites, features or resources could be substantially better protected or enhanced by adopting such solutions, but only at a cost outside the current budget, this should be identified within the ES so that PINS may
    - Consider this within the wider strategic framework in which the cumulative effects of this scheme need to be judged; and
    - As appropriate, advise the Secretary of State and Highways England whether under s.3 of the Infrastructure Act any variation of the RIS would be required to meet the environmental standards set by NPSNN and the statutory environmental duties set by the Infrastructure Act and other legislation.

Recommendation 5
The description of the development needs substantial expansion to ensure:

- The scope of the EIA properly covers issues that are likely to have substantial implications for the environmental effects of the scheme.
- It is clear what the baseline design is and what measures to avoid, reduce remedy or offset environmental effects are already built in.
- It is clear what further adjustments of alignment, structures and other measures are incorporated to avoid, reduce, remedy or offset environmental effects.
- It is clear what further mitigation is needed to offset residual environmental effects.
- How these considerations relate to NPSNN policy requirements especially with reference to effects currently assessed as ‘large adverse’ or ‘very large adverse’.

Recommendation 6
General methodology for the environmental assessment needs to be revised so that it is far more explicitly anchored in providing the information required to meet EIA regulatory requirements within the specific context of:

- National legislative and policy tests for conserving and enhancing the natural beauty of the AONB and its intrinsic characteristics that are covered by comparable legislative and policy requirements.
- Scheme-specific vision, design principles, objectives, sub-objectives and the register of design principles.
- The context of this scheme in relation to ‘individual networks and as an integrated system’.

The EIA scope needs to have much clearer regard to the implications of paragraph 1.150 of the NPSNN and the tests related to the AONB including:

- The tests that apply in relation to the baseline presumption against infrastructure development within AONBs.

- The relevance of the interactive contributions that different aspects of the environment make to the natural beauty of the Cotswolds AONB as set out in the AONB management plan, position statements and landscape strategy and guidelines.

The EIA scope needs to be revised to ensure that the EIA meets regulatory requirements especially with regard to:

- A much clearer, more precautionary approach to explaining difficulties, technical and scientific limitations and uncertainties arising from methods adopted for forecasting baseline conditions, effects of the scheme and evolution of the baseline without the scheme – and on the basis of this risks to people and the environment.
- A much clearer basis for what effects are 'significant' in terms of being material considerations including policy and legislative tests and benchmarks.
- What additional surveys are being undertaken or will be undertaken to ensure that an adequate baseline scenario is developed for making a robust identification and assessment of impacts and effects, and what measures are needed to address them.
- Interactive impacts and effects especially with regard to all aspects of the environmental that contribute to the natural beauty of the AONB.
- Means of avoiding, reducing, remedying or offsetting environmental harm – including especially interactive and cumulative effects as well as individual ones and the risks of not doing so.
- What assumptions are to be adopted regarding the evolution of the baseline environment without the development, given the key issues of the 'natural beauty' of the AONB.
- Identification of specialist expertise involved in each EIA topic.

Recommendation 7
We have drawn attention to numerous specific weaknesses in issues to be addressed and/or methodologies and basis for identifying and explaining significant effects.

There is a particular need to address the serious problems that arise in respect of:

- Issues related to not identifying key characteristics of the scheme as currently envisaged in the preliminary design to date resulting in insufficient emphasis being given to key issues, how they might be addressed and how effective any changes in design or other mitigation might be.
- Insufficient illustration of the scheme proposals to justify the red line boundary, or judge potential impacts and effects (especially interactive and cumulative effects).
- Insufficient explanation of off-site issues to understand the likely occurrence of impacts and matters arising for off-site mitigation.
- Apart from specific regulatory standards for some topics – but not others – there is no systematic benchmarking of the identification of impacts and effects against relevant national policies and legislation that set the framework of material considerations for compliance with s.104 of the planning act. The Design Manual for Roads and Bridges, DMRB volume 11 (but with no reference at all to volume 10 except in relation to otters) has been presented as if it was the main 'material consideration' basis for judging the acceptability of the proposals. It needs to be seen more clearly as a technical mechanism for trying to ensure a consistent and adequate basis for judging the real 'material considerations' enshrined in policy and statute, much of which is topic-specific.

Recommendation 8

As a scheme entirely located within the Cotswolds AONB, the approach to describing and assessing impact interactions needs to be founded much more clearly in how different aspects of the environment contribute to the character and natural beauty of the AONB and its natural and cultural capital as reflected in the AONB Management Plan, Position Statements and Landscape Strategy and Guidelines, and in related environmental policies and statutory considerations. The approach needs to be brought into line with what is required to ensure that the decision-maker is fully informed on all EIA issues that are relevant to compliance with s.104 of the Planning Act 2008.

Recommendation 9
The approach to describing and assessing cumulative effects for this scheme in particular is badly flawed because so little attention has been paid to policy and statute, and needs to be radically rethought and brought into line with what is required to ensure that the decision-maker is fully informed on all EIA issues that are relevant to compliance with s.104 of the Planning Act 2008, especially as a scheme that is:

- Part of a national delivery plan and programme for road infrastructure.
- Wholly affecting a nationally protected landscape.
- Being promoted by a national statutory developer with statutory duties to have regard to conserve and enhance the protected landscape and more generally have regard to effects on the environment across all their national functions, including advising the Secretary of State and other decision-makers.
- Subject to national policy and statutory tests of acceptability that are also reflected in the scheme's core vision, design principles and objectives.

The Board will be providing additional, detailed comments on the individual sections of the EIA Scoping Report by midday on 24th June, to support this initial, over-arching response.

Should you require any further clarification on any of the points raised above please do not hesitate to contact me.

Yours faithfully,

Martin Lane
Director

ANNEX 1. VISION, DESIGN PRINCIPLES AND OBJECTIVES FOR THE A417 MISSING LINK SCHEME[2]

Client Scheme Requirements

- Improve the operation and efficiency of the existing transport network
- Support economic growth
- Improve connectivity and community cohesion
- Safety improvements for customers and operational staff*
- Deliver capacity enhancements to the strategic road network
- Enhance and protect the quality of the surrounding environment* while conforming to the principles of sustainable transport
- Minimise the environmental impact of construction, operating, maintaining and improving the network**

*elements to which there is a statutory duty of have 'special regard'
** added since publication of the Preferred Route Assessment Report

Scheme Vision

- A landscape-led highways improvement scheme that will deliver a safe and resilient free-flowing road whilst conserving and enhancing the special character of the Cotswolds AONB; reconnecting landscape and ecology; bringing about landscape, wildlife and heritage benefits, including enhanced visitors' enjoyment of the area; improving local communities' quality of life; and contributing to the health of the economy and local businesses.

Scheme design principles

- Any solution involving a new road must ensure that the scheme is designed to meet the character of the landscape, not the other way round.
- Any scheme should bring about substantial benefits for the Cotswolds landscape and environment as well as people's enjoyment of the area.
- Any scheme must have substantially more benefits than negative impacts for the Cotswolds AONB.

Scheme Objectives

- Safe, resilient and efficient network: to create a high quality resilient route that helps to resolve traffic problems and achieves reliable journey times between the Thames Valley and West Midlands as well as providing appropriate connections to the local road network.
- Improving the natural environment and heritage: to maximise opportunities for landscape, historic and natural environment enhancement within the Cotswolds AONB and to minimise negative impacts of the scheme on the surrounding environment.
- Community & access: to enhance the quality of life for local residents and visitors by reducing traffic intrusion and pollution, discouraging rat-running through villages and substantially improving public access for the enjoyment of the countryside.
- Supporting economic growth**:** to facilitate economic growth, benefit local businesses and improve prosperity by the provision of a free-flowing road giving people more reliable local and strategic journeys.

[2] As set out in the table on pp. 63 to 64 of the *Preferred Route Assessment Report*.

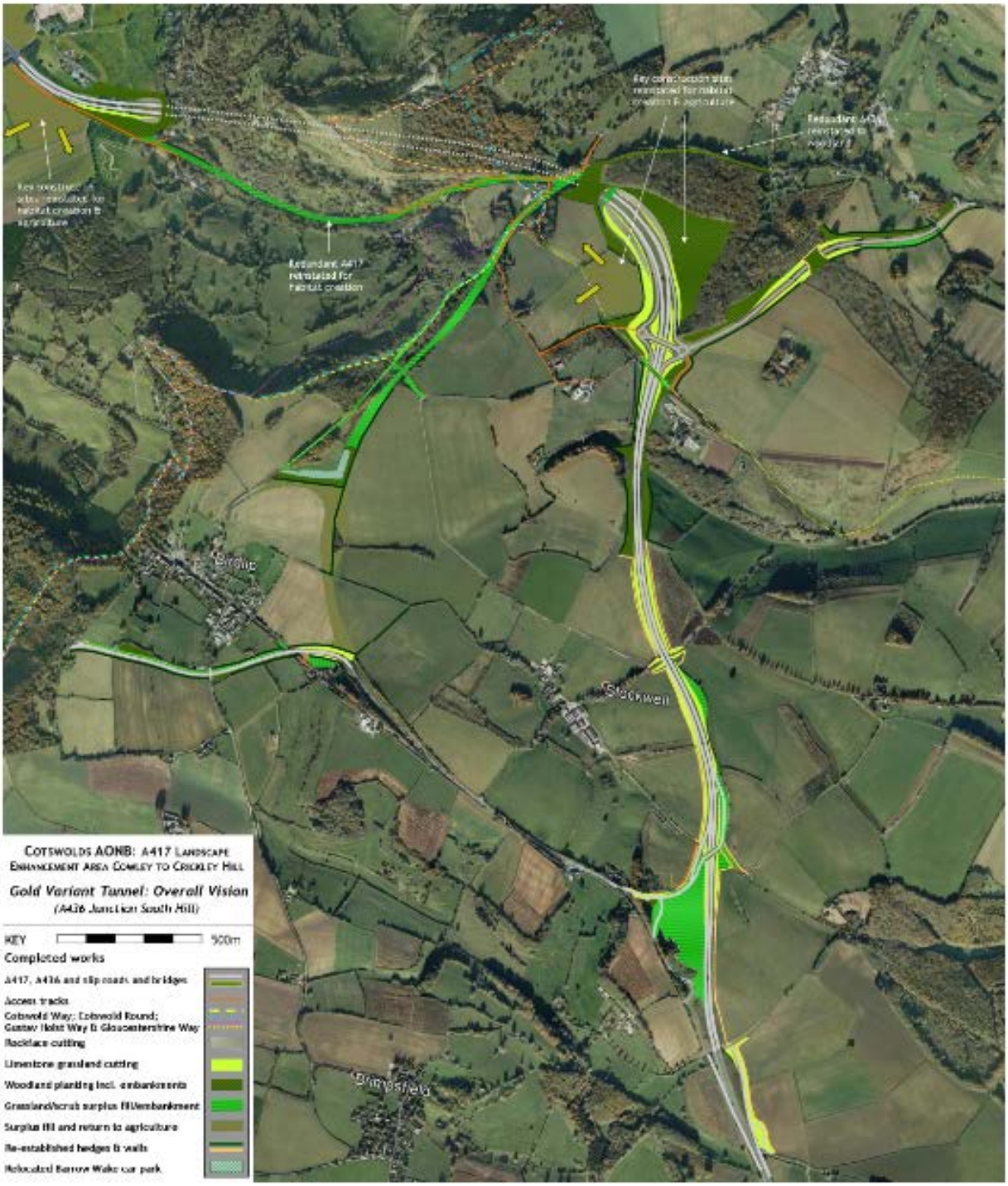
ANNEX 2. SUMMARY OF THE KEY LEGISLATIVE AND POLICY CONTEXTS OF THE A417 MISSING LINK SCHEME

Any application for the A417 Missing Link scheme as currently proposed will need to be determined in accordance with the requirements of s.104 and s.105 of the 2008 Planning Act, which in particular require consideration of relevant national policy frameworks and legislative duties and requirements. In this context, key considerations of the A417 Missing Link are that:

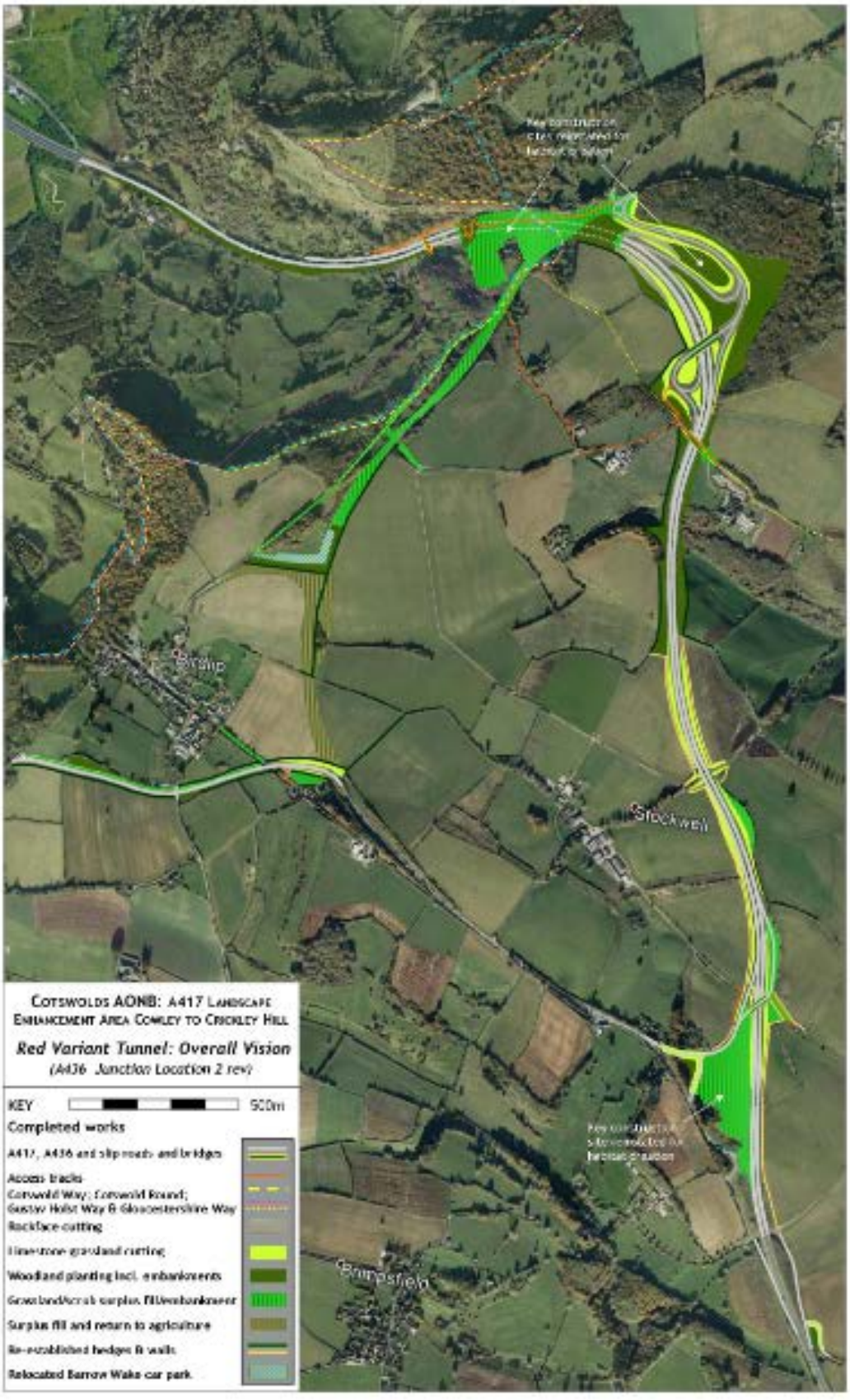
- it is a 'Nationally Significant Infrastructure Project' that is…
- …wholly contained within the Cotswolds AONB, a nationally protected landscape…
- …and part of a national Road Investment Strategy for delivery by…
- …the national strategic highways company responsible for the whole of England, which by law must
    - '*in exercising its functions, have regard to the effect of the exercise of those functions on— (a) the environment..'* (Infrastructure Act 2015) and
    - *'have regard to conserving and enhancing the natural beauty of the AONB* (CROW Act 2000)…
- …noting that paragraphs 5.150 to 5.153 of the National Policy Statement for National Networks in respect of nationally protected landscapes, establish a presumption of refusal of new infrastructure in AONBs unless exceptional circumstances are demonstrated based on key tests including consideration of
    - …*any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated*
    - *the cost of and scope for …. meeting the need for the scheme in some other way,* and
    - *the need for the development, including in terms of any national considerations*…..
- …when these tests are judged within the context of the Infrastructure Act 2015, under which…
    - …s.3(5) the Secretary of State is obliged in setting a RIS to '*have regard in particular to the its effects on the environment'* and, in the context of this duty…
    - …s.3(1)(b) may at any time vary a Road Investment Strategy which under s.3(3) must *specify objectives to be achieved by the strategic highways company* (including environmental objectives) AND *the financial resources to be provided by the Secretary of State for the purpose of achieving those objectives*

ANNEX 3. ALTERNATIVE VISIONS RECOMMENDED BY THE COTSWOLDS CONSERVATION BOARD FOR CONSIDERATION IN THE A417 MISSING LINK ENVIRONMENTAL IMPACT ASSESSMENT

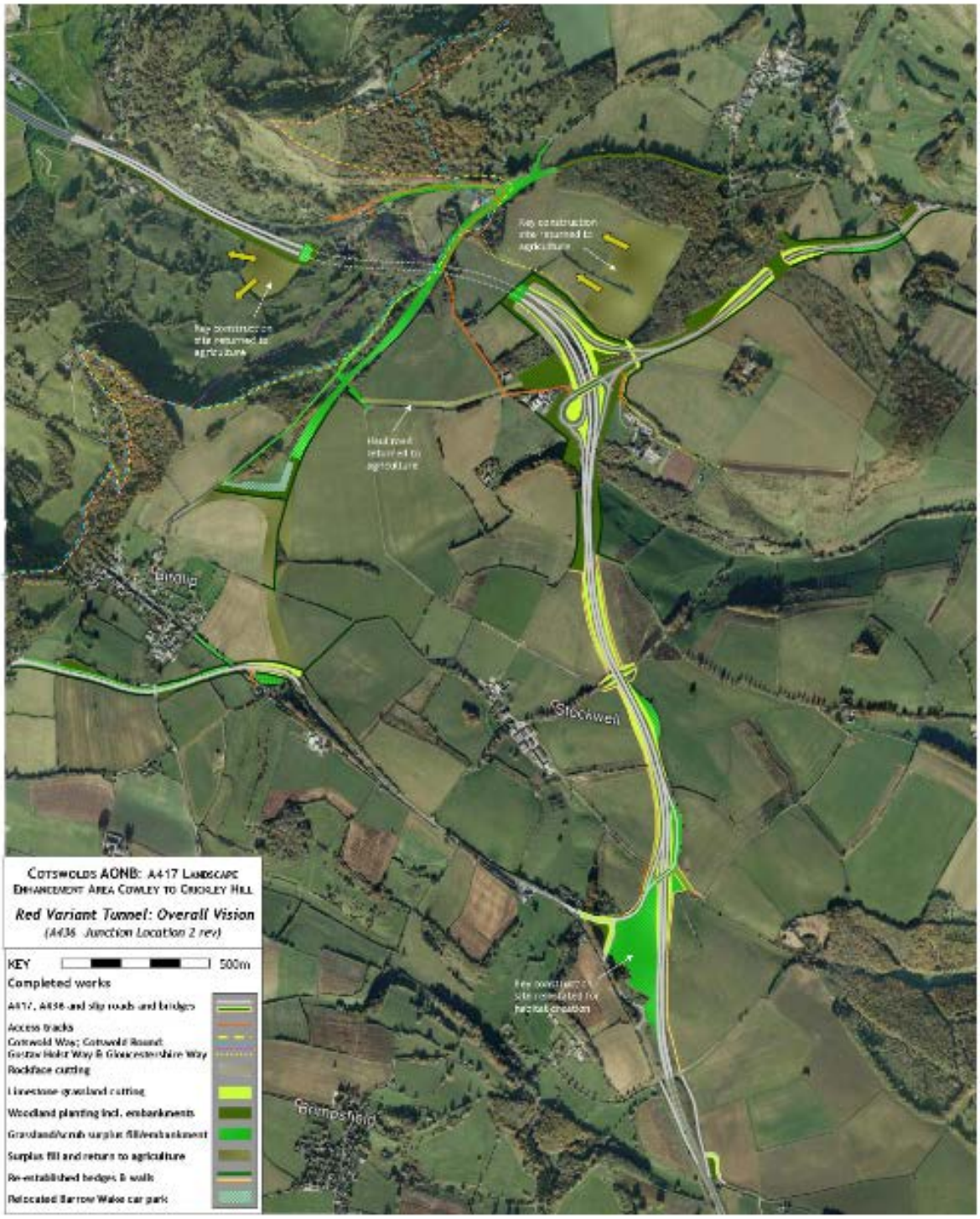
'Gold' option



‘Red’ option


Cotswolds AONB: A417 Landscape Enhancement Area Comley to Crickley Hill
Red Variant Tunnel: Overall Vision
(A436 Junction Location 2 rev)
KEY
500m
Completed works
A417, A436 and slip roads and bridges
Access tracks
Cotswold Way; Cotswold Round; Gustav Holst Way & Gloucestershire Way
Rockface cutting
Limestone grassland cutting
Woodland planting incl. embankments
Surplus fill and return to agriculture
Re-established hedges & walls
Relocated Barrow Wake car park
Brimpsfield
Stockwell

‘Blue’ Option


Birdlip
Stockwell
Brimpsfield
COTSWOLDS AONB: A417 LANDSCAPE ENHANCEMENT AREA COWLEY TO CROCKLEY HILL
Red Variant Tunnel: Overall Vision
(A436 Junction Location 2 rev)
KEY
500m
Completed works
Access tracks
Rockface cutting
Limestone grassland cutting
Woodland planting incl. embankments
Surplus fill and return to agriculture
Re-established hedges & walls
Relocated Barrow Wake car park

ANNEX 4. A417 NATIONAL CONTEXT OF TUNNEL ALTERNATIVES

UK tunnel locations and traffic throughputs per tunnel length					
(sources: http://www.rtoa.org.uk/Directory.html; HE A417 and A303 consultation documents; HE Cross Pennine					
Tunnels (Road No. and Location) - ranked by traffic throughput per metre	*Context*	*Daily traffic*	*Annual traffic*	*Length (m)*	*Annual traffic per tunnel m*
M25 Bell Common	rural COMMON		48,830,000	515	94,816
M4 Brynglas	suburb		29,000,000	360	80,556
M25 Holmesdale	suburb		46,830,000	684	68,465
A40 Gibraltar Hill	rural		11,000,000	188	58,511
A505 Baldock	rural	27,000	9,855,000	224	43,996
A20 Roundhill	rural AONB pt SAC		14,600,000	370	39,459
A417 (CCB Red option not agreed)	rural AONB	46,500	16,972,500	500	33,945
A27 Southwick Hill	rural NAT PARK NT		17,110,000	510	33,549
A739 Clyde	estuary		22,000,000	756	29,101
A417 (CCB Blue option not agreed)	rural AONB	46,500	16,972,500	750	22,630
A289 Medway	estuary		15,300,000	725	21,103
Dartford	estuary		25,350,000	1,430	17,727
A417 Option 3 (HE shortest tunnel rejected)	rural AONB	46,500	14,235,000	1,000	14,235
A102 Blackwall	estuary		18,250,000	1,350	13,519
A417 (CCB Gold option not agreed)	rural AONB	46,500	16,972,500	1,600	10,608
A3 Hindhead Common	rural AONB SPA NT	35,000	12,775,000	1,830	6,981
(A59) Kingsway Wallasey	estuary (WHS)		15,640,000	2,260	6,920
A55 Conwy	estuary WHS		5,500,000	1,089	5,051
(A41) Queensway Birkenhead	estuary (WHS)		11,000,000	3,260	3,374
A303 Stonehenge	rural WHS	30,300	11,059,500	3,530	3,133
Cross Pennine	rural NAT PARK		*48,830,000*	*16,000*	*3,052*
NOTE: *Traffic throughput for Cross Pennine scheme unknown. For illustrative purposes the following is used*					
to maximise traffic per tunnel metre: shortest option (10 miles) and maximum throughput above (Bell Common)					

A417 MISSING LINK ENVIRONMENTAL IMPACT ASSESSMENT SCOPING REPORT

ADDITIONAL COMMENTS PROVIDED BY THE COTSWOLDS CONSERVATION BOARD ON 24th JUNE 2019 IN SUPPORT THE BOARD'S CONSULTATION RESPONSE DATED 21st JUNE 2019

CHAPTER 1. INTRODUCTION

Purpose of the Report

Paragraph 1.1.2 of the Scoping Report indicates that the report has been completed in accordance with the Design Manual for Roads and Bridges (DMRB) Volume 11. Unfortunately, the Scoping Report seems to treat DMRB Volume 11 as if that were the primary material consideration for decision makers rather than using that as an assessment tool to provide the information required to judge the scheme against the stated objectives and principles of the scheme, relevant legislative duties and requirements, and national, local and protected landscape policy frameworks.

Legislative and Policy Context

For the Planning Inspectorate (PINS) to be in a position by which it can advise the Secretary of State on a fully informed basis that reflects all aspects of relevant planning and environmental law and policy, it is essential that the scope of the EIA is geared to ensure that ALL relevant considerations that have a material bearing on the judgements to be made against legal and policy frameworks are taken into account and given proper weight. As it stands, the proposed scope of the EIA does NOT clearly demonstrate that this will be achieved. As such, it does not, in the Cotswolds Conservation Board's (the Board's) view, provide sufficient assurance in this respect to cover the requirements of: the Road Investment Strategy (RIS) objectives; the National Policy Statement for National Networks (NPSNN); other relevant policy frameworks specific to the AONB and local authority areas; statutory environmental duties on relevant authorities; or the scheme-specific vision and objectives. This is relevant to ensuring that the ES is fit for purpose relative to s.104 of the Planning Act 2008.

A key factor in considering the scope of the EIA is the fact that the proposed scheme lies entirely within the Cotswolds Area of Outstanding Natural Beauty (AONB). The statutory purpose of AONB designation - and the Board's primary statutory purpose[1] - is to conserve and enhance the natural beauty of the AONB. 'Relevant authorities' - including Highways England, the Planning Inspectorate and the Secretary of State - have a statutory duty to have regard to this purpose ('the duty of regard').

The duty of regard is also referred to in the NPSNN. The NPSNN (paragraph 5.151) establishes a presumption that development consent should be refused in AONBs unless a series of stringent tests can demonstrate that exceptional circumstances apply and that the development is in the public interest.

The Board accepts that there is a pressing need for a scheme to improve the Missing Link section of the A417. However, whilst there may be an exceptional need for a Missing Link

[1] The Board's two purposes are::

- To conserve and enhance the natural beauty of the Cotswolds AONB.
- To increase the understanding and enjoyment of the special qualities of the Cotswolds AONB.

scheme, this doesn't necessarily mean that the proposed scheme demonstrates exceptional circumstances because there may be alternative solutions that are more suitable because they would result in less harm to the AONB.[2]

Within this context, it is important to highlight the agreed Vision, Design Principles, Objectives and Sub-Objectives for the Missing Link scheme, which the Board outlined in Annex 1 of its consultation response dated 21st June 2019. For example, the agreed Vision is as follows:

- A landscape-led highways improvement scheme that will deliver a safe and resilient free-flowing road whilst conserving and enhancing the special character of the Cotswolds AONB; reconnecting landscape and ecology; bringing about landscape, wildlife and heritage benefits, including enhanced visitors' enjoyment of the area; improving local communities' quality of life; and contributing to the health of the economy and local businesses.

As stated in the *Scheme Assessment Report* (pp 172-3), the effects of the proposed scheme (option 30) on landscape, heritage, wildlife and water environment – all of which contribute to the character of the AONB – would be 'large adverse' in each case, and for water 'very large adverse'. As such, we are very concerned that the scheme as presented cannot adequately deliver its overall Vision, Design Principles and Objectives and, as a result, cannot deliver the NPSNN strategic objective of delivering '*networks which support the delivery of environmental goals'*.

Critically, the proposed scope of the EIA does not provide the framework for an adequately robust assessment to address the key policy tests of the NPSNN and other relevant policies and legislative duties and requirements that represent the material considerations that must inform the determination of any application based on this scheme, in accordance with, for example, s.104 of the Planning Act 2008.

The budget for the A417 Missing Link scheme was clearly set without any transparent application of the specific guidance and tests set out in paragraphs 5.150 to 5.153 of the NPSNN. As such, it would appear that the approach adopted to date is seriously in danger of what the Supreme Court has referred to as 'selling the pass' (i.e. setting in stone assumptions regarding budgets for individual projects before the overall effects and best means to avoid or reduce the most significant environmental effects have been identified and assessed). The EIA provides a mechanism to address this issue by, for example, assessing alternative options that would deliver better environmental outcomes.

The Board provided additional legislative and policy context in Annex 2 of its response dated 21st June 2019.

The legislative and policy context of the EIA are addressed in Recommendations 1, 2 and 4 of the Board's consultation response, dated 21st June 2019.

[2] There is relevant case law which reaches similar conclusions, such as the High Court case of 'R (Mevagissey Parish Council) v Cornwall County Council [2013] EWHC 3684 (Admin) Hickinbottom J'. In this case, which related to residential development in the Cotswolds AONB, the judge stated that: '*Even if there were an exceptional need for affordable housing in an area, that would not necessarily equate to exceptional circumstances for a particular development, because there may be alternative sites that are more suitable because development there would result in less harm to the AONB landscape'*.

CHAPTER 2. THE SCHEME

The Red Line Boundary

As stated in paragraph 2.3.3, the study area falls within the Cotswolds AONB (rather than 'the Cotswolds AONB is located within the draft Red Line Boundary', as stated in paragraph 2.3.5). This sets the AONB apart from the other environmental constraints listed in paragraph 2.3.5 because:

a) the AONB cannot be avoided by any surface route for this scheme;
b) s.85 of the CROW Act imposes a statutory duty on all public bodies and individual public servants to have regard to conserving and enhancing the AONB (with the expectation that adverse impacts will be avoided or mitigated where possible);
c) under the NPSNN, paragraph 5.151, there is a presumption against granting development consent within the AONB and stringent tests that need to be applied before development can be permitted.

The Scoping Report indicates that the Red Line Boundary, shown in Appendix 1, incorporates the land required for environmental mitigation. However, it is not appropriate at this pre-EIA stage, to already be specifying the land on which environmental mitigation will be required. For example, to mitigate adverse visual impacts, it may be appropriate, in some instances, to undertake the mitigation work (e.g. planting screening vegetation) closer to the viewpoint, which may be some distance outside the Red Line Boundary, than to undertake this mitigation close adjacent to the proposed route. A key consideration with regards to visual impact will be the Zone of Theoretical Visibility (ZTV), which is likely to extend much further than the Red Line Boundary. Similarly, in order to deliver significant net-gains in biodiversity, it may be appropriate for the scheme to provide for habitat creation outside of the Red Line Boundary.

Even within the Scheme as proposed – notably the South Hill approach for the A436 – the Red Line Boundary omits areas that may be required to optimise alignments and downgrade or revert redundant routes to habitat creation.

On a related point, paragraph 2.4.3 of the Scoping Report states that '*sufficient design work has been carried out to … be confident that all environmental mitigation which is considered likely to be required can be accommodated within the Scheme boundary*'. Given that the identification of potential mitigation options is an important component of the EIA itself, it is far too presumptuous, at this pre-EIA stage, to make this assertion.

Also, as outlined in our comments on Chapter 3, the Board is proposing that additional, alternative options should be considered in the EIA, for which the land-take and area required for mitigation may be considerably different.

The issue of the Red Line Boundary is addressed in the Recommendation 4 of the Board's consultation response dated 21st June 2019.

Scheme Description

As presented, the description of the development falls well short of providing an adequate basis for identifying all likely direct and indirect impacts effects needing to be assessed and what is required to avoid, reduce, remedy or offset adverse ones or optimise benefits. Closer attention needs to be paid to the sources and character of all the likely significant effects of the scheme in terms of the range and types of impact, impact

interactions and within-project, local and wider cumulative effects, as required by the EIA Regulations.

There is no listing of structures; no figures for maximum or minimum cutting widths; no figures for alignment curvatures; no indication of scope for varying these relative to standards and permitted departures and relaxations of design safety standards etc.

The description is far less clear and explicit than the equivalent explanation of the scheme that was presented in the Preferred Route Assessment Report (6.4 to 6.17 inclusive) in respect of Option 30. All of the Preferred Route Assessment Report description is relevant to identifying aspects of the proposed scheme that will require EIA assessment in relation to topics identified within the EIA Regulations and their interactions and the NPSNN and other policy considerations and frameworks for decision-making.

Coupled with the absence of any preliminary design plans, long sections or cross sections to illustrate the stage of design from which effects will be addressed, there is no means of judging what changes will have been made during the remaining preliminary design and interactive EIA process to show how the proposals for the scheme are developed from the baseline assumptions represented in the Preferred Route Announcement. The only partial exception to this is the consideration of the alternative options for the A436 junction which were part of what the Board recommended for consideration in September 2018.

We also note that within the general dearth of detailed description, there are significant unexplained changes from the Preferred Route Announcement, most notably that the proposed cutting at the Air Balloon is now described as 35m deep, but with no reference to retaining walls. By contrast the Preferred Route announcement (p 103) states that *"Major retaining walls would be required in conjunction with steepened slopes along the deep cutting in the vicinity of the existing Air Balloon roundabout, up to a maximum combined wall / slope height of approximately 28m."* In the complete absence of any explanation of this change it is therefore not clear:

a) Is the increase in maximum cutting depth real (e.g. based on more detailed survey data)? Or measured at a different place? Or possibly just a misprint?
b) Is the omission of reference to retaining walls merely a function of the description being so much less detailed? Or does it reflect an engineering decision that steep cutting slopes would be sufficiently stable not to require retaining walls? Or that very much wider shallower slope cuttings are now envisaged?

These – and other considerations have significant implications for the scope of assessment needed.

The scheme description is addressed in Recommendation 5 of the Board's consultation response dated 21st June 2019.

CHAPTER 3. ASSESSMENT OF ALTERNATIVES

As explained in our comments on Chapter 1, the Board is extremely concerned that the preferred option for the A417 Missing Link scheme, which forms the basis of the EIA, would not comply with the relevant legislative and policy framework and would not be compatible with the agreed Vision, Design Principles and Objectives for the scheme. We are also concerned about the lack of detail provided in the Scoping Report regarding exactly which alternative options will be considered.

It is essential that the EIA should consider a range of alternative options (not just variations of the proposed scheme) that have the potential to deliver better environmental outcomes.

This is particularly important given the fact that the scheme has not previously been the subject of a Strategic Environmental Assessment (SEA) or EIA, so this is the first opportunity to consider alternative options under the environmental assessment regulatory framework.

The Board accepts that any alternative options considered in terms of comparing their environmental effects with the preferred scheme need to be proportionate, reasonable and viable, and as such, we recognise that it would not be appropriate to include all previously considered options in the EIA.

We have advised Highways England that there are alternative options that were not identified in the options appraisal process that could meet (or, at very least, much more fully address) the scheme Vision, Design Principles and Objectives. These would also much more fully inform the NPSNN tests to demonstrate the 'exceptional circumstances' required to justify construction of new infrastructure in an AONB; and would fully take into account other relevant policies and legislation.

We believe that this policy context means the EIA must consider more ambitious but still – in a national context – proportionate measures to 'ameliorate' (i.e. 'avoid', 'remedy' and 'reduce') adverse environmental effects, taking account of costs and achieving high environmental standards (Annex 4). For example, given the substantial depth of cuttings that are now being proposed through a very sensitive part of the Cotswolds escarpment and the potentially difficult ground and groundwater conditions, the Board has identified that the cost difference between the cuttings proposed and an alternative involving a 'cut-and-cover' tunnel may not be significant, (sew Appendix A to this report).

Taking these points into account, the Board's principle recommendation is that the alternative options that are assessed and compared in the EIA should include the 'Gold', 'Red' and 'Blue' options shown in Annex 3 of our consultation response dated 21st June 2019. It is worth noting that:

- all three alternatives are significantly different from tunnel options considered prior to public consultation (for example, all three alternatives accommodate traffic from both the A417 *and* the A436 underground to some degree);
- all of the Board's alternatives are presented as holistic landscape-led vision; incorporating other beneficial considerations such as a Birdlip relief road instead of the proposed Birdlip Link;
- all the options are within the range of best past practice for protected landscapes (as indicated in Annex 4 of our consultation response dated 21st June 2019).

The issue of assessment of alternatives is addressed in Recommendation 3 of the Board's consultation response dated 21st June 2019.

CHAPTER 5. ENVIRONMENTAL ASSESSMENT METHODOLOGY

Section 5.1 and Appendix B

The information presented in Appendix B – and in the topic specific reports is clearly very incomplete, not showing:

- Landform and topography.
- Geology and soils.
- Landscape character areas / types.
- Results of the preliminary landscape assessment work carried out (e.g. ZTV).
- Historic landscape character areas.

- Woodland plantations and other key visual features.
- Registered Parks and Gardens and other historic parkland.
- Unlisted heritage assets of local historic interest.
- Known archaeological sites recorded in the HER.
- Protected species data.
- AONB special qualities.
- Priority habitats.
- Zone of Theoretical Visibility.

The chapters for the individual topics are variable in how much more information is referred to but they are not systematic in presenting what is already known and none of them provides additional mapping.

Overall this is a poor basis on which to consider the adequacy of the EIA assessment process, and very limited use in indicating potential impact interactions and likely cumulative effects.

In some cases (for example, archaeological remains and species) there are inherent uncertainties in the current baseline which reflects only a generalised assessment based on limited desk-based data gathering and walkover surveys of unknown extent. This applies equally to some other key topics such as geology and water.

There is no general statement to demonstrate that significant further research is required including field surveys, ground investigations and archaeological evaluations to provide a far more robust basis for forecasting the baselines conditions. There is no discussion of core principles (established by UK case law and draft legislation) for the application of the precautionary principle and worst case scenarios for assessing effects (cf PINS guidance on these matters).

The EIA scoping does not set out a procedure by which limitations and uncertainties will be identified and the necessary work will be carried out to establish an adequately robust baseline for forecasting the full baseline conditions and what objectively forecast margin of error is inherent in such predictions.

Section 5.1.11 (Future Baseline Scenario)

The EIA Regulations require (Schedule 4 s.3):

- *"A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge."*

The consideration of "*the likely evolution of the baseline and future baseline scenarios, without implementation of the Scheme and appraising only natural changes*" is not in fact what the Regulations require and just as 'natural beauty' of the AONB embraces what is in fact a landscape managed by people over millennia, so the concept of 'natural changes' has to be seen within a world in which climate, air quality, habitat and species loss, degradation of soils, changes to heritage assets and historic landscape character and even changes to the night sky are ALL the subject of human intervention or influence. This is perhaps most obvious in relation to traffic modelling (see section 5.3)

The 'natural' evolution of the baseline scenario thus means forecasting what *would* happen and what *would not* happen if none of the aspects of the scheme were implemented and no separate deliberate intervention was made to deliver them other than the framework already in place.

The key questions here are:

- What *presumptions* are in place that are likely to drive change (including those that drive forecasted changes in traffic)?
- What additional *trends* are detectable that might sway presumptions one way or another?
- What environmental assets and qualities that would be harmed by the scheme would *not* be harmed further than they are already?
- How far natural resources (water, soils carbon budget etc.) would not be altered?
- What opportunities for environmental enhancement would not arise?

The extent to which such change occurs is substantially due to human management predominantly driven by development needs. Hence it is right to refer to development plans, but this should also include consideration of relevant infrastructure plans including in particular road and rail infrastructure.

This is an area of significant uncertainties so a clear understanding of forecasting methods and confidence limits are important aspects of this in respect of all EIA topics, not just traffic (cf EIA Regs Schedule 4 s.6).

General approach to assessment of sensitivity, scale of impacts, significance of effects and policy implications and scheme objective outcomes

The general approach set out in section 5.4 to gauging the sensitivity of resources/receptors, the scale of beneficial or adverse impacts and from these, the significance of effects reflects DMRB vol 11 but there are significant problems in relating this framework to key decision-making considerations:

- The oranges and lemons issue: different topics have very different numbers of assets/resources/receptors and therefore the number of beneficial or adverse effects of different grades is not relevant across topics even though this may be very relevant to the balance of cumulative harm and benefits within topics.
- This is exacerbated by impact interactions across multiple different topics
- This is further exacerbated by cumulative effects arising within the scheme; and those of the scheme with other parts of the network and other local development

But even more importantly, the grading of effects is not related to NPSNN policies and associated tests and criteria that must be assessed where certain thresholds are met – some of which could require consideration of major measures to address effects properly within a broader perspective.

In this context it is fundamentally important to recognise the substantial challenges set by the basic requirements, vision, design principles, objectives and sub-objectives of this scheme as set out in the table on pp. 63 to 64 of the 'Preferred Route Assessment Report' and in Annex 1 of the Board's consultation response dated 21st June 2019.

In addition, there are several sub-objectives and a register of design principles (see the Scoping report (section 2.2) only gives the Client Scheme Requirements and Vision, not even giving a specific cross reference to the overarching design principles, objectives and

sub objectives. As explained in section 4.3, these were the subject of detailed consultation with stakeholders including the Board who played a significant role in drafting the Vision, Design Principles, Objectives and Sub-objectives. At the last technical workshop the Board was assured that the vision, design principles and objectives would be key considerations in the EIA process.

As it stands these core considerations are largely side-lined in the body of the scoping report.

- The only reference to the **Vision** is simply to quote it (paragraph 2.2.1) – there is no commitment to draw conclusions as to how far the scheme would or would not deliver the vision in respect of matters covered by the EIA. This should be a key consideration for PINS when determining the application, and even the full consideration of the overall Vision is presented in the Statement of Case, it is essential that the conclusions of the ES should feed into it.
- Other than the account of consultation meetings, there is no reference anywhere in the Scoping Report – even in the Landscape section – to the **Scheme Design Principles**, though these are a key consideration for consideration of NPSNN paragraphs 1.150-1.153.
- The only references to **Scheme Objectives** (or sub-objectives) in relation to the actual Environmental Impact Assessment and commitments to mitigation are as follows:
  - Landscape paragraph 8.4.5 *"All mitigation design would be consistent with the Scheme objectives"*
  - Climate paragraph 15.4.2 *"Explore alternative lower carbon options to deliver the project objectives"*
- Other than the account of consultation meetings, there is no reference anywhere in the Scoping Report to the **Register of Design Principles.**

Design and mitigation measures

The scoping report fails to demonstrate that there will be a consistent approach to distinguishing clearly between those measures that, with respect to statutory duties and national policy requirements to conserve and enhance natural beauty, wildlife and heritage, would:

- 'avoid' significant adverse effects
- 'reduce' significant adverse effects
- 'offset' significant adverse effects

OR contrariwise would

- 'remedy' current and past problems
- create beneficial outcomes
- improve existing benefits

It is noticeable that with the exception solitary mention in relation to otters (p111), there is no reference to the guidance provided by DMRB Volume 10 – Environmental Design and Management. This reveals a glaring discrepancy given how DMRB volume 11 is mistakenly treated as the overarching basis for judging significant effects, when in fact its main role is to inform judgements against national legislative requirements and policy.

Both volumes should be used strictly within the context of being guidance for providing relevant information to inform whether the scheme will deliver its Vision, Design Principles

and Objectives in a manner that fulfils statutory and national policy requirements. The overall approach and how it is developed for each topic and their interactions should be reconfigured accordingly.

The general approach to design and mitigation also fails to indicate how they relate to the overall EIA requirement to show how interactive and cumulative effects will be addressed, not merely as an aggregation of small actions but in respect of what other measures or alternative solutions might be adopted to address significant effects – especially within the context of NPSNN paragraphs 5.150 to 5.153 which require specific consideration of these matters in relation to effects on the AONB.

Grading of Significance of Effects

The EIA Regulations do not require the significance of effects to be graded. What is required is that 'significant' effects must be:

a. identified – i.e. those that represent a material consideration for decision-makers in relation to policy and legislative frameworks; and
b. described in a manner that enables them to be given due weight in the balance with other public interest considerations.

While regularised gradations of significance may assist in this, their particular value is to help ensure consistency of judgment within relevant topics to assist ascribing appropriate weight to be given to different issues in terms of policy and statutory requirements and the overall goals for the scheme. With some minor exceptions this scoping report substantially fails to establish a framework demonstrating how significant effects will be identified and described in ways that directly inform judgments in respect of the material considerations that are embodied in the stated vision, design principles and objectives of the scheme when set within the relevant statutory requirements and policy frameworks.

The issue of the environmental assessment methodology is addressed in Recommendation 6 of the Board's consultation response dated 21st June 2019.

Tables 5.2, 5.4 and 5.5

Presumably one of the aspirations of the proposed scheme is to have positive environmental impacts / outcomes (as per the agreed Vision, Design Principles and Objectives). As such, it would be appropriate for the tables used in the methodology to have separate entries for beneficial impacts and to grade these beneficial impacts according to their significance / magnitude. This is needed to assist consideration of net adverse or beneficial effects and make necessary comparisons with alternative means of avoiding and ameliorating harm and enhancing the environment, as required by EIA Regulations and national policy and statutory duties.

ES Requirements Omitted

- **Regulation 14(4):** The statement of expertise should include brief details of the relevant specialist professional experience of contributors relevant to the technical information and assessments supplied in relation to each EIA topic. This should take account of relevant professional standards (e.g. the Chartered Institute of Field Archaeologists Code of Practice requires that work carried out by its members is duly credited for their work).

ENVIRONMENTAL ASSESSMENT TOPICS (CHAPTERS 6-15)

The Board's over-arching recommendation relating to these topics is provided in Recommendation 7 of the Board's consultation response dated 21st June 2019.

Comments relating to the individual topics are provided below.

CHAPTER 6. AIR QUALITY

There is no consideration of interactive effects with landscape and recreational activities, especially relative to the national and regional long distance paths. This is potentially significant in-combination effect with noise and visual intrusion relative to tranquillity as a key attribute of the AONB. The Board would anticipate some benefits, and potentially some problems.

CHAPTER 7. CULTURAL HERITAGE

This summary is too superficial and, although it is said to have followed relevant policy and guidance, that is not evident in the very limited account presented. Key problems include:

- The study area needs to be tiered relative to potential effects: while this is indicated paragraph 7.1.1 in respect of Leckhampton Hill, it is not clear in the absence of a ZTV to help assess potential setting effects that all cases of potentially significant setting issues have been identified.
- In general, the effects on Historic Landscape Character represent a very clear and substantial area of impact interaction with Landscape impacts and there needs to be a fully joined up approach to assessment that combines established best practice for both disciplines with a common study area. This would most appropriately be the parishes that the Red Line area for scheme affects and is immediately adjacent to (noting comments on the Red Line Area above).
- There is no indication that consideration will be given to increases or reductions of traffic intrusion relative to historic buildings, settlements and roads (some of which may be beneficial effects).
- There is no indication that consideration will be given to intangible heritage and cultural capital (cf the Board's Draft Position Statement on cultural capital; associations of Gustav Holst Way, Crickley Hill, issues of such relationships to tranquillity).
- Wholly inadequate account of sources of temporary and permanent impacts, including how permanent effects on the fabric of heritage assets mostly arise from construction works and how *temporary* construction sites, compounds haul roads etc. are likely to result in *permanent loss* of any subsoil archaeology.
- There is no identification of key impact interactions (classic examples being issues of landscape and setting, visual and noise intrusion and setting; historic landscape and ecology; archaeology and soil). In this case the contribution that archaeology makes to the character and interest of the AONB is critical.
- No discussion of indirect effects that may arise (these are effects arising from complex pathways and for example can lead to physical damage to or loss of heritage assets arising from more extreme levels of intrusion on the setting of heritage assets – whether for example this applies to Crickley Hill Farm; hydrological effects etc.).
- Although the assessment assumptions and limitations reflect to a reasonable extent the deep uncertainties and limitations that apply – especially to archaeological sites and monuments – this is not fully explained in relation to archaeological sampling methods and mitigation.

- The scope of the survey areas and survey methodologies and standards are not defined; nor is the sampling coverage of each survey technique given. It is not clear if the joint geotechnical and archaeological ground investigations are being developed jointly to meet mutually relevant needs, or simply archaeological monitoring of geotechnical studies (i.e. mitigation of planning stage impacts). The archaeological purpose of this survey (e.g. to assess potential of colluvial, landslip and tufa deposits) is not stated.
- The relationship of the different survey methods to the red line area and which parts are required for permanent land take and which are temporary construction sites is not set out (it is very unhelpful that the draft Red Line Area does not distinguish these areas of potentially very different impact).
- Given the clear archaeological potential of the area, it is not satisfactory that there should be no archaeological evaluation to test the reliability of the surveys identified.
- A general comment is made in respect of preserving archaeology *in situ* but this needs to demonstrate that any proposals will be based on full engineering assessment of relevant load bearing parameters (include speed of laden trucks) and relevant technical literature (e.g. Preserving Archaeological Sites In Situ and DEFRA studies) relative to compliance with BSI standards and Defra advice on soil handling on construction sites.

Overall, the scope defined is vague and riddled with uncertainty and is not clear about how uncertainties and limitations will be addressed. This is fundamentally at odds with the EIA Regulations requiring that an Environmental Statement must include:

- s. 14 (3)(b): *the information reasonably required for reaching a reasoned conclusion on the significant effects of the development on the environment, taking into account current knowledge and methods of assessment; and*
- Schedule 4 s.5 (d): *A description of the likely significant effects of the development on the environment resulting from, inter alia… the risks to … cultural heritage.*

The absence of any archaeological field evaluation is especially serious: it is an entirely 'reasonable' requirement applied to far smaller developments than this and in areas with far less obviously high potential. It is also fundamental to addressing (or at least reducing) the 'risk' of total loss of significant archaeological heritage.

This is also clearly at odds with PINS Advice Note 17 in respect of cumulative effects (in this case multiple archaeological sites, some of high potential) and the need to address uncertainties in the context of the precautionary principle (a generally accepted in environmental methodologies) and worst-case scenarios. Fundamental to this is the NPSNN policy:

- *5.139 A documentary record of our past is not as valuable as retaining the heritage asset and therefore the ability to record evidence of the asset should not be a factor in deciding whether consent should be given.*

From this two key points arise:

- It is necessary to forecast – based on established archaeological sampling theory and practice[3] - what the total archaeological content of the area affected is likely to

[3] See Hey, G., Lacey, M., 2002: *Evaluation of Archaeological Decision Making Processes and Sampling Strategies,* Oxford Archaeology and Kent County Council; and Historic England, *Geophysical Survey Advice* https://historicengland.org.uk/advice/technical-advice/archaeological-science/geophysics/. See also DMRB Vol 11 para 5.7.11: '*The proportion of the proposal area to be trenched should be chosen on a case-by-case*

be and how significant it is (e.g. in relation to current state of knowledge and research agendas)
- Any loss or extensive significant damage (including in relation to the Cowley roundabout Roman settlement any cumulative harm) is substantial harm
- As an issue for *determination* consideration of residual effects after mitigation apply to measures to avoid or reduce loss or preserve features *in situ;* the need to undertake recording action is very necessary for offsetting the loss, but does not diminish the significance of those losses in terms of the basic planning balance.

With all aspects of archaeological sampling a key consideration is what is not recovered when only a percentage is investigated and what, in a worst case scenario might be lost if only a small percentage is recovered. The issue is not merely to characterise the remains that would be harmed but to consider the risks of losing critical remains (such as human burials) that may be inherently difficult to locate.

Currently the scope makes no attempt to address how requirements of s.14 (3)(b) and Schedule 4 s.5(d) of the EIA Regulations will be addressed in the context of NPSNN 5.139 to meet the needs of Pins Advice Note 17.

In addition, the Cultural Heritage chapter of the EIA should:

- refer to (and address) the relevant special qualities of the Cotswolds AONB (i.e. 'significant archaeological, prehistoric and historic associations'; and 'a vibrant heritage of cultural associations');
- highlight that cultural heritage is one of the factors contributes to the 'natural beauty' of the AONB and should, therefore, be a consideration under the 'duty of regard';
- refer to Policy CE6 (Historic Environment and Cultural Heritage) of the Cotswolds AONB Management Plan.

CHAPTER 8. LANDSCAPE

A clearer distinction needs to be made between the landscape as a physical resource as defined by the Florence Convention reflecting a wide range of characteristics (including for example topographical ecological, aquatic, land use, historical, archaeological and cultural associations) and visual characteristics of the area of the scheme and its surroundings. As a landscape-led scheme wholly within a protected landscape, the study area for landscape effects needs to be much wider than that defined. Its characteristics need to be considered within the context that the area is amongst the most sensitive within the Cotswolds AONB, as indicated by the numerous overlapping designations, extent of public access land and convergent national and regional trails.

Section 8.1

The study area and assessment need to be based on a greater understanding of the physical characteristics of the area in the context of how it is experienced (i.e. perceived by people using all senses) in a kinetic way as people live and work in it, travel through it as

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basis, but in studies of areas of known archaeology it has been shown that the optimum percentage is between 5% and 10% of an asset. Trial trenching is good for assessing the location, complexity, character, condition of assets and the quality of artefacts. It is less effective for revealing the layout of buried remains. The timing, location and percentage of the area to be trial trenched should be discussed with consultees and agreed with the Overseeing Organisation'.

visitors by foot, bike, horse or vehicle, or come to explore it in the context of an important country park and other attractions.

We suggest that as with historic landscape character – for which there is a very close interaction – a suitable combined study area for the landscape assessment within the local context would be the parishes affected or immediately adjacent. The visual assessment should be based on ZTV analysis.

Section 8.2

Despite being a 'landscape led' scheme the baseline account provides NO indication relative to either scheme vision, design principles and objectives OR the tests set by NPSNN of how the landscape has influenced choices in preliminary design.

The baseline description does not explicitly reflect (or even refer to) the preliminary landscape assessment carried out for the scheme at the shortlisted options stage, and in particular does not provide any account of the issues which that study was intended to highlight in terms of major considerations needing to be taken into account in developing the scheme.

The description of the baseline does not refer to key scheme objectives and design principles (cf Register of Design Principles) that relate to how well the scheme fits into the landscape – and how that will differ from the current road (or, in relation to cumulative effects, its predecessor) and pre-existing completed sections of the Swindon – Gloucester road.

The account of the baseline environment refers to appropriate characterisations and (to a limited extent some significant features within the area) but these are generic characterisations of large areas and the baseline does not attempt to synthesise or highlight the particular characteristics that mainly influence the specific area affected by the scheme. This is an essential step for adequate assessment of effects.

The description makes no mention of the relationship of the current A417 to the landscape. This is essential if a valid comparison is to be made with how the proposed scheme affects the landscape and if cumulative effects of successive schemes are to be considered. This is also essential for assessing the appropriateness and effectiveness of measures to restore redundant roads into the landscape.

Section 8.2.9 refers to the special qualities of the AONB. Several of these special qualities should also be mentioned specifically in the context of landscape character:

- the Cotswold escarpment (i.e. Landscape Character Type (LCT) 2 in the Cotswolds AONB Landscape Character Assessment);
- the high wolds (i.e. LCT 7);
- river valleys (i.e. LCT 8).

Although Section 8.2 provides an indication of where the A417 can (and would) be seen from, there is no mention of which specific, grid referenced viewpoints are to be used to assess visual effects. There should be a consultation with interested parties on which viewpoints should be used to represent the range of groups of people who may be affected (visual receptors). Whilst it is appropriate to assess impacts relating to individual viewpoints, consideration should also be given to 'unfolding views', especially the progression of different views that will be experiences by users of the national and regional trails, the country park and National Trust land, other open access land and other rights of

way. Arguably the largest body of visual receptors will be the users of the A417 the reconfigured A436 approach and other links, so views from all the new roads should also be considered.

The PINS guidance on cumulative effects expects worst case scenarios to be considered. This suggests that the visual assessment should provide montages for the worst views (i.e. those views that are most adversely affected) as well as standard practice of representative and key viewpoints.

Sections 8.3 to 8.5

The description of 'potential' impacts, design and mitigation and likely significant effects does not refer to key scheme objectives or design principles (both overarching and the Register of Design Principles) that relate to how well the scheme fits into the landscape – and how that will differ from the current road (or, in relation to cumulative effects, its predecessor).
In effect, far from being *'landscape-led'* and meeting the principle that *'any solution involving a new road must ensure that the scheme is designed to meet the character of the landscape, not the other way round,'* the account shows that consideration of landscape has largely followed the dictates of engineering as affordable a scheme as possible. It makes no reference to and is not rooted in the guidance and tests set by NPSNN paragraphs 5.150 to 5.153 or any other local policy frameworks.

The account treats the landscape as superficial cover, with minimal mention of topography. No mention is made of the fundamental issue of the scale of changes in topography, and the account is entirely lacking the objectivity that would be provided by giving quantitative measures of the scale of the proposed scheme as established by the preliminary design to date. Although the description of the scheme (p 17) refers to the cutting through the scarp being up to 35m deep, this account makes no mention of ANY figures to give a scale of the dimensions of the scheme in terms of:

- widths of carriageways and verges;
- lengths depths and widths of cuttings and embankments ;
- preliminary estimates of areas required for:
    - permanent road corridor (i.e. out to highways boundary walls, hedges or fences);
    - temporary construction works (haul roads, compounds, storage areas, etc.);
    - landscaping extending beyond the road corridor including any use of land to dispose of surplus materials;
    - reclamation of redundant road corridor;
- currently estimate volumetric alteration of topography.

Most significantly the description of effects entirely fails to convey the scale of the proposed cutting through the scarp which, from material presented in consultation discussions, would be deeper and in preliminary designs to date narrower than the M3 at Twyford Down, Winchester.

Section 8.4

By omitting any mention of the scale of impact, the account fails to identify key issues for design. For example:

- at the base of the scarp and its lower levels there are key challenges in respecting and fitting in with the landform and watercourse with clear problems of significant cumulative effects adding an additional; carriageway to the existing road

- despite major steep faced/retained cuttings into bedrock limestone through the scarp and in the alignment round Emma's Grove there is no mention of local character of rock outcrops and cliffs and how these might influence design choices
- the landform east of Emma's Grove is a NE/SW spur of high ground that slopes down towards Ullen Wood making this a key area where alignments are critical
- the head of the dry valley at Shab Hill is a sensitive landform that needs particular care in design, especially minimising the impact of any junction in this location and choices in horizontal and vertical alignment
- the detailed alignment of the scheme across the High Wold area between Shab Hill and Cowley is highly exposed and detailed alignment to optimise best fit into existing field patterns, as well as choices of vertical alignment to minimise intrusiveness are critical.

Paragraph 8.4.5 refers to the AONB Landscape Strategy and Guidelines (LSG) but the Scoping Report does not indicate how this will be utilised. To address this issue, the EIA should tabulate the relevant 'local forces for change' shown in the LSG for each Landscape Character Type (LCT), identifying the extent to which the proposed development and alternative options will avoid the 'potential landscape implications' and help to deliver the 'landscape strategies and guidelines' for the relevant LCTs.

Section 8.5 and 8.6

As in the case of Cultural Heritage there is significant lack of clarity about the distinction to be made between permanent changes and effects arising during construction and how these would remain but also change during operation (e.g. as planting matures) and temporary changes that would occur during construction, distinguishing between those that have no lasting effects and those that require remediation.

These need to be considered in the basic context of why different areas of land are required, and any off-site effects:

- permanent road corridor (i.e. out to highways boundary walls, hedges or fences);
- temporary construction works (haul roads, compounds, storage areas, etc.);
- landscaping extending beyond the road corridor including any use of land to dispose of surplus materials;
- reclamation of redundant road corridor;
- off-site effects.

Offsite effects could include:

- any significant changes in traffic intrusion relative to tranquillity issues in the surrounding area;
- any off-site disposal of surplus materials including any specific off-site restoration of drystone walls;
- any off-site enhancement of visitor access to the AONB;
- interactions with other topics especially any off-site habitat creation;
- offsetting carbon costs through extensive woodland planting (and the potential scale that would be required to achieve net zero emissions by 2050).

There are no proposals for establishing a quantitative basis for establishing the scale of such changes to the landscape in terms of:

- the area AND volumetric scale of changes to the landform of the AONB;

- the areas of different land uses arising from the scheme as compared with the baseline scenario;
- how these compare with the footprint of the present A417 and A436 and associated landscaping within the sections of route within which they would be altered
- the cumulative effects on the AONB of this scheme in these terms in combination with previously completed sections of the A417 as contributions to the Swindon to Gloucester route.

The account of effects has had no explicit regard to the Cotswolds AONB Landscape Strategy and Guidelines (see comments on section 8.4) or the statutory purposes of the AONB (including public access and understanding). It also misses important potential benefits and is wholly inadequate in addressing or drawing any conclusions about the overall vision for the scheme or its general tripartite design principles for the AONB.

However, there are also even more fundamental problems with the scope proposed. The identification of 'likely' significant effects makes no reference to the specific 'great weight' criteria presumptions and tests set by NPSNN paragraphs 5.150 to 5.153. By virtue of paragraph 1.151 the mere existence of the scheme wholly and unavoidably located within the AONB is automatically - by virtue of Government policy - a highly significant adverse effect that establishes a starting point of an assumption of refusal.

There is a further fundamental problem (as explained above sections I to V) that the scope of this topic provides no basis for assessing the potential to address the NSPNN presumption of refusal against means by which significant effects could be ameliorated, at what cost and to what 'high environmental standard.' In the Board's view that can only be judged in the context of **best** past practice in other protected landscapes.

It is of great importance to appreciate that the scheme vision and design principles represent the fundamental basis for judging the proposals against the guidance and tests set by NPSNN paragraphs 5.150 to 5.153.

Paragraph 8.6.2 is wholly inadequate in failing to make any reference to the following as key material considerations:

- NPSNN paragraphs 5.1.43 to 5.1.53 and 1.58 to 5.161, and many other references to landscape and visual issues throughout (but especially paragraphs 5.150 to 5.153);
- Local Authority landscape policies for the AONB;
- Local Authority Design Guidelines;
- Cotswolds Conservation Board's Management Plan; Landscape Strategy and Guidelines; Positions Statements.

There is no indication of the multitude of impact interactions that arise in relation to landscape, visual, heritage, ecology, geology and soils, water, community, tranquillity (noise, visual, air quality) human health (amenity recreation) and climate issues that are specifically relevant to the effects of the AONB.

There is no consideration of how cumulative effects related to these issues will be addressed, including effects when viewed in respect of:

- The effects already caused by previous parts of the overall expressway.
- How far the effects of previous upgrades made to the A417 would be extended, exacerbated or remedied.
- The contribution of this scheme to overall impacts on nationally and internationally protected landscapes in terms of *'individual networks and as an integrated system'.*

The Scoping Report refers to the third edition of the Guidelines for Landscape and Visual Impact Assessment (GLVIA3) but, in its methodology, relies primarily on the DMRB guidance on landscape and visual effects. Although the broad method in both sets of guidance is similar, the approach to evaluating impacts / effects is different, with the GLVIA3 providing more transparency in how judgements are made and what they are based on. The result of not using GLVIA3 as the main source of guidance is that Table 8.2, dealing with landscape, is not at all clear about what sensitivity means - it mixes value with ability of the landscape to accommodate change. These are separated more explicitly in GLVIA3. Similarly the comparable Tables, 8.4 and 8.5, also simplify the judgements that need to be made about visual impacts/effects.

Tranquillity and Dark Skies

The Scoping Report refers to the issues of tranquillity and dark skies (e.g. paragraph 8.2.3) but then pays very little attention to how these issues will be addressed in the EIA.

The EIA should have a section that specifically addresses the issue of tranquillity, including the interaction of noise, visual impact and other sensory disturbance. This should explicitly state that the 'tranquillity of the area' is one of the AONB's special qualities. It should also refer to Policy CE4 (Tranquillity) of the Cotswolds AONB Management Plan 2018-2023 and the Board's new position statement on Tranquillity[4] and identify how these policies and position statements will be addressed. For example, it may be appropriate to use the tranquillity mapping methodology developed by CPRE or the University of Winchester / Dorset AONB.

Similarly, the EIA should explicitly state that 'extensive dark skies' is one of the special qualities of the AONB. It should also refer to Policy CE5 (Dark Skies) of the Cotswolds AONB Management Plan 2018-2023 and the Board's new position statement on Dark Skies and Artificial Light and identify how these policies and position statements will be addressed.

Overall

The scope of the landscape and visual topic has been composed as if this were a minor scheme in an ordinary area of landscape without any formal designations: except for a few specific references to particular places and features it could be anywhere. It is in effect a generic scope tweaked to fit this scheme without reference to its specific vision, design principles and objectives and the major national policy issue which, unless a series of clear tests are adequately met, invokes a presumption of refusal.

For the reasons given above, the Board considers this topic scope as presented would fall well short of adequately informing PINS about the effects of the scheme relative to key policy guidance, presumptions and tests set by the NPSNN, especially when considered in the context of the goals of the schemes and the requirements of s.204 of the 2008 Act.

CHAPTER 9. GEOLOGY AND SOILS

The study area is not adequately defined to take account of offsite effects, for example, in respect of impacts on quarries elsewhere. It is possible that much of this is dealt with under other topics but, if so, the interactive impacts and effects must be identified.
Section 9.2 makes no reference to palaeontological interests or normal contractual obligations in respect of 'fossils and antiquities'.

[4] To be adopted by the Board on 25th June 2019.

The scope of information available from past borehole investigations is not given. From copies of historical borehole logs that the Board has obtained, on or close to the route, and the long profile of the proposed scheme, there would appear to be potential for four or more significant stages of rotational land-slipping and slumping, with records of peat survival at c. 180m OD. But in the summary of baseline information there is no reference to the likely quaternary date of this material, or the possible existence of tufa deposits or known areas of peat, nor the often very localised occurrence of such deposits, or their potential national significance in respect of geological, palaeontological and archaeological interest of the scarp. Such deposits have been of major significance in tracing the evolution of the Cotswolds landscapes, and where associated with Palaeolithic, Mesolithic or later archaeology, a key consideration for hominid and early human activity in the area. There is a substantial academic literature on this topic.

There is similarly no reference to archaeological interactions with soils in respect of colluvial deposits, where these are likely to survive or how extensive they might be.

No attempt is made to relate these issues to indirect pathways to risks of human health and cultural heritage required by EIA regulations, either in relation to physical and structural requirements to address the stability of areas known to be at risk of landslips, or the risk of well preserved, palaeo-environmental and archaeological material, or these relate to the character and interest of the AONB.

The hydrological effects have potential to result in indirect effects arising for ecology and archaeology due to alterations of complex water tables and peat deposits in zones of land slipping and slumping. This includes the potential for indirect impacts on offsite resources arising due to dewatering caused by changes to ground and surface water thereby altering the soil geochemistry.

No consideration is given to interactions between soils and archaeology – especially with regard to the archaeological interest and potential of the plough zone generally and colluvial deposits in particular, or how such material would be redistributed from its source. No reference is made to the need to consider and resolve technical requirements of BSI standards and DEFRA soil handling in relation to potentially significantly conflicting technical requirements needed to achieve archaeological preservation *in situ* either beneath temporary haul roads, compounds and storage areas, or permanent embankments, false cuttings, landscaping areas, and disposal of surplus materials.

The very brief references to Ground Investigations (section 9.7) gives no indication of what baseline information these studies would be intended to enhance, what methods would be used, what sampling limitations are inherent in such methods or how these methods would relate to requirements of other related topics such as archaeology and ecology.

Overall this topic needs significant overhaul both to meet EIA requirements in respect of risks, interactions indirect effects and cumulative effects. It does not adequately identify possible indirect effects, impact interactions, cumulative effects, risks or worst case scenarios. It falls well short of meeting what can be reasonably expected in relation to precautionary principles.

This section of the EIA should explicitly refer to the following special qualities of the Cotswolds AONB and identify how these special qualities will be addressed:

- ‘the unifying character of the limestone geology’;
- ‘distinctive dry stone walls’ and

- ‘variations in the colour of the stone from one part of the AONB to another which add a vital element of local distinctiveness’.

It should also explicitly refer to Policies CE2 (Geology), CC5 (Soils) and CC6 (Water) of the Cotswolds AONB Management Plan and identify how these will be addressed.

CHAPTER 10. BIODIVERSITY

As with other topics, this Chapter makes no reference to the overarching vision, design principles and objectives of the scheme. As a result there is insufficient consideration of impact interactions (including benefits) with landscape, historic landscape and access (especially open access sites).

In particular that the study area for this topic needs to include a landscape-scale consideration of key habitats that characterise this part of the AONB. This is crucial for assessing both adverse and beneficial impacts, but also for identifying key habitat creation opportunities.

In this context, the EIA should explicitly identify ‘limestone grasslands’ and ‘ancient broadleaved woodland’ as two of the special qualities of the Cotswolds AONB. It should explicitly identify how these special qualities will be assessed, how adverse impacts will be avoided / mitigated / reduced and how a significant net gain will be delivered.

There is no specific reference to habitats associated with the built environment (for example, buildings, such as the Air Balloon pub, and dry stone walls) as potentially significant for species.

There is insufficient reference to key landforms and habitats that could influence how habitat creation could reflect existing characteristics of the landscape. For example, there is no reference to cliff and rock face habitats on Crickley Hill in reference to landscaping / habitat design considerations for deep cuttings; nor creation of new hedges and walls.

There is no reference to any requirement to offset carbon costs through woodland planting or the scale that would be required to achieve net zero emissions by 2050.

With regard to the likely effects, this chapter rightly recognises the opportunities for significant benefits as well as adverse effects, but it fails to show the potential range and scale of these differing effects needing to be assessed relative to:

- permanent road corridor (i.e. out to highways boundary walls, hedges or fences);
- temporary construction works (haul roads, compounds, storage areas, etc.);
- landscaping extending beyond the road corridor including any use of land to dispose of surplus materials;
- reclamation of redundant road corridor;
- off-site effects.

Overall, this Chapter is flawed in not fully embracing a landscape scale approach for a ‘landscape-led’ scheme or considering the key value of habitats and species to the character of the AONB and the opportunities that are presented for landscape scale improvements.

While there is some reference to interactions with hydrology (including the need for more survey information and assessment), very little attempt is made to consider potential impact interactions with heritage, geology and soils (see above) or ecology at a landscape scale as

a key attribute of the AONB's natural beauty. Nor is there any reference to potential ecological interactions with planting related to carbon cost offsetting.

In respect of the cumulative and interactive effects for ecology there is no indication that any relative quantitative analysis of the overall losses and gains of different habitats lost or harmed or created or extended would be assessed. This makes it very hard to see how the overall impact on this aspect of the natural beauty of the AONB would be objectively reported.

With regard to habitat creation, no mention is made to any standards for sourcing planting material or the indirect effects of this in terms of supply from local sources. No reference is made to AONB Management Plan policies, Position Statements or landscape strategy and guidelines in this – or any other respect. For example, the EIA should explicitly refer to Policy CE7 of the Cotswolds AONB Management Plan 2018-2023 and identify how the scheme will to deliver that policy's principles of 'bigger, better, more and joined' and how it will deliver significant net-gains in biodiversity.

As with other topics there is a basic inadequacy to reference key national policy and legislative considerations, scheme vision, design principles and objectives.

Overall some significant changes are needed to ensure that the scope of this assessment will properly meet EIA requirement and fully inform decision-making in respect of the effects of the scheme on habitats and species and how these relate to natural beauty of the AONB and other topics

CHAPTER 11. MATERIAL ASSETS AND WASTE

In respect of surplus materials generated, it is not satisfactory that only the A436 options are considered in terms of quantifying baseline expectations. These options are as much subject to changes of design (alignment, landscaping, etc.) as the main A417. This is a very substantial issue because of the scale of the cutting through the scarp of the Cotswolds, which as proposed would be deeper and somewhat narrower than the cutting created for the M3 through Twyford Down near Winchester. As it stands the scope provides no means of identifying the baseline scenario set by the current preliminary design could be addressed through design modifications or other means.

It does not provide the basis for making any comparison with alternatives studied, although this is an important factor in terms of overall environmental effects.

There is no indication that interactions with landscape or other issues would be considered, though these are of substantial significance. This especially applies for example to climate relative to use of material resources as well as carbon costs of handling and transporting surplus materials

There is no reference to the Register of Design principles in respect of issues that have a bearing on generation and handling of surplus materials; nor interactions with key issues such as landscape and ecology.

The potential indirect effects of severing or removing material assets (such as buildings, fields, etc.) from their parent businesses are not sufficiently identified (rarely, such effects can, for example, result in major physical changes to heritage assets because of changes of use).

Within the waste hierarchy there is no indication of options for reuse elsewhere, for example, reuse of suitable stone for offsite landscape benefits in restoration of stone walls, and what practical measures would be needed to facilitate such use.

There is no indication of how cumulative effects would be considered.

CHAPTER 12. NOISE AND VIBRATION

This chapter insufficiently identifies interactions with other EIA topics and, as a result, the whole scope is flawed. This especially relates to tranquillity as a key attribute of the AONB. The Cotswold Conservation Board is due on 25th June to adopt an updated position paper on Tranquillity, now separated from - though still cognate with - its already updated Light Pollution and Dark Skies. The Position Statement in draft form was been subject to consultation with key stakeholders including Highways England who have commented as follows:

> *1. Noting the recommendation that "proposals that are likely to impact on the tranquillity of the Cotswolds AONB should have regard to – and be compatible with – the Cotswolds AONB Landscape Character Assessment and the Cotswolds AONB Landscape Strategy and Guidelines", we agree and would like to emphasise this point.*
>
> *We recognise that great weight should be given to conserving landscape and scenic beauty in nationally designated areas and that the A417 project seeks high environmental standards and, where possible, measures to enhance other aspects of the environment.*
>
> *The need to protect tranquillity through design of the A417 project should be balanced with the need to protect the other special qualities of the AONB; this is a landscape led scheme and therefore the use of engineered noise mitigation measures, including road surface materials, bunds, noise barriers and cuttings should be sympathetic to and support landscape character.*
>
> *2. The requirement that "the noise impact of the upgraded A417 is substantially reduced" is somewhat non-specific / subjective and therefore difficult to demonstrate compliance with. We propose that this statement refers to specific policy requirements to remove ambiguity.*
>
> *Also, this statement refers specifically to one aspect of one part of our strategic road network (the A417 improvement scheme), implying that the position is not consistent across the AONB. We propose that the statement does not refer specifically to this one part of the network.*
>
> *In light of the points above, a suggested alternative form for this sentence is given below for consideration:*
>
> > *In particular, Highways England should ensure that highway schemes within the AONB support the aims of the Noise Policy Statement (NPS) for England:*
> > *• To avoid significant adverse noise effects*
> > *• To mitigate and minimise adverse noise effects*
> > *• To improve the noise environment where possible*
> > *with specific reference to the NPS consideration of "quiet places and other areas that are particularly valued for their tranquillity, acoustic environment or landscape quality such as Areas of Outstanding Natural Beauty".*

3. With any highway realignment project, there are areas that will experience a reduction in noise and areas that will experience an increase; this means the objectives of the CCB regarding tranquillity will be met in some areas and not in others.

The A417 improvement project aims to reduce noise impacts in more sensitive areas (residential, and areas of particular tranquillity or high setting value). Despite mitigation, there inevitably may be areas subject to localised noise increase where the highway is realigned. The aim of the project is that any such increases would be limited to areas that, whilst still part of the AONB, have lower sensitivity to changes in tranquillity.

We expect the number of residential areas experiencing noise from the upgraded scheme to be reduced compared to forecast levels for the unimproved road. Therefore, at a landscape scale, we expect this part of the AONB to see an improvement in noise impact as experienced by sensitive receptors.
This approach concurs with your stated long-term aspiration of "fewer areas being affected by noise pollution and other aural and visual disturbance."

The Board has welcomed this positive response and has incorporate much of the suggested wording into the new Tranquillity Position Statement. However, we would note that *sensitive receptors* are NOT restricted to *residential, and areas of particular tranquillity or high setting value* but need also (amongst other considerations) to reflect public access and wildlife receptors and cultural capital considerations.

The Board is correspondingly disappointed that NO mention is made of tranquillity in the noise and vibration scoping chapter, despite it being referred to frequently – though with no indication of how effects would be assessed – in the landscape and visual scope.
This topic needs to be brought fully in line with HE's response to the Board about its Position Statement on Tranquillity and the AONB with recognition of a much wider idea of sensitivity.

The whole assessment methodology needs to be reviewed to ensure that the full sensitivity of the area as shown on the Environmental Constraints Map:

- AONB as a sensitive area as a whole (see Management Plan and tranquillity statement) including local roads used by residents and visitors to the AONB – including cyclists.
- Regional trails (Gloucestershire Way and Gustav Holst Way).
- National Trust land.
- Crickley Hill Country Park (including local cricket ground).
- Open access land.
- Designated heritage assets where noise intrusion is relevant to their setting.

The legislation and policy list (paragraph 12.6.6 to 12.6.7) should in addition refer to key legislation and guidance relevant to the above, including:

- The CROW Act (with regard to nature conservation, open access land and the AONB).
- Cotswolds AONB Management Plan, Landscape Strategy and Guidelines and Position Statements.
- Listed Buildings and Conservation Area Act and Historic England guidance on setting.

Paragraph 12.6.8 of the Scoping Report should also refer to other relevant environmental statutory duties of 'regard', 'special regard' or 'particular regard', etc., in respect of the AONB, wildlife, listed buildings and Conservation Areas and more generally, the Infrastructure Act, under which noise and vibration are relevant considerations.

The standards set for identification and assessment of impacts and the assessment of significant effects should be considered more fully in the context of the cumulative weight of policy and statutory obligations that have overlapping relevance across the study area. A noise modelling map should be developed to show levels of impact for all the above receptors.

The noise standards, taken in the context of NPPF and NPSE requirements, are insufficient to address landscape-scale tranquillity issues. While the LOAEL standard defining the *'level above which adverse effects on … quality of life can be detected'* would be a sensible starting point, there is a significant issue of how this is to be judged within a policy that actively seeks to enhance tranquillity. In order for this to be assessed in comparison with the existing environment, a landscape-scale noise map needs to be created over the whole area within which the present A417 and the scheme proposals have a detectable effect on tranquillity.

The magnitude of impacts, scale of significance and factors determining significance are not well suited to determining effects on tranquillity and need to revisited, relative to landscape-scale tranquillity issues.

From such a baseline, the relative spatial - as well as qualitative - changes in noise environment as a key factor for tranquillity across the landscape could be predicted and assessed. This should then be combined with the verified Zone of Visibility and changes in air quality to create an overall landscape-scale assessment of intrusion on tranquillity, showing areas where both benefits and adverse effects would occur, This needs to cover a large enough area for comparisons to be made in respect of alternatives.

With regards to potential mitigation measures, consideration should be given to the role that reducing speed limits can play in helping to reduce noise from traffic.

CHAPTER 13. POPULATION AND HUMAN HEALTH

This chapter does not fully consider recreation, amenity and effects on people in relation to any of the other topics. It is especially flawed in not taking into account National Trust Land, Crickley Hill Country Park, heritage visitor attractions, open access land and rights of way relative to overall landscape, visual, tranquillity, heritage and ecology issues (see above).

As with the Noise and Vibration chapter, the baseline of sensitive areas and locations is very inadequate, and no systematic criteria are suggested or applied. As with other sections NO reference is made to relevant AONB Management Plan policies, Position Statements or Landscape Strategy and Guidelines. For example, the EIA should explicitly identify the following special quality of the Cotswolds AONB and how this special quality will be addressed:

- *an accessible landscape for quiet recreation, with numerous walking and riding routes, including the Cotswold Way National Trail*.

It should also refer to – and address - Polices UE2 (Access and Recreation) and UE3 (Health and Well-being) of the Cotswolds AONB Management Plan.

The reference to 'no view' from the road is relevant to comparisons with tunnels (which are an issue for alternatives rather than the scheme as proposed) but does not apply to the present A417 or the scheme proposed, for which views from the road are a very significant means by which people experience the AONB as they pass through the countryside.

The Human Health baseline makes no cross reference to Geology and Soils (risks of contamination and possible risks of land instability).

The section on local economy makes no reference to traffic flows relative to economic benefits or adverse effects, and there is no clear methodology by which the key test o paragraph 1.151 and 1.152 are to be judged.

The issues of severance make no references to the need to consider any key losses of functionality in businesses or any indirect effects (e.g. for heritage assets) that might arise if assets are separated from their businesses.

As with several other topics, the assessment methodology (13.6) makes reference only to DMRB, not the relevant policy legislative and other standards by which significant effects need to be assessed and reported. The lack of any reference to the implications of the scheme being wholly and unavoidably located within the AONB and the policy and legislative implications that arise from this is again a glaring omission.

CHAPTER 14. ROAD DRAINAGE AND THE WATER ENIRONMENT

This section does not consider potential interactions and indirect effects of dewatering landslip materials on assets of archaeological and/or geological interest in respect of preserved peat deposits in slumped materials on the scarp. It does not address interactions with landscape and ecological effects of changing or culverting water courses, nor the landscape design issues arising in relation to the siting and design of balancing ponds etc.

Relevant policy considerations in NPSNN and in the Cotswolds AONB Management Plan (e.g. Policy CC6) are not referred to, nor guidance provided by DMRB volume 10.

CHAPTER 15. CLIMATE

This chapter refers to examining the effects of the scheme in terms of the total carbon costs of its whole life cycle, but does not explicitly identify all the key elements of this or how they will be assessed. Amongst other considerations, this needs to include all the carbon costs of manufacturing and transporting materials used in for construction (notably steel and concrete); the energy involved in site clearance and construction works and landscaping; the costs of loss of existing vegetation; the energy used in offsite works (including any off-site disposal of surplus).

It will need to consider whether these together with all the operational effects are offset by any measures reducing carbon cost such as new planting and the extent to which operational effects reduce existing carbon costs of congestion.

The scope proposed does not show, in relation to each of these how carbon costs would be minimised or offset.

It is not clear that the proposed methodology will address these matters.

There is no reference to the Cotswolds climate strategy or AONB Management Plan policies and guidance on climate change. For example, the EIA should explicitly refer to – and address - Policies CC7 (Climate Change – Mitigation) and CC8 (Climate Change –

Adaptation) of the Cotswolds AONB Management Plan 2018-2023, as well as the '*Climate Change Strategy for the Cotswolds AONB*'.[5]

There is no reference to off-site mitigations such as offsetting carbon costs, which could be through extensive woodland planting (and the potential scale that would be required to achieve net zero emissions by 2050).

The Section fails to identify the need to consider cumulative effects, especially in respect of the rest of the development plans and programmes of which this scheme is part and other related development facilitated, served or directly or indirectly stimulated by the scheme. Currently the proposed scope falls well short of the PINS guidance (Advice Note 17) on cumulative effects and the need to consider worst case scenarios on a precautionary basis.

CHAPTER 16. ASSESSMENT OF CUMULATIVE IMPACTS

Impact Interactions

The proposal to treat 'combined effects' and 'cumulative effects' as if they were all part of the concept of cumulative effects is unhelpful. Impact interactions involve very common ways in which particular elements of the development give rise to a multiplicity of effects on the environment and especially relate to where such interrelationships give rise to effects that are *intrinsically* the product of a combination of two or more single-topic effects. The classic example is the setting of heritage assets which is defined as how the surroundings of an asset contribute to its significance and how that is understood and appreciated. Historic England guidance shows how assessment of setting issues typically includes considerations of: landscape; topography; visual, noise and other perceptual qualities; vegetation and historical ecology; the water environment; amenity recreation and access and much else.

In the context of the scheme, an overarching consideration of similar *intrinsic* importance is the interaction between different aspects of the environment that contribute to the 'natural beauty' of the AONB, which is NOT just landscape and visual. The Cotswolds AONB Management Plan, Position Statements and Landscape Strategy and Guidelines all show how the whole essence of the AONB is an intrinsic interaction of EIA environmental topics. The concept of 'Natural Capital', which now underpins Government policy towards the natural resources and interactions with cultural heritage, social and economic factors is also highly relevant.

In our comments on preceding chapters we gave highlighted some – but by no means all – of the relevant EIA topic interactions that are relevant. In order for these to be identified fully, very close collaboration and discussion between specialist is needed so that all relevant interactions are identified and methods of addressing them can be agreed – especially where, for example, joint input to field surveys (e.g. photomontages; ecology and heritage hedgerow assessments; ground investigations and archaeology; landscape and historic landscape character) needs to be developed.

The relevant topic interactions are thus best identified and methods explained within and between topic chapters with clear cross-referencing. The overall approach to impact interactions should be explained with reference to the relevant definitions (including PINS Advice), the overall principle of how methods will be adopted and adapted to address the specific interactions relevant to those scheme, especially in respect of 'natural beauty', 'setting', 'natural capital' and an overall 'landscape-led' scale of assessment.

[5] http://wardens.cotswoldsaonb.org.uk/userfiles/file/climate-change/climate-change-strategy-adopted-june-2012.pdf

These key interactions need to be firmly anchored into the relevant policy and legislative framework covering such interactions – again very obviously in relation to 'setting' 'natural beauty' and ecology, including habitats, species, water and soils. This needs to be set within the context Government policy statements, especially those on 'Natural Capital', DEFRA's 25 Year Plan, the DCMS White Paper on Culture (including heritage and landscape aspects).

It is within this wider context that the 'great weight' to be accorded to conserving the AONB encapsulated in paragraph 5.150 of the NPSNN needs to be set, and the fundamental presumption against this scheme against which all the tests in paragraphs 5.151- 5.153 of the NPSNN need to considered. Currently there is no adequate demonstration that this will be achieved, either at the level of individual impacts and effects or the higher level interactions that arise when cumulative effects are considered.

The issue of impact interactions is addressed in Recommendation of the Board's consultation response dated 21st June 2019.

Cumulative Effects

As proposed, the scope of cumulative effects to be considered is far too narrowly drawn, and reflects an inadequate consideration of National policy and legislative frameworks to address properly the EIA requirements and PINS Advice Note 17 when seen within the context of s.104 of the Planning Act 2008.

It is especially important to distinguish between 'in-combination' effects arising from 'impact interactions' – which often occur in relation to very specific characteristics of the design of the scheme (including alignments and basic design parameters) and in relation to measures intended to address its environmental effects, construction and operation – from overall issues of how a multiplicity of such interactions contribute to the overall effects of the scheme in relation to the tests and weight to be given to issues as set out in policy and wider legislative frameworks.

This is different again from the need to consider the effects of this scheme relative to other developments within the policy set out in paragraph 2.10 of NPSNN to consideration of the scheme within the context of "individual networks and as an integrated system.

NPSNN requires that:

- **4.16** When considering significant cumulative effects, any environmental statement should provide information on how the effects of the applicant's proposal would combine and interact with the effects of other development (including projects for which consent has been granted, as well as those already in existence). The Examining Authority may also have other evidence before it, for example from a Transport Business Case, appraisals of sustainability of relevant NPSs or development plans, on such effects and potential interactions. Any such information may assist the Secretary of State in reaching decisions on proposals and on mitigation measures that may be required.
- **4.17** The Examining Authority should consider how significant cumulative effects and the interrelationship between effects might as a whole affect the environment, even though they may be acceptable when considered on an individual basis with mitigation measures in place.

For this scheme, it is important to recognise that the 'Missing Link' is part of the overall upgrade of the Swindon to Gloucester route. As such, the approach to identifying and assessing cumulative effects in accordance with paragraphs 4.16 to 4.17 of NPSNN, along

with paragraph 2.10, must include consideration of the other sections of the whole route to show how the scheme proposal '*would combine and interact with the effects of other development (including … those already in existence*)'. This should include assessing '*how significant cumulative effects and the interrelationship between effects might as a whole affect the environment, even though they may be acceptable when considered on an individual basis with mitigation measures in place'*. This will help to ensure that PINS and, ultimately, the Secretary of State are fully informed of the total effect on the environment and, in that context, the '*mitigation measures that may be required'*.

In this context it is especially important that the overall environmental effects of the Swindon to Gloucester route as well as its overall contribution to economic, safety and social benefits are considered, especially with regard to NPSNN paras 1.151 to 1.154. In this context it is important to appreciate, describe (and map) this as part of the baseline environment. In particular, the Board draws attention to the very substantial part of the last section of the route to be upgraded (the A417 north of Cirencester) wholly located within the Cotswolds AONB and its significant effects, to which the present scheme, as proposed, would add considerably more.

In the context of PINS Advice Note 17 and NPSNN, Section 16.1 of the Scoping Report does not adequately explain how the cumulative effects of this scheme - and others - on nationally and internationally protected landscapes would be assessed in the context of s.104 of the Planning Act. Relevant factors include:

- the absence of any SEA at an upstream level within the RIS delivery plan and programme and Route Strategies; and
- the Ministerial answer of to a parliamentary question (Written Question 217075, February 5th 2019) as to whether RIS would be subject to Strategic Environmental Assessment, that the effects of the RIS plan/programme are to be addressed through individual EIAs.[6]

The issue of cumulative effects is addressed in Recommendation 9 of the Board's consultation response dated 21st June 2019.

[6] https://www.parliament.uk/business/publications/written-questions-answers-statements/writtenquestion/Commons/2019-02-05/217075/

Appendix A

A417 – Cutting v Tunnel Approximate Cost Comparison

A comparison of the likely cost of a cutting compared with a cut and cover tunnel has been carried out for the Board's 600m long Red route tunnel option.

The maximum depth of cutting required for the Red route tunnel is around 25m and this appears to be a similar cutting depth to that required for the Highways England (HE) option 30.

The key issues for construction in the particular ground conditions towards the North end of the A417 route, which are likely to determine the design and construction, are as follows:

1. The properties of the limestone rocks, in particular hardness and direction of bedding planes. It seems likely that excavation of the rock will require large dozers with rippers and backacters to load to dump trucks. This is a relatively slow and expensive process.
2. The ground strata below the limestone beds. The publically available borehole data (obtained from BGS website) shows beds of soft materials, including clays, silts and peat, underlying the limestones. These soft strata, in combination with ground water flows, are likely to affect stability of a cutting and therefore influence side slopes in both temporary state during construction and especially for long term stability of a permanent cutting
3. Ground water: There are many known springs along the base of the escarpment with substantial water flows. Therefore control of ground water will be a key issue for design of permanent works to provide long term stability and for temporary stability during construction.

Taking the above key issues into account, two cases have been considered for our approximate cost estimates:

A. An optimistic case: Side slopes for the permanent cutting of 45 degrees (relative to horizontal) and 75 degrees for a temporary cutting in which to construct a tunnel. A unit rate for excavation of the rock of £80/m3.
B. A pessimistic case: Side slopes for the permanent cutting of 30 degrees (relative to horizontal) and 60 degrees for a temporary cutting in which to construct a tunnel. A unit rate for excavation of the rock of £120/m3.

Our estimated costs based on these assumptions are shown in the table below. An overall width of tunnel structure of 30m has been taken, sufficient for a dual 2-lane road with hard shoulders.

Assessment of ground conditions	Cutting Side Slopes		Approx. Cost £M	
	Cutting	Tunnel	Cutting	Tunnel
	Degrees to horizontal			
Optimistic rock & ground water conditions	45	75	52	67
Pessimistic rock & ground water conditions	30	60	91	91

Note that the cost given above are NOT total costs. They are comparative costs excluding elements which are common to both cutting and tunnel options (roadworks, etc), and excluding contractor's site set up and preliminaries costs and contingencies.

This comparison of costs shows that the cost of a tunnel option could be similar to, or only slightly greater than the cost of an open cutting. HE said during earlier discussions that a tunnel would be very substantially more expensive than a cutting. We suspect that HE's conclusion may have been based on their own generic unit cost rates used for preliminary sifting of highways scheme options. However, these rates may not be appropriate for the ground conditions expected on the A417 route.

Cowley and Birdlip Parish Council

[redacted]

Cowley and Birdlip Parish Council

A417 Missing Link

Environmental Impact Assessment Scoping Document

Consultation for Highways England

Response from Cowley and Birdlip Parish Council

1. Background

Cowley and Birdlip Parish Council are pleased to have been given the opportunity to provide a formal response to the draft Environmental Impact Assessment ("EIA") Scoping document produced by Highways England to inform and influence the detailed design for the A417 Missing Link Scheme.

Cowley and Birdlip Parish Council gave its support to the Option 30 route preferred by Highways England as part of the formal Public Consultation for potential routes in March 2018. However this support was informed by a local Residents Meeting in November 2017 to consider and capture all concerns and issues held by residents of the Parish and surrounding areas. These were all submitted to Highways England under the headings of:

Noise and Pollution
Safety
Environment
Rat Runs
Route options and ideas for improvement

The Parish Council is pleased that the draft EIA Scoping document has addressed most of those environmental impacts that are of concern to residents in the Parish and has also identified other areas where the

detailed design needs to accommodate, remove or minimise other areas of detrimental environmental impact.

There are some areas of the document that in the opinion of the Parish Council need to be addressed and these are detailed below.

2. Summary

The Parish Council has provided a detailed response against some of the EIA Scoping document numbered sections. These are listed in part 3 below, however in summary the principle areas of response are as follows:

I. The Option 30 Scheme will bring the A417 closer to the village of Cowley. The Parish Council is concerned that the village of Cowley is not being appropriately considered within the EIA Scoping Document and could be negatively impacted by both the operation and construction of the new A417 route. The environmental impact of the current route should therefore be assessed prior to construction and measures taken to minimise any adverse impact of the new route in the Environmental Statement and the detailed design

II. The impact of the current 'rat runs' within the village of Birdlip and also wider communities such as Great Witcombe and Brimpsfield are well known in terms of safety and the delays caused by congestion in narrow country lanes. It is recognised that an overall reduction in congestion and the minimisation of rat runs in the local areas is one of the prime benefits of the scheme. However the document does not recognize that adverse environmental impact in the form of increased noise and pollution may be caused by rat runs or diversions during construction. Furthermore the choice of the A436 Link Road Alternatives may have an impact in terms of the flow of local traffic through local communities.

III. The Parish Council would have liked the EIA Scoping document to consider innovation in the design to minimise environmental impacts in construction and operation. Examples have been given such as the use of recycled materials as part of the road surface which will reduce the use of natural resources or the use of renewable energy to power lighting.

3. Detailed Comments

Section 2.4 – Scheme Description

- 2.4.2 The Parish Council considers that the overall scheme should have a beneficial effect on the current extreme incidence of rat run traffic, particularly in the villages of Birdlip, Great Witcombe and Brimpsfield. The traffic that currently uses these villages as a rat run to pass through has an adverse effect on levels of noise and pollution and there should be an overall beneficial effect to these levels as result of the scheme as a whole. However the Parish Council would like to see a requirement in the document that the effect on rat run traffic on local villages for each of the A436 Link Road Alternatives will be considered to ensure that all benefits from reduced noise and pollution are not offset by increased local rat run traffic as a result of the A436 Link Road Alternatives. The Parish Council is concerned that this may be the case for the A436 Link Road Alternative Option 1

Section 6 – Air Quality

- It appears that the air quality assessment is being assessed using the DRMB methodology, which is considered to be outdated. The IAQM have produced a more detailed methodology which is used by most local authorities and the Greater London Authority for planning applications. Since this is an EIA, the highest levels of detail should be applied to these types of assessments. For example, the Parish Council would have expected that the Highways England criteria for choosing roads to assess should be a change in 500 AADT (outside an AQMA) and 100 AADT (inside an AQMA) and not a 10% change in AADT flows, as stated in section 6.1.3.

- The Parish Council has concerns regarding the air quality methodology and your choice of magnitude criteria which is considered to be very linear and does not take into account the modelled baseline. This implies that the impact is judged equally in an area that is similar to the background and in an area that is exceeding air quality objectives (such as the Air Balloon roundabout).
- On assessing ecological significance from air quality, section 6.6.20 makes it sound like nothing will be done regardless of the effect on local habitat sites. The Parish Council would expect a suitable process to be documented if this occurs.

- Given the length of the construction period, the Parish Council would expect dust monitoring to be undertaken at the most high risk sites. The Parish Council is concerned that the area of interest is 200m and not 350m as per IAQM dust guidance.
- The Parish Council would expect consideration to be given to the impact if emissions from vehicles do not improve as anticipated by DEFRA. Historically these have not always been correct.
- 6.2.7 The Parish Council considers that there needs to be air quality monitoring equipment including sensitive receptors during the construction and operation phase in place in the village of Cowley prior to any construction work.

- 6.3.2 The Parish Council considers that mention should be made to the fact that the village of Cowley is downwind (prevailing wind from the SW) of the proposed new route, and as such there is potential impact upon sensitive receptors which must be monitored.

Section 7 – Cultural Heritage

- 7.4.2. The Parish Council considers that the village of Cowley must be mentioned as a location that would not be suitable for temporary road diversions, due to the topography of the area and the narrow local roads and to avoid any temporary increase of noise and visual intrusion.

Section 8 – Landscape and Visual Effects

- 8.3.3 The Parish Council considers that this paragraph should include mention of the large wooded copses in the Stockwell Farm area along the ridge line, which add to the distinctive landscape, the removal of which would adversely affect local landscape character.

- 8.3.10 The Parish Council considers that the village of Cowley will be impacted by adverse landscape impacts in the high wold rural landscape

- 8.4.7 The Parish Council considers that form and material should be in accordance with the Cotswold Design Code

- 8.5.17 The Parish Council considers that effects on loss of existing landscape features must be mitigated as far as possible with

replacement planting.

Section 10 – Material Assets and Waste

- 10.4.6 In terms of downgrading sections of the existing A417, the Parish Council considers that not constructing the A436 Link Road Alternative Option 1 would further enhance the environmental benefit to biodiversity as the downgrading could continue without marginalisation from the Stockwell junction through and on to Barrow Wake and would provide a link to the proposed new green bridge and the Emma's Grove SSSI area. If the A436 Link Road Alternative Option 1 is chosen for construction then biodiversity migration from these areas, the green bridge and the Crickley Hill nature park could be seriously adversely affected

Section 11 – Material Assets and Waste

- 11.3.7 The Parish Council notes that during operation there is no mention of electricity as a resource needed for carriageway or signage lighting. The Parish Council considers that, where possible or where needed, electricity used should be from renewable sources perhaps from strategically located solar panels or wind generators coupled to battery packs with LED light sources as the first choice.

- 11.4 The Parish Council believes that greater emphasis should be placed on the use of recycled materials in the construction phase. In particular new and innovative technology should be considered. For example viable schemes have been constructed elsewhere which reduce environmental impact by using a carriageway surface made from a combination of recycled plastic or recycled vehicle tyres mixed with asphalt. These methods are considered to not only reduce the use of natural materials but also reduce operational noise, have greater wear resistance and reduce subsequent maintenance

Section 12 – Noise and Vibration

- 12.1.1 The Parish Council considers that baseline noise levels that have been undertaken using a desktop assessment need to include

the village of Cowley if that has not already been done.

- Linking to the above, the Parish Council is concerned as to how LOAEL and SOEAL levels (Table 12.1) have been set without baseline data. For example the setting of daytime LOAEL at 55db and the night-time LOAEL of 40db, given the rural nature of the area, these could be a lot lower and will affect the impact assessment

- 12.1.3 The Parish Council would like to see further detail provided as to how the location of sensitive receptors locations are decided.

- 12.2.1 The Parish Council considers that an estimated date or event should be added by which the baseline noise survey will be undertaken

- 12.3.2 The Parish Council considers that reference should be made to the fact that the new alignment will result in increased audible tranquility for several PRoW within the high wold and residential properties at the western edge of the village of Cowley

- 12.3.2 The Parish Council believes that noise receptors are needed to be placed in the village of Cowley before start of work.

- Section 12.4.4 The Parish Council notes that secondary glazing will be employed if the effect is deemed to be significant. The Parish Council has concerns as to how ventilation could be provided in old houses circa. 400 years when these windows are having to be shut.

Section 14 – Road drainage and the water environment

- 14.3 The Parish Council is concerned that no mention is made of the potential impact of water pollution entering watercourses that flow towards the village of Cowley, some of which feed domestic water storage area

End of Response

Planning Inspectorate
Room 4/04 Kite Wing
Temple Quay House (2 The Square)
Temple Quay
Bristol
Avon
BS1 6PN

Our ref: SV/2019/110284/01-L01
Your ref: TR010056-000002

Date: 12 June 2019

Dear Sir/Madam

PLANNING ACT 2008 (AS AMENDED) AND THE INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2017(THE EIA REGULATIONS) – REGULATIONS 10 AND 11 APPLICATION BY HIGHWAYS ENGLAND (THE APPLICANT) FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR THE A417 MISSING LINK (THE PROPOSED DEVELOPMENT) - A417 MISSING LINK GLOUCESTERSHIRE

Thank you for consulting the Environment Agency (EA) on the above Environmental Impact Assessment (EIA) Scoping Consultation. We have reviewed the EIA Scoping Report dated May 2019. We have the following comments; we have set these out under the same chapter headings used in the Report, as follows:

CHAPTER 9 GEOLOGY & SOILS AND CHAPTER 14 ROAD DRAINAGE & THE WATER ENVIRONMENT

Site setting:
Geologically the area of the proposed scheme is within a complex local hydrogeological water environment and this has already been proven within the limited site investigation already undertaken to date. The next phase of more comprehensive site investigation along the linear road scheme will be key to defining both geological and hydrogeological conditions further and building on previous conceptual understanding.

The scheme is located upon a bedrock geology of Jurassic age rocks of the Great and Inferior Oolite limestone *principal* aquifer and crosses through and over the Cotswold escarpment on to the dip slope. These rocks are strategically important being utilised for public drinking water supplies from groundwater and are highly vulnerable to contamination due to their fractured nature putting them at risk from activities on the surface which might cause pollution such as from linear construction projects like this one.

The bedrock geology is covered on the escarpment to the east by land slipped superficial deposits which are moving downslope under the influence of water and gravity.

The proposed road scheme is located between the catchments of the River Severn (notably the Crickley Hill stream and Horsebere Brook) to the west and Thames (notably the River Churn) to the east and a corresponding regional groundwater divide is known to exist in the Great and Inferior Oolitic limestone principal aquifer rocks within this

location. The River Frome to the south flows through Stroud and into the Severn basin with the headwaters located from springs near Bushley Muzzard wetland SSSI near the south-eastern area of the proposed road scheme.

Being a strategically important aquifer for public drinking water supplies a major groundwater source Protection Zone is located at Baunton with SPZ 3 adjacent to the scheme area.

Risks to the water environment – potential impacts from the construction of the road scheme:

Our concerns centre chiefly around risks to the water environment from the proposed road construction works as many water features including spring flows primarily along the Cotswold escarpment, river baseflows, boreholes and wetlands can be found within the proposed red line boundary and as defined by the recent water features survey so characterising *baseline* groundwater and surface water conditions before works commence will be paramount to understanding and addressing any risks going forward to the water environment. This data is key to the success of the chosen scheme design and understanding the conditions within the groundwater and surface water environment. Background water environment data includes water quality, groundwater levels, water flows in watercourses and spring outflows.

Currently there is a degree of uncertainty between any hydraulic links with surface and groundwater features especially on the escarpment and the collection of field data will assist in understanding these aspects in further detail.

We believe it is important to target and have due consideration for focusing any monitoring on the groundwater aquifer units which have the potential for abstraction; provide baseflows to watercourses/ spring outflows; and support wetlands in the case of Bushley Muzzard SSSI. Only when these hydraulic connections are fully understood can the road scheme be designed to effectively mitigate and protect such features from construction works.

We acknowledge the potential impacts from construction which have been identified in section 9.3 of the Scoping Report and primarily within Chapter 14. We have raised concerns already during our ‘pre-application’ discussions with Highways England (HE) and their consultants, regarding the construction of deep road cuttings through shallow aquifers which could intercept shallow spring systems and cut off their flow pathways making them dry out over time. This is particularly a potential issue through the proposed deep cutting at the top of Crickley Hill and the Shab Hill junction. The deep cutting at the top of Crickley Hill in particular has the potential to influence local surface water and groundwater flows from the Severn to Thames basins or vice-versa. The Shab Hill junction as proposed is located within a dry valley and a number of ephemeral springs discharge seasonally into this valley called Coldwell Bottom forming the headwaters of the River Churn.

Also of particular note include man-made structures such as bridge piers and piling structures in the ground which can act as both barriers to shallow groundwater flow and provide more vertical downward pathways for contamination routing into the deeper aquifer. If not managed effectively when the road is built, the springs which are connected to more saturated aquifer could be influenced from a reduction in flow or cease to flow completely and from a water quality perspective if dirty discharges off the road are made to ground via soakaways this could lead to direct pollution of a strategically important aquifer underlying the proposed road scheme.

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The construction of borrow pits and earthworks will also need to take into consideration the underlying formations and the hydrogeological conditions in the proposed locality. Impacts will need to be minimised to sensitive water features such as springs, wetlands and watercourses which derive baseflows from groundwater within the redline area.

Dewatering of trenches and voids preparing for construction works can also drawdown the shallow groundwater table should the water table be intercepted depending on the time of year as flows and levels will vary in an aquifer of this nature. This water may also be connected to spring systems which feed into local watercourses providing baseflows, so it is vitally important that due consideration is given to such potential impacts from construction works and locally the water features of interest will need to be identified and any mitigation proposed well ahead of construction works looking at defining the risk in a source-pathway-receptor model approach. We would expect to be consulted on any risk assessments related to piling, or ground improvement/ foundation works so that controlled waters are adequately protected from such operations.

We have concerns over the discharge of sediment laden waters from construction works which would choke up watercourses and provision will need to be made in the construction environmental management plan (CEMP) to prevent any such losses to the water environment. Settlement will be key to reducing such polluting waters before discharge. Accidental spills and leaks of oil, fuels and other substances in this sensitive water environment in a fracture flow aquifer can mean that transportation times to critical receptors are more rapid and pollution spills can be more risky as a result. We would expect to be consulted on the CEMP.

For any de-watering operations (either ground or surface water) we would expect to see separate “pollution prevention strategies” (not merely works method statements) that detail the mitigation methods to be employed for each separate de-watering operation, as these would be site specific. The use of our Regulatory Position Statement (RPS) for de-watering would only be applicable if the operators could meet all of the conditions of the RPS. It may require the use permits / consents for such operations. (Information on RPSs, i.e. where the EA will not require Permits, is available via: https://www.gov.uk/government/collections/basic-rules-environmental-permitting-regulatory-positions)

If the CEMP follows the guidelines of CIRIA C532 alongside the basis of what was the Environment Agency’s previous Pollution Prevention Guideline 6 (PPG6) document (Working at construction and demolition sites), then there should be adequate provision to not cause any further pollution via either surface or ground water. (PPG6 is not a current EA guidance document but it can still be accessed online and is still widely used in the construction industry.)

Should dewatering be a requirement for construction works abstractions >20 m3/day will require a licence and consideration will need to be given to any surrounding water features which could be impacted from drawdown of the water table in the vicinity of such works. We have concerns that dewatering of excavations could influence shallow groundwater levels within more saturated aquifers and may impact upon spring systems which feed into watercourses.

We understand from ongoing discussions that the land slipped materials on the escarpment will need to be dewatered to allow stabilisation of these materials. It is in the bottom of the toe of the escarpment slope areas that groundwater is discharging as springs, boggy ground and wet flushes which all contribute to the rich and diverse flora and fauna of the Cotswold landscape and habitats. Careful consideration will be

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required to reduce impact upon such features from dewatering works which is why it is important to define and build upon the conceptual model for the geology and collect baseline monitoring data to support this model of understanding. Impacts from dewatering within such areas will need to be managed to protect the water environment and the sensitive ecological systems which also rely on groundwater for their existence.

Of particular note is the proposal to construct five new carriageways/lanes three up and two down Crickley Hill. We are mindful that the watercourse now defined as the Crickley Hill stream from more recent investigations flows down from the incised valley below the Air Balloon into the lower lying valley downhill and we have concerns for how this watercourse will be managed with five new carriageways/lanes. The topography here is a narrow gorge near the top of the hill and is tight. There is an opportunity with the new scheme to improve the watercourse channel. We would also be looking to improve upon the runoff discharge water quality made to this watercourse on Crickley Hill and there is an opportunity now to put in drainage infrastructure which can enhance the treatment of dirty runoff and protect the river quality for the future.

Chapter 14 'Road drainage and the water environment' of the Scoping report in particular starts to outline the main potential impacts which the road scheme may have upon the water environment and makes a good start at understanding the risks which will need to be addressed before the road can commence. The detailed risk assessments and significance of effects can only be defined in the CEMP once the site investigation monitoring data is available and the risks can be fully quantified and mitigated against to protect the water environment from the road construction works.

In terms of the consultation of relevant guidance we would like to point you to our Groundwater Protection position statements on the gov.uk website:
https://www.gov.uk/government/publications/groundwater-protection-position-statements
These position statements describe the Environment Agency's approach to managing and protecting groundwater. They update our previous Groundwater protection: principles and practice (GP3) which is now superseded by these position statements. This document helps anyone whose current or proposed activities have an impact on, or are affected by groundwater.

Water features survey & sensitive water features:
The water features survey already undertaken over more recent months to ground truth the water features within the area of the proposed road scheme has been useful in demonstrating that there are numerous water related features in and around the proposed scheme area which rely on groundwater sources from the Jurassic Limestone/ sandstone/ undifferentiated aquifers within the location of the proposed road scheme.

These features including spring discharges, wet flushes (boggy ground) and seepages, are mainly found on the escarpment but also within the upper Cotswold plateau valleys where some valleys are seasonally dry and others have spring perennial and ephemeral spring flows which can also support wetland environments e.g. Bushley Muzzard SSSI. This SSSI is an area of marshland that has the potential to be impacted by changes in groundwater levels / quality and drainage related to the road scheme.

Understanding the relationship of the water environment is key to protecting these sensitive features and determining what impact the road scheme may have. Ecologically, both flora and fauna rely on groundwater and interruptions to the

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discharges which support these sources could detrimentally affect these features which are connected to the water environment which is a concern.

Spring discharges can flow all year (perennial) or occasionally (ephemeral) and so it is important to classify which of these springs fit each category and how they might be affected by the road scheme. A source-pathway-receptor approach would be useful to identify risks and how mitigation may be applied. Risks can be to flows and water quality and we note that tufa is forming from certain spring discharges into the tributary of the Crickley Hill stream and elsewhere up on the plateau into the so called dry valleys.

The other important aspect of these spring discharges is their relationship to the underlying bedrock geology in relation to the more thinner and overlying superficial colluvium drift deposits in the landslip. Often the landslip materials can mask where the spring is actually discharging up gradient. But one thing is sure, that this material contains a lot of groundwater and any works into and around the toe of the landslip will no doubt present geotechnical issues for this road scheme.

We have discussed previously that the collection of baseline monitoring field data is important when trying to assess change especially any potential impacts from the road scheme and it's important that the water features survey is built upon and further monitoring data at key locations is collected to understand and look for seasonal changes in the hydrologic regime which will inform the design and mitigation for the road scheme.

As indicated above, one of our key concerns is the tributary of the Crickley Hill stream down Crickley Hill and the strategy for protecting this water feature during the construction of the road as we understand that 5 carriageways/lanes are proposed (3 up and 2 down). This area is narrow up the hill especially near to the top and presents issues for the watercourse which we believe needs much more consideration.

Regarding the drainage of the current road, we understand that there are soakaways along the carriageway and more direct discharges from pipes. It would be useful to understand if some of these discharges could in fact be some of the identified springs in the water features survey and it would be useful to identify which features these may affect. Water chemistry may assist in this. We have some concerns over the quality of those discharges and understand that the new road proposal will be in principle a betterment to the current road drainage. There is an opportunity now to provide an enhanced road drainage system which will be more protective of the water environment. Appropriate interceptors should be installed and maintained to safeguard water quality in groundwater and surface water receptors for the future. Old soakaways from the current road with unknown pathways should not be utilised in the new road drainage infrastructure and the ground surrounding these features may be contaminated from road runoff over decades of use.

The water features survey (which we have recently reviewed under our 'pre-application' advice agreement with HE) provided a comprehensive survey which clearly identified numerous features in and around the road scheme location but it is a question of which of these water features survey features could be impacted or be at risk from the proposed road scheme? This will need to be defined. It is also important to identify which of these locations will be used for any ongoing monitoring. Regarding the potential contamination risks presented within Table 9.1 from PSSR data, we acknowledge the summary provided of potential contaminative land uses and landfills already within the vicinity of the proposed road scheme. It would be worth noting that

the current drainage soakaway network may also be a source of localised contamination.

Land contamination and protection of water quality:
The main sources of contamination from this scheme is the disturbance of potentially contaminated soils where the new road coincides with existing road. There may be hotspots of petroleum hydrocarbon impacted soils in the vicinity of existing soakaways in areas such as the junction of B4070 and the A417 north east of Birdlip.

The report mentions major faulting as being potential pathways but does not address that the main pathway for water flow in the limestone is through fracture flow which can facilitate very rapid movement of groundwater.

The report covers the potential for foundation works to create pollution pathways and states that a foundation works risk assessment is required for this scheme. Item 9.4.8 mentions that mitigation measures such as appropriate pile design are required for areas where contaminated land is identified. However it is also important to consider that a pathway for contamination (including spills) from the road could potentially create a permanent pathway into the confined Inferior Oolite if an inappropriate pile design is used anywhere on this proposed road scheme.

Defining *baseline* conditions:
We acknowledge the more limited in nature site investigation already undertaken to date and the next phase of site investigation along the linear road scheme will be more comprehensive and key to defining and building upon both the geological and hydrogeological conditions further and refining the conceptual site understanding. There is still a lack of information on baseline conditions in the local area, but we acknowledge that preliminary surface water and groundwater site investigations are ongoing to enable sufficient data to be collected to inform the assessments. The more detailed and comprehensive up and coming site investigation should gap fill areas and improve understanding.

In order to observe seasonal trends over wet and dry periods in groundwater conditions and assess any hydraulic connections to springs, wetlands and river baseflows, the proposed ongoing groundwater monitoring programme will provide a useful dataset in order to design a scheme protective of the groundwater/ surface water environment.

For monitoring to be as effective as possible, it needs to be undertaken pre, during and post construction works. This road scheme is under a tight time constraint and as much baseline data needs to be collected so that risks to the water environment can be defined and appropriate mitigation can be provided to ensure the highest level of protection to water.

We understand that groundwater monitoring and sampling programme will be included in the Outline Environmental Management Plan (OEMP), which will include a minimum of one year's data collection to understand seasonal variations. The programme may include further spring or stream gauging and tests to determine aquifer hydraulic parameters and water quality and we look forward to being consulted on the OEMP.

Flood Risk:
Although the study area lies outside the Flood Map for Planning (Rivers and Sea), i.e. the site is located in Flood Zone 1 – low probability), potential flooding impacts may be seen further downstream as highlighted within the EIA Scoping Report. The Scoping Report determines that there is insufficient baseline information available to exclude any

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aspects so will include all water receptors within the ES assessment, which we welcome.

A flood risk assessment (FRA) will be required and the Scoping Report states that a 'simple FRA' will be undertaken. The use of the word 'simple' may confuse some readers. We believe this has been used as the site is within Flood Zone 1. However we note the scoping report says it will assess risk from all forms of flooding and potential impacts to and from the scheme. Potential impacts of climate change using latest allowances and guidance should be included within the assessment. Furthermore it may be necessary to model ordinary watercourses where their catchment is below 3km^2 as these have not been mapped for flood risk on the Flood Map for Planning (Rivers and Sea). The use of modelling should be done on a proportionate basis, so we would only expect this to be necessary where a watercourse is in close proximity to the proposed route layout and might lead to flooding of the finished road scheme, or of key construction areas such as site compounds or storage of plant/machinery. The FRA should include such areas, assess the risk of flooding from all sources and proposed appropriate mitigation measures. Wherever possible we would seek for a reduction in flood risk on and off site.

Summary:
The construction and operation of the road scheme could result in potential adverse direct effects on surface waterbody features and groundwater bodies which has been discussed above in detail. We would expect the EIA to cover all of these aspects, and we look forward to continuing to work with Highways England and their consultants in making sure the water environment is protected from this major road scheme.

CHAPTER 10 - BIODIVERSITY

Ground and surface water supporting ecology:
The scoping report acknowledges that changes in groundwater levels and flow paths may lead to either a reduction or loss of water supply to abstractions, springs and streams, and potential loss of habitat (which may be permanent) and increases in suspended solids concentrations in groundwater.

It recognises that ecologically, both flora and fauna rely on groundwater and interruptions to the discharges which support these sources could detrimentally affect those features which are connected to the water environment. Groundwater receptors include streams and rivers receiving baseflow, and Bushley Muzzard SSSI, a key wetland at the source of the River Frome which have the potential to be adversely impacted by changes in groundwater levels, flow routes or quality. A number of small ponds in the area that may be at least partially groundwater dependent or fed by springs are also referred to.

The scoping report identifies a wide range of potential construction and operational impacts from activities, including dewatering, deep cuttings, ground investigation, earthworks and below ground structures and piles alteration of ground levels disturbance and removal of top soils. Understanding the relationship of the water environment is key to protecting these sensitive features, determining what impact the road scheme may have and the Environmental Statement needs to include a significant level of detail for the mitigation required. Given that there remains considerable uncertainty with respect to the assessment of groundwater risks we advocate a precautionary approach.

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Ecological value of the water environment:
Section 10 Biodiversity gives insufficient consideration to potential impacts and appropriate mitigation for impacts on the ecological value of the water environment, from springline seepages and flushes to watercourses and associated wildlife within and downstream of the development footprint and the River Severn Ramsar/SAC. Although the section on biodiversity acknowledges there is the potential for changes in hydrology from construction of major cuttings to affect the River Frome Mainstream and Tributaries Key Wildlife Site (KWS) its conclusions appear premature and inconsistent with other sections of the report.

The Environmental Statement needs to ensure adequate cross referencing and iteration between Biodiversity and other sections including Section 14 Road Drainage and the Water Environment and land, soil, water, air and climate. Assessment of notable species should include for example relevant fish species such as the European Eel, a priority and rapidly declining species.

Other sections of the scoping report makes reference to the large number of springs that could potentially be impacted by the proposal. These include the numerous springs along the escarpment that supply Crickley Hill stream and Horsbere Brook, springs within an incised valley that supply the River Frome headwaters, ephemeral springs in the dry valley east of the Birdlip junction and springs on the dip slope supplying the headwaters of the River Churn.

In addition to their wider contribution to other hydrological receptors some of these features and other springs and seepages, also support localised unique habitats in their own right. The impacts on Tufa forming springs need to be scoped. In addition specialized assemblages confined to high alkalinity spring lines and spring derived first order streams are generally poorly surveyed and understanding the extent and vulnerability or these features the magnitude of change, significance of impact and identifying appropriate mitigation or compensation needs to be detailed in the Environmental Statement.

Typical components of springhead communities, restricted by temperature, include the flatworm species *Crenobia alpine*, *Phagocata vitta* and Diptera species such as *Dixa submaculata, Dixa puberula, Oxycera sp., Thaumalea testacies and Thaumalea verralli.* Species such as the caddis *Synagapetus dubitans* is seemingly dependent on limestone springs in Britain. Its distribution is poorly known in UK, however there are an increasing number of records within Gloucestershire, although prior to 2017 it was only known from a handful of sites in Yorkshire. Species such as *Tinodes unicolor* and *Wormaldia occipitalis* are not confined to springs, however, require high alkalinity and are often common in springheads. There are a number of stoneflies which aren't necessarily confined to limestone however at least three species are typical of springheads *Leuctra nigra, Nemoura erratica* and *Nemoura cambrica.* There are a number of General headwater caddis species and those typical of woodland springs and trickles.

It is suggested that a groundwater monitoring and sampling programme would be included in the OEMP, which will include a minimum of one year's data collection to understand seasonal variations. The programme may include further spring or stream gauging and tests to determine aquifer hydraulic parameters and water quality.

The Assessment of Implications (of Highways and / or Roads Projects) on European sites (including Appropriate Assessment) advocates assessment of any internationally designated nature conservation sites which are linked hydrologically to watercourses

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potentially affected by the Scheme. The Habitat Regulations Assessment Screening will need to include the Severn Estuary and the designated migratory fish assemblage which include some species, notably eel which could be impacted by the scheme. We would welcome consistency of information and avoidance of duplication between the HRA screening process and within the Environmental Statement.

Habitat protection, enhancement and mitigation:
The development of a detailed habitat mitigation strategy to replace any habitats permanently lost as a result of the Scheme should include more explicit reference to mitigation of impacts on the water environment including habitats permanently lost and directly and indirectly impacted upon. We are very supportive of a strategy to replace and enhance lost and damaged habitat and an overall net gain in biodiversity as a result of the Scheme and welcome the commitment to the creation of diverse habitat corridors along the length of the Scheme, providing links to offsite habitats notably Lowland calcareous grassland. The shallow soils of much of the land around the Scheme have significant potential for locally seeded or naturally recolonised calcareous grassland creation. We also support an enhanced `pondscape` for Great Crested Newts and other species and woodland where appropriate. We are very supportive of the proposed mitigation of significant new “green” bridges to connect Public Rights of Way and provide landscape and ecology connectivity and removal of sections of the A417 between Air Balloon and Cowley, parts of the existing A417 between Air Balloon and Stockwell Lane that are no longer required due to realignment in order to reinstate the landscape and ecology connectivity.

Nevertheless there is insufficient discussion of the need and potential for the enhancement of the water environment and appropriate design, mitigation and enhancement measures. Whilst we require prevention or minimising of any sediments or pollutants entering the ditches, streams or other linked waterbodies (not just the Frome KWS) but all watercourses, using control measures such as those outlined in CIRIA C532 Control of Water Pollution. Minimising adverse impacts on watercourses and associated species should include additional measures to prevent, mitigate and compensate for habitat loss (notably Crickley Hill stream) and damage to hydromorphological function and connectivity within the site and downstream. There remains considerable uncertainty with respect to the assessment of groundwater risks therefore we advocate a precautionary approach. Consideration of the impacts and appropriate mitigation for otters needs to take into account the location of the scheme on the boundary of the Severn and Thames watersheds and the need for otters to be able to move through the landscape away from rivers.

We would also welcome consideration of airborne pollutants during the construction and operational phase of the Scheme on the water environment.

Sustainable Drainage Systems (SuDS):
The use of SuDS such as swales and soakaways and wetlands in the drainage design and attenuation in the upper and lower parts of the stream catchments should be innovative and exemplar and maximise the wise use of treated water to enhance the landscape and habitat connectivity in a locally appropriate way.

Netgain and climate change:
We expect this project to deliver environmental netgain. Potential options for mitigation or compensation and betterment or net gain include river and stream restoration measures in the receiving watercourses downstream. There are opportunities for provide more resilience for water related habitats to future changes such as those associated with climate change.

Cont/d..

It is not clear that the draft Red Line Boundary in Appendix A that has informed the scoping assessment incorporates adequate environmental mitigation areas. We strongly recommend that downstream watercourses are considered within the Environmental Statement and the final Scheme design.

The proposed study area of a one kilometre corridor surrounding the Scheme in section 14 and other relevant sections such as biodiversity should be extended to include features further downstream and upstream (surface water features) as well as groundwater features that may also be potentially impacted to ensure that potential effects and mitigation opportunities are appropriately identified to allows a fuller understanding of the context and setting of the resource and to facilitate net gain.

Summary:
Overall we consider that further weight and attention should be given to ecology in the EIA, and the Scoping Report has not fully covered all aspects we would expect. We agree with the conclusion in section 10 that further assessment of the construction and operational effects of the Scheme will be necessary due to the potential for significant effects on the water environment and that at present, there is insufficient baseline information available to exclude any aspects from the assessment, and therefore, all water receptors discussed will be scoped into the assessment for the Environmental Statement.

CHAPTER 11 - MATERIAL ASSETS & WASTE

We have the following comments relating to Section 11 Material Assets and Waste, and have drawn on our experience of issues encountered regarding previous large highways projects. These comments may be useful generally on the project going forwards, but should also form part of the EIA where relevant.

1. Paragraph 11.1.1/11.4.5: For a project of this scale and likely complexity involving contractual supply chains, we would like to see clear ownership by the client of waste and environmental compliance, with no blanket “liability transfer” to subcontractors. This does not mean we expect Highways England to directly deliver the project, rather to ensure mechanisms are in place to maintain effective oversight of the waste supply chain “Duty of Care” from source to final destination of bulk waste exports from the project. So in Paragraph 11.1.1, reference to “management of waste” includes assuring what happens to it after it leaves the construction project.

2. Paragraph 11.1.4: Again for large infrastructure projects that generating large volumes of surplus material, existing local (indeed Regional,) waste infrastructure capacity is usually not able to respond in short timescales to very large surges in demand. There may also be other large construction projects creating competition for available waste capacity. Therefore bespoke solutions may often be required, with consequent requirements for planning, permitting and other approvals as appropriate. We would welcome early engagement to ensure solutions are explored, agreed and delivered as required to minimise conflict and delays.

3. Paragraph 11.1.2: The definition and extent of the project boundary and subsequent storage, use, treatment or disposal within or outside the project site could have implications for Environmental Permitting requirements so we would

welcome early discussions on waste management as above. This is with particular reference to the need for temporary storage of spoil or formation of sight and noise bunds using construction materials, or storage pending transfer elsewhere.

4. Paragraph 11.2.3: Regarding recycled and secondary aggregates, there are potential risks of contamination in recycled aggregates so we would advocate an effective testing and verification mechanism to ensure unsuitable materials are not incorporated into construction. In particular would be the risk of plasterboard fragments and dust being included in aggregates, alongside cement asbestos or other contaminants. This would include hardcore used for any temporary haul roads and hardstanding used by main or subcontractors. Degradation and leaching could pollute surface and groundwaters due to the permeable local geology.

5. Paragraph 11.2.9/Table 11.3. It is important to differentiate between “waste arisings” and “waste managed” in waste planning. It is not correct to total the waste processed by all waste management processes and conclude this equates to “waste produced” in a local area. Waste Transfer and indeed other activities result in waste being handled twice or more, so the volume of waste managed usually exceeds the gross “production” figure. Waste moves relatively easily across boundaries, so there will be both exports from and imports into Gloucestershire (The very purpose of large road projects is indeed intended to facilitate such bulk movements.). Additionally, it is important to differentiate between permitted facilities (“The Regulated Estate”) and facilities that are active and operationally providing “merchant” waste capacity. Many will be (temporarily or permanently) closed for various reasons, or only provide in-house or bespoke waste treatment services, such as clinical waste incinerators. There is also dynamic “churn” with permits continually being issued, varied or surrendered. Therefore we recommend keeping information on the permitted estate under review and this can change, driven partly by market and economic factors. Permitted estate lists are maintained on the Data.Gov platform. Similarly in Paragraph 11.2.11, the terms “waste managed” can include intermediate transfer and storage of waste, this is more part of the logistical process rather than waste management capacity to treat or dispose of it. Please consider revising the data and commentary under the “Waste Generation” heading to prevent misleading assumptions.

6. Paragraph 11.2.12: It is not unlikely that unexpected and unrecorded legacy contamination may be encountered during the project, including historically buried agricultural, industrial or domestic wastes or more contemporary illegal dumps. Contingency should be allowed for such materials being encountered and consequent increased costs and potential delays.

7. Paragraph 11.2.19: “Exempt” waste management facilities generally means activities deemed as “Low risk”, in that they should be small, temporary, and the environmental impacts should be minimal relative to the benefits. Again there will be significant turnover in the sites involved. The data source quoted is over 10 years old. These sites are unlikely to therefore provide access to significant additional waste capacity for a major construction project, except in some very limited situations.

Cont/d..

8. Paragraph 11.2.20: Facilities receiving construction wastes for processing can also act as potential sources of secondary aggregates, but probably not in the volume and rate required for a large construction project.

9. Paragraph11.3.3/Table 11.6. Recognising this is 'early days' in the project as stated in Paragraph 11.3.5 it would be useful to develop likely maximum and minimum estimates to the values in the table to identify the likely range and confidence in the volumes of material involved, pending further refinement work. Similarly regarding the impact on local waste capacity, it could be useful to indicate likely peak rates of production during the height of earthmoving.

10. Paragraph 11.3.5: Typically construction projects will also generate "domestic and commercial waste" from offices and meeting rooms, laboratories, security facilities, worker rest and hygiene facilities and plant maintenance activities, etc. This may be negligible in the overall scale of the other wastes produced by the project but may not be insignificant.

11. Paragraphs: 11.3.6 and 11.4.3: If the rate of spoil production requires temporary storage of waste prior to removal, there may be permit requirements regarding waste transfer, as raised in point 3 above.

12. Paragraph 11.4.1: There may be opportunities to identify synergies with other infrastructure projects to make use of any surplus materials, including flood defence projects, utilities and water storage reservoirs, road and rail and ecological enhancements.

13. Paragraphs 11.4.4 and 11.4.6: Rather than having a separate Construction Environmental Management Plan, Site Waste Management Plan and Materials Management Plans, please consider an integrated holistic Resource, Waste and Environmental Management Plan for the whole life of the project, covering design, construction, operation and maintenances/repair and "end of life" stage, so there is an integrated approach taken? This would ensure that short-term "expedient" decisions do not cause long-term and expensive- to-remedy legacy problems. This could include climate resilience thinking in the event of more extreme weather conditions as discussed in the Climate section. Clearly a road network that is more resilient to weather extremes will last longer, cost less to repair and involve less disruption and cost for road users.

14. Paragraph 11.4.5: As discussed above it is probably unlikely that a suitable local waste management option is located close to the project site, given the volume of material involved. We would also wish to avoid situations where EA regulation to address compliance concerns or permit breaches could compromise the delivery of construction works, consideration should be given to contingency and reserve outlets for bulk construction wastes, also in the event of adverse weather or other disruption, -especially given that one of the issues of concern on the A417 is steepness and frequency of serious accidents on the existing route.

15. Paragraph 11.4.8: Is there a reason for not identifying mitigation or enhancement measures here? Are there any examples used on similar projects elsewhere, possibly outside the UK?

CHAPTER 15 – CLIMATE

We would welcome reference in this section to ‘Climate Emergency’, and recommend the EIA takes account wherever possible of emerging policy on climate change, such as the current announcements relating to the UK’s aspirations for ‘net zero’ carbon by 2050.

We would expect the EIA to cover both climate change mitigation and adaption. We would also seek innovative approaches to the climate emergency through this scheme. For example, has much consideration been given to solar heating caused by road surfaces, and possible responses to this such as increased tree planting?

We note paragraph 15.4.9 refers to EA guidance on climate change allowances. This is welcome. The 40% allowance for climate change is mentioned, and this is correct for the current figures for surface water. If any fluvial flood risk is identified, then a 70% allowance is the current figure to use. It should be noted that these allowances may change in the near future following the release of the UKCP18 (Climate Projections) data, as mentioned during our ‘pre-application’ discussions.

I trust the above will assist in determining the Scope of the EIA. Please do not hesitate to contact us if you have any queries. We look forward to working further with HE on this scheme through the next stages.

Yours faithfully

Ms Ruth Clare
BA (Hons), MSc, MRTPI, AIEMA
Planning Specialist – Sustainable Places

Direct dial [redacted]
Direct e-mail [redacted]

End

Hoare, Owen

From: ESP Utilities Group Ltd <donotreply@espug.com>
Sent: 16 May 2019 14:56
To: A417 Missing Link at Air Balloon
Subject: Your Reference: TR010056 Our Reference: PE138679. Plant Not Affected Notice from ES Pipelines

Marnie Woods
The Planning Inspectorate

16 May 2019

Reference: TR010056

Dear Sir/Madam,

Thank you for your recent plant enquiry at: A417 Missing Link.

I can confirm that ESP Utilities Group Ltd has no gas or electricity apparatus in the vicinity of this site address and will not be affected by your proposed works.

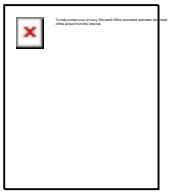
ESP Utilities Group Ltd are continually laying new gas and electricity networks and this notification is valid for 90 days from the date of this letter. If your proposed works start after this period of time, please re-submit your enquiry.

Important Notice

Please be advised that any enquiries for ESP Connections Ltd, formerly known as British Gas Connections Ltd, should be sent directly to us at the address shown above or alternatively you can email us at: PlantResponses@espug.com

Yours faithfully,

Plant Protection Team
ESP Utilities Group Ltd



Bluebird House
Mole Business Park
Leatherhead
KT22 7BA
☎ 01372 587500 01372 377996

http://www.espug.com

Hoare, Owen

From: FPL - Conx Request <ConnectionRequest@fulcrum.co.uk>
Sent: 15 May 2019 16:57
To: A417 Missing Link at Air Balloon
Subject: RE: TR010056 - A417 Missing Link - EIA Scoping Notification and Consultation

Good afternoon,

We have no comments

Many thanks,

SIMON WATTON | Gas Design Engineer
Direct: [redacted]
Email: [redacted] | Web: www.fulcrum.co.uk
FULCRUM
Address: Fulcrum Pipelines, 2 Europa View, Sheffield Business Park, Sheffield, S9 1XH. Tel: 03330 146 455

From: A417 Missing Link at Air Balloon <A417MissingLink@planninginspectorate.gov.uk>
Sent: 15 May 2019 14:22
Subject: TR010056 - A417 Missing Link - EIA Scoping Notification and Consultation

Dear Sir/Madam,

Please see attached correspondence on the proposed A417 Missing Link.
Please note the deadline for consultation responses is 12 June 2019 and is a statutory requirement that cannot be extended.

Kind regards,

Marnie Woods
Senior EIA and Land Rights Advisor
Major Casework Directorate
The Planning Inspectorate, Temple Quay House, Temple Quay, Bristol BS1 6PN
Direct Line: 0303 444 5298
Helpline: 0303 444 5000
Email: marnie.woods@planninginspectorate.gov.uk

Web: https://infrastructure.planninginspectorate.gov.uk/ (National Infrastructure Planning)

Web: www.gov.uk/government/organisations/planning-inspectorate (The Planning Inspectorate)

Twitter: @PINSgov

This communication does not constitute legal advice.
Please view our Privacy Notice before sending information to the Planning Inspectorate.

Community and Infrastructure
Shire Hall
Gloucester
GL1 2TH
11th June
[redacted]
Your ref: TR 010056 – 000002
Our ref: A417Scop/RN/

The Planning Inspectorate
Major Casework Directorate
Temple Quay House
2 The Square
Bristol BS1 6PN

Dear Sir/Madam

Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017(the EIA Regulations) – Regulations 10 and 11

Application by Highways England (the Applicant) for an Order granting Development Consent for the A417 Missing Link (the Proposed Development)

Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if requested

Thank you for consulting Gloucestershire County Council (GCC) on the above matter. I have the following officer level comments to make.

Chapter 1 – Introduction

1.3.1 – Details of the overall length of the Scheme and the current site area within the draft Red Line Boundary, to assist in demonstrating that the project meets the NSIP definition provided in the paragraph would be useful.
1.4 – The planning policy context section should make reference to relevant local planning policy and the adopted development plan, as matters that are likely to be considered by the Secretary of State to be important and relevant to the consideration of the NSIP proposal, particularly the local economic, social and environmental impacts of the Scheme. The consideration of local planning policy will also be an integral component of the LPA's Local Impact Report.
1.4.5 and Footnote 4 - The reference to the NPPF needs updating to the National Planning Policy Framework, February 2019. All references to the NPPF should utilise the revised guidance.

Chapter 2 – The Scheme

2.3.5 – The paragraph states: *"No **additional** internationally designated sites of nature conservation or heritage value are within the Scheme"* – are there other international designations which have not been noted?
2.4.2 – The first sentence is confusing in terms of how and when the decision will be made on the selected A436 link road alternative connection. What will be the process of selection and will the consideration of the three alternatives be subject to pre-application public consultation and/or local stakeholder engagement? (It is noted in paragraph 3.2.8 that the three options have been subject to environmental, economic, and technical assessment.)
2.4.5 and 2.4.18 – Similar to comments on paragraph 2.4.2, will the three alternative A436 link road options be subject to pre-application consultation to inform the final selection?
2.4.11–2.4.12 - Cold Slad and Cold Slad Lane are not included on Figure 2.1, so it is difficult to locate the proposals described here.
2.4.13 – Where exactly is the "green bridge" to be developed?

Chapter 3 – Assessment of alternatives

This chapter would benefit from the inclusion of a diagram showing the broad locations of the key route options considered.

Chapter 4 – Consultation

4.4.10 – The paragraph sounds fairly non-committal regarding the influence that responses to the statutory consultation may have on the design of the Scheme. The paragraph should make reference to the iterative design process, informed by assessment and ongoing consultation. The process of potential further consultation rounds should also be set out here, in the event of any design changes to the Scheme, which will require further assessment and consultation.

Chapter 5 – Environmental assessment methodology

5.5.2 – Recommend the inclusion of the following additional chapters as part of the ES structure:

- Summary of Effects chapter
- Summary of Proposed Mitigation chapter
- Community Effects chapter (This would provide a summary of the impacts upon each local community likely to be effected by the Scheme, which will be a useful resource and reference point for residents in the vicinity of the Scheme, who will want to know the various impacts on their properties and communities)

Chapter 6 - Air Quality

We acknowledge that best practice guidance documents have been referenced. Air quality guidance is frequently being updated and tools refreshed. The report acknowledges that the latest available versions of guidance will be used when the Environmental Statement is prepared which may differ from those referenced in the Scoping Report.

Although the report identifies EU Limit Value Compliance, it does not identify that one PCM link is expected to exceed the EU Limit Value in 2017 on the A40 west of Cheltenham, located 5 km north of the proposed scheme. If the Affected Road Network, ARN includes this link, additional assessment of its ability to meet the EU Limit Value with and without the scheme may be required.

It would be appropriate to confirm the proposed assessment methodology when the affected road network has been established with the Cotswold District Council. This will ensure the most recently

available monitoring data is included and review any assessments of EU Limit Value Compliance completed by neighbouring local authorities where they might be affected by the ARN.

Chapter 7 - Cultural Heritage

In addition to geophysical survey, monitoring of GI works, historic maps and lidar, GCC would expect the implementation of a programme of aerial photographic rectification and trenched archaeological evaluation targeted on anomalies detected by geophysics, lidar and aerial photography but also sampling areas where these techniques have not identified potential archaeology). This would be the typical and responsible approach in support of an ES for such a large off-line scheme within an archaeologically sensitive landscape. The use of archaeological fieldwalking survey as part of the evaluative suite of techniques could also be considered.

Chapter 8 - Landscape and Visual Effects

The information proposed to be included in the ES, the methodology, exclusions and assumptions are broadly appropriate. A study area of 1km, extended where necessary to include areas of higher ground, has been proposed and again we would agree with this. In accordance with the guidance documents referenced, we would expect the assessment to be informed by a range of illustrative information including plans showing zones of theoretical visibility, zone of visual influence, topography, public rights of way, landscape character areas and designations. Supporting imagery should include photography, photomontages and cross-sections as appropriate to demonstrate the potential impacts of the Scheme and agreed in advance with the local authority. If time allows, photography and photomontages should be undertaken in winter months to present a worst-case scenario.

Chapter 9 -Geology and Soils

9.1 Study Area

9.1.2 The proposed buffers around the Scheme boundary for the study area (500m to assess potential migration of contamination and 1km for the assessment of impacts to sensitive receptors) are considered appropriate.

9.2 Baseline Conditions

9.2.1 – 9.2.28 The sources of information used for the establishment of the baseline conditions appear to be appropriate.

9.2.29 It is noted that potential contaminative land uses have been identified within the Scheme boundary and in the study area which will require further assessment. This is appropriate.

9.3 Potential Impacts

9.3.1 – 9.3.10 Quarrying and mining has taken place in the region and it is noted in paragraph 9.2.27 that Mineral Safeguarding Areas will be discussed in Chapter 11. However, there is no mention of impacts from ground instability from these workings being considered as part of the impacts on Geology and Soils, or alternatively ruled out given depths, distances and age of workings. A section addressing this should be added into the ES.

9.3.1 – 9.3.10 Physical effects of the Scheme on geology and soils in relation to soil deterioration is briefly mentioned paragraph 9.3.5. This is assumed to cover soil erosion and deterioration in quality and consolidation. Changes in physical topography, re-use of soils and generation of waste soils have not been considered and should be included in the assessment or text added to signpost the reader to where these are considered (possibly Chapter 11).

9.3.10 It is stated that the Scheme will not result in any operational impacts on geology and soils and operational impacts have been scoped out of the assessment (paragraph 9.6.3). However, it is considered that potential effects may occur during operation (e.g. introduction of new contamination sources) and that they should be scoped into the assessment.

9.4 Design Mitigation and Enhancement Measures

9.4.1 – 9.4.11 The mitigation measures proposed for the construction of the Scheme appear to be appropriate based on the information provided.

9.4.2 It is noted that an Outline Environmental Management Plan (OEMP) will be developed as part of the Environmental Statement and a full Construction Environmental Management Plan (CEMP) will be prepared by the appointed Contractor, to include a Soils Management Plan (SMP) for agricultural land (paragraph 9.4.5).

9.4.10 It is noted that a ground investigation and qualitative and quantitative risk assessment will be undertaken to provide further information on potential contamination impacts. This is appropriate.

9.4.13 Operational mitigation measures should be considered following further assessment of potential operational impacts.

9.6 Assessment Methodology

9.6.1 It is noted that further assessment of the effects on geology and soils will be undertaken for the ES in accordance with a DMRB detailed level assessment. This method is generally appropriate. However, this should include an assessment of ground stability and effects associated with re-use of soils and the generation of waste soils or information provided in the Scoping Report to scope them out of the ES.

9.6.2 A Scheme specific ground investigation and ALC soil resources survey is proposed to be undertaken prior to production of the ES in order to establish baseline conditions. It is noted that the ground investigation should be suitably scoped to allow potential effects from contamination to be fully assessed. Gloucester County Council's Contaminated Land Officer should also be consulted on the scope of the investigation works.

9.6.3 Operational effects of the Scheme should be considered as part of the ES.

9.6.4 – 9.6.10 The assessment methodology for evaluating the sensitivity of receptors, the magnitude of potential impacts and the significance of effects is noted to be in general accordance with guidance outlined in 'DMRB Volume 11 Section 2 Part 5 HA (205/08)'. Given that the DMRB guidance is very high level, consideration should also be given to using guidance in IAN 125/15 and any other relevant Interim Advice Notes.

9.6.6 Guidance document BS10175 has been updated to the A2:2017 version and BS8485 has been updated to the A1:2019 version. Also, for the next stage of works it should be considered using / referencing the Environment Agency's Land Contamination: Risk Management Guidance published 5 June 2019, which supersedes CLR11. Although CLR11 is still valid, it will be withdrawn in December 2019.

9.6.6 Reference 51 is incorrect as it references Part 6 – the Land Use guidance and not Part 11 – the Geology and Soil DMRB guidance.

9.6.10 It is stated that effects considered to be significant are highlighted in bold in Table 9.4, however, it is noted that no impacts are highlighted in this table.

Chapter 10 – Biodiversity

General

We are pleased to see that as well as the DMRB the Ecological Impact Assessment (EcIA) part of the EIA will be in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment. Also useful would be reference to guidance in

GCC's Highways Biodiversity Plan (under review) which can be found at http://www.gloucestershire.gov.uk/extra/article/109520/Biodiversity-and-Highways . Highways England and Arup are also recommended to reference Section 6 of the British Standard BS 42020:2013 (Biodiversity — Code of practice for planning and development) to guide the production of the Environmental Statement. After reviewing the scoping report we wish the following matters in particular but not exclusively to be covered by the EIA and the planned biodiversity chapter (10) of the Environmental Statement.

Study Area
Bat roost/roost potential: 100m - This seems appropriate in the absence of any published guidance.
Other species such as water vole, dormouse, reptiles and wintering and breeding birds: 250m - This seems appropriate in the absence of any published guidance.
Air quality impacts: 200m – this is in line with Highways England guidance and recent technical advice from Natural England.

Baseline Conditions
It is noted that relevant biodiversity records have been obtained already (2017) but these should be refreshed by carrying out another notable sites and species search with the Gloucestershire Centre for Environmental Records (GCER - Tel. 01452 383333 or Email gcer@gloucestershirewildlifetrust.co.uk). It is noted that the potential for nearby 'Conservation Road Verges' (CRVs) to be affected by the scheme may have been overlooked. These CRVs are to be found in the Gloucestershire register at:
http://www.gloucestershire.gov.uk/extra/article/109520/Biodiversity-and-Highways
However CRVs would be picked up with any records search that captures local site information from GCER. Although the Scoping document indicates that survey for bats, great crested newt, dormouse, water vole, otter, reptiles and white clawed crayfish are on-going, no details of survey methods or approach and methods is given, so it is not possible to comment on whether the methods are appropriate.

Potential Impacts
Notable sites might be directly or indirectly affected via land take and gain or changes in air quality, water quantity or quality, traffic movements and potentially changes in recreational use. We agree that the scheme will need to be screened to see if a likely significant effect is likely upon European Sites in particular the Cotswold Beechwoods SAC.

Refinement of design to avoid direct impacts to Crickley Hill and Barrow Wake SSSI designation are welcome. Any direct or indirect impacts on any SSSI should be considered carefully in the context of the National Planning Policy Framework; Para 175: [..] b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

Direct and indirect impacts on non-statutory designations including Barrow Wake GWT Reserve should be avoided were possible and minimised or compensated where necessary.

Habitat enhancement and creation proposals should be demonstrably achievable, appropriate to any impacts and coherent with the wider habitat, in particular wildlife corridors.

Any options appraisal to define an appropriate route or design options should give appropriate weight to biodiversity impacts.

Legally protected species, priority species and habitats on the English List (S41 NERC Act) as well as landscape features in the area are ecological constraints for the proposed development. These require investigation by field survey and assessment in the design phase, during construction and post management of the development, e.g. on new embankments/cuttings and green bridge. We note that surveys for such species will stretch into the current year. Whilst it is recognised that surveys for protected species including bats and great crested newts are on-going, inclusion of design measures to avoid, minimise or compensate impacts on these groups at early design stages, or at a point where there is design flexibility should be considered.

The ecological surveys carried out should be fairly recent and up-to-date as possible. These should be detailed in the biodiversity chapter of the Environmental Statement. We would also expect to see the methodology for assigning a value to each ecological resource (sites, habitats, features and species) and the magnitude/significance of impact upon them. An evidence based assessment of direct, indirect, in-combination and residual effects on each ecological resource (ecosystems, networks, designated sites, habitats, landscape features and species) will need to be presented. All mitigation measures for identified effects must be set out as well as the opportunities for the enhancement of biodiversity that must be implemented alongside essential mitigation measures on the site and/or adjoining areas.

Trees protected by a TPO or by virtue of being situated in a Conservation Area may be present. Cotswold District Council and Tewkesbury Borough Council will be able to determine the existence of protected trees for you. The Woodland Trust also has a mapping tool at http://www.ancient-tree-hunt.org.uk/discoveries/interactivemap/ which reveals the presence of veteran trees as well as ancient woodland from the ancient woodland inventory for England. The scoping document identifies the loss of one veteran tree (in the grounds of the Air Balloon public house), but also indicates (in section 10.5) that there will be loss of potentially Ancient Woodland at Emma's Grove would also be removed, it is therefore possible that further veteran trees could be lost. Where any loss of veteran trees should be should be considered carefully in the context of the National Planning Policy Framework;

'Para 175 […] c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons[58] and a suitable compensation strategy exists; Footnote 58: For example, infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat.'

Design mitigation and enhancement measures
We note that an Outline Environmental Management Plan (OEMP) will be produced to support the Environmental statement and be the basis of a more detailed Construction Environmental Management Plan (CEMP) which should be an obligation if consent is granted fore the development. The CEMP should incorporate and/or reference all biodiversity mitigation, enhancement and restoration measures. The CEMP will be an important document for all personnel involved with the development. The will need to contain sufficient detail to fully inform environmental assessment and will need to be adequately secured through the DCO. We see that post development the CEMP would be the basis for a Handover Environmental Management Plan (HEMP) for the highways operational/maintenance body/ies to implement. Part of the HEMP and potentially also the CEMP would be post-scheme monitoring for identified significant impacts to resources of ecological value

where mitigation has been proposed to reduce/compensate for the level of impact as mitigation cannot be guaranteed to be successful. The results of the monitoring must be used to vary or alter the mitigation where the actual impacts are greater than the predicted impacts. Measures must be taken to rectify any ineffective mitigation but also enhancement measures given the location and that net biodiversity gain should be achieved.

The final site landscaping scheme should be described and be appropriate in line with local and government policy/objectives. Habitat creation and enhancement must be put forward as part of this landscape led scheme. Information within the Environmental Statement should provide confidence that new/extended habitats can be created and managed for biodiversity benefit in the long-term. The proposed green bridge measure is a significant one and its location, design and aftercare will be fundamental to its ultimate success for biodiversity mitigation and net gain.

Similarly the treatment of new exposed cuttings and embankments provide an excellent opportunity to create low fertility substrates for calcareous (limestone) grassland to flourish and provide a haven for a wide variety of plant and some notable animal species such as pollinating butterflies, bees, beetles and flies. The use of imported fertile top soil should be avoided except where it is essential to establish trees quickly for landscape (visual mitigation) reasons perhaps? Habitat creation proposals should be sufficiently detailed to ensure that any commitments are met and should be appropriately secured to ensure that they are delivered and maintained throughout the operational of the scheme.

The intention to provide overall net gain is welcomed, and in is in line with current stated UK government aspirations. Use of appropriate metric for measuring biodiversity change should be considered as the referenced Highways England guidance (Chief Highway Engineer Memorandum 422/18) does not include multipliers that other systems use which account for establishment of habitat. The use of net change metric should be used in the context of a mitigation hierarchy (e.g. avoid > minimise > compensate), with particular relevance to the loss of irreplaceable habitats (including veteran trees and ancient woodland).

Chapter 11 - Material Assets and Waste

The “waste generation” section should focus on construction and demolition waste. When the ES is written, the Environment Agency Waste Data Interrogator tool for the most recent year, should be used.

A worst-case scenario approach should have been used in the assessment methodology for waste management. The report identifies there will be surplus soil, therefore an assumption should be made that 100% of this requires management off-site to distinguish between any design options and inform scheme development.

The Government’s new resources and waste strategy should be considered in the production of the ES.

GCC agree that materials and waste is scoped out of operational phase. However, GCC do not agree that materials are scoped out of construction phase, in combination with other schemes, this could have a significant effect on material reserves within Gloucestershire.

Chapter 12 - Noise and Vibration

The scoping assessment undertaken for the noise chapter seems to be appropriate. Relevant methodology has been followed, reference made to all the relevant standards and guidelines, and appears to be in line with the relevant major project instruction.

There are appropriate estimates of the likelihood of potential significant impacts. The receptors and study area that they describe are in line with relevant guidance, although these are not shown in the report.

Noise has been covered in the cumulative effects chapter, indicating that this would also be captured. The conclusions on scoping in/out of the various noise and vibration aspects of the project (chapter 17) are appropriate.

Chapter 13 - Population and human health

For the assessment of each of the sub-topics which make up the Population and Health topic, the proposed scope, approach and methodology are largely acceptable.

The scope of the assessment should be strengthened in the following two areas:

- The baseline conditions in respect of Development Land should be drawn from a review of planning history in the study area (i.e. extant planning permissions) not just the local authorities' development plans; and
- It is noted that the Scheme seeks to reduce congestion which in turn should address the problem of drivers are diverting on to local roads to avoid that congestion. Therefore it will be important for the EIA to identify and assess the positive effects of the Scheme on Population and Human Health arising from any reduction in traffic using local roads. The Affected Road Network (ARN) should be considered and, if appropriate, the study area for the Severance and Amenity assessments should be adjusted.

Chapter 14 – Road Drainage and Water Environment

14.1.1 It is stated that the study comprises a 1 km corridor surrounding the Scheme, extended to included features further downstream (surface water features) or down-gradient (groundwater features) that may also be potentially impacted.
The County Council agree with the proposed study area but would like the Environmental Statement to make appropriate use of plans to depict the study area.

14.2 The Environmental Statement should make appropriate use of plans to depict the information discussed in section 14.2 (Baseline conditions).
14.2.9 The Cycle 2 (2016) status for the groundwater bodies would be better presented in a table in the Environment Statement.
14.2.14 It states licensed and unlicensed groundwater abstractions that do not have SPZs assigned to them may also be present.
All licenced and unlicensed groundwater abstractions within the study area should be reported in the Environmental Statement.
14.2.19 There is no mention of licensed or unlicensed surface water abstractions in the study area. The County Council would expect the Environmental Statement to confirm whether any surface water abstractions are present within the study area. The County Council notes that section 14.6.12 states a water feature survey commenced in April 2018 and includes investigating abstractions.
14.2.21 More detail on the baseline flood risk in the area would be expected giving information on both fluvial and surface water flood risk, this should be provided within the ES and can be based on published flood outlines at this stage.

14.2.30 It states there are a number of small ponds in the area that may be at least partially groundwater dependent or fed by springs.
The County Council would expect the relationship between these ponds and groundwater or springs to be confirmed in the Environmental Statement.

14.3 The potential construction impacts do not include groundwater and surface water quality potentially being impacted by the mobilisation of contamination following disturbance of contaminated ground or groundwater. This is assessed in Geology and Soils. The Geology and soils assessment uses a buffer of 500 m, is this sufficient to assess the risk to groundwater quality if dewatering is to occur and given the high groundwater flow rate mentioned in chapter 14.
14.3 Dewatering – if dewatering is to take place during the development is the study area (1 km) still valid?
14.3.4/12 In this and a number of sections the EIA states that deep cuttings and earthworks could affect surface water flow distribution which could impact on properties at risk of flooding. The County Council would expect to see this issue quantified using hydrological and hydraulic modelling at a later stage.14.3.11 The public water supply at Baunton is mentioned here, this is not discussed in the baseline section, is that because it is outside of the study area? If so, consider extending the study area to align with the justification in section 14.1.1.
14.3.12 The proposed realignment of the Crickley Hill stream tributary will need to be modelled to assess flood risk downstream and to quantify the impact of any proposed attenuation measures at a later stage, this should be scoped further in the ES.
14.3.23 It states the design would require Crickley Hill stream tributary to be culverted or realigned along much of its length within the study area. A WFD compliance assessment would be required for any alteration of surface waters but this is not mentioned.

14.4.2 The County Council welcomes the commitment to monitoring for the water environment, this should be scoped further for the Environmental Statement and in line with the requirements of HE. The commitment is not paralleled in section 14.4.10.
14.4.4 Section mentions consent to work within 8 meters of a main river and potential dewatering, no mention of discharge consents.
14.4.10 Agree that a period of groundwater and surface water quality monitoring is required prior to construction to determine environmental baseline, this should include groundwater level monitoring as well.

14.5.4 The section states that the development has the potential to impact on groundwater flows to springs and rivers, consider including abstractions in line with 14.3.9?
14.5.11 States betterment downstream could be achieved using drainage design, this is potentially possible however in order to accept this The County Council would need it to be quantified and demonstrated through the use of hydraulic modelling.
14.5.15 Risk that monitoring boreholes may result in new contamination pathways form surface and between aquifers is mentioned here, why is this risk not present during operation?
14.5.17 This section indicates that there is the potential that location of the springs may change. Is this due to the change in groundwater flow or engineered? The impact of the change in spring discharge (flood risk, ecological, contamination) should be assessed.

14.6.5 The County Council agrees with the proposed methods for assessing the potential impacts of routine run-off on surface waters.
14.6.7 The County Council agrees with the proposed method for assessing the potential impacts of routine run-off to groundwater.
14.6.8 The County Council agrees with the proposed assessment of pollution impacts on surface waters and groundwater from accidental spillages.

14.6.15 It is agreed that at least one year's data is required to understand seasonal variations, the frequency of monitoring is not mentioned here, this needs to be sufficient to understand the variations in groundwater level and quality.
14.6.16 It states a WFD assessment will be undertaken in accordance with Environment Agency guidance. The County Council expect the Environmental Statement to include the methodology/guidance used for the WFD assessment. Reference to the WFD assessment should be made where relevant to other sections of the report – e.g. geomorphological assessment, mitigation and impacts sections.

14.7.1 It states the chapter has been prepared using publicity available information only. The County Council expect this publicity available data to be reviewed prior to inclusion in the Environmental Statement.
14.7.2 This states that Phase 1 GI, groundwater monitoring and samples and water features survey are ongoing and findings will be considered during preliminary design. These should also be included in the Environmental Statement.
14.7.3 It is agreed that considerable uncertainty with respect to the assessment of groundwater risks remain, this is expected to be addressed in the Environmental Statement.

Chapter 15 - Climate

15.1 Study Area
The scope presented is very high level, the following issues should be clarified to ensure a robust assessment:

- The footnote states that the embodied carbon data that will be used to calculate material emissions will include end-of-life emissions for the material, however paragraph 15.1.5 specifically excludes end-of-life stages. This needs to be clarified, as currently it appears that some end-of-life elements are included, and some not.
- It is stated that the construction process which will be included is construction plant use. Presumably this means diesel fuel, however this is not clear. Additionally, what about water use, waste transport and processing, or employee commuting?
- Reference is made to PAS 2080:2016 as being the source of the scope, however there are PAS 2080 lifecycle modules not included without any justification for exclusions. Justifications should be given for exclusions and it must be ensured that these exclusions do not impact the validity of the result.
- It should be stated whether offsetting and sequestration, for example through tree planting (linked with landscape and biodiversity), will be included in the assessment.

15.2 Baseline Conditions

- It is not clear how the baseline conditions presented – which are historic national and local transport emissions – will be used in the assessment. What about the scheme's baseline emissions, i.e., operational emissions from the do minimum scenario? The 'future baseline' also does not appear to take the UK Carbon Budgets into account.

15.3 Potential Impacts

- It is stated that embodied carbon emissions from the use of construction materials are the main contributor to climate change, however there is no evidence provided to support this. It is important that assumptions are not made which could lead to missing low-carbon solutions.
- It is identified that operation of the scheme has the potential to result in an increase in GHG emissions, however it is not identified that the scheme could lead to reduced emissions from

reduced congestion. This could suggest a lack of ambition which could lead to missing lower-carbon options.

15.4 Description of likely significant effects

- What about the discussion of significance in the National Policy Statement for National Networks? Can anything be said about whether a significant effect is likely?

15.6 Assessment methodology

- 15.6.1. does not really describe the level or scope of assessment, or the justification for why this level of assessment is appropriate.
- 15.6.6. describes only the approach to assessing significance of vulnerability to climate. As there is no standard approach to determining the significance of effect on climate, it is important to understand how this will be done.
- 15.6.7 this does not explain how the baseline will be used.

15.7 Assessment assumptions and limitations

- Nothing included here for effects on climate. Will no assumptions be made to produce the input data? How will these be dealt with?

Chapter 16 – Assessment of cumulative effects

16.1.4 – It is not clear whether the assessment of the combined effects of the Scheme will focus on individual receptors (e.g. properties within the vicinity of the Scheme), specific villages and communities within the vicinity of the Scheme, as well as environmental receptors. A definition of the type of receptors intended to be assessed should be included early in the chapter.

16.1.10 and Table 16.1 – Is there a danger of double counting the cumulative effects of the proposed Scheme with other development, given the Traffic Model will include all permitted developments and forecasts for development based on land allocations in the adopted and emerging Development Plans, within the Scheme's zone of influence.

16.1.11 – What are the reasons why the assessment of cumulative effects will exclude Tier 3 projects identified in adopted and emerging Development Plans, and projects identified in other plans and programmes?

16.1.15 – The paragraph states: *"The significance of cumulative effects upon each environmental resource would then be made…"* Would that include cumulative effects on individual properties or communities within the vicinity of the Scheme?

Table 16.2 – As above, it is not clear in the table whether the combined or cumulative effects *"…upon an individual or collection of environmental receptors…",* will include effects upon individual properties or communities within the vicinity of the Scheme.

Comments from GCC as Minerals and Waste Planning Authority

<u>Minerals Comments</u>

Whilst any future major development proposal for the A417 will be dealt with as a nationally significant infrastructure project (NSIP) local planning matters including minerals will still need to be dealt with during the application stage (including the preparation of an Environment Statement). Most obvious will be the potential for mineral resource sterilisation. At the local level the emerging

Minerals Local Plan for Gloucestershire (2018 – 2032) contains a specific mineral resource safeguarding policy MS01 – which requires an assessment of resource viability and an overriding needs test to justify sterilisation. Officers acting on behalf of GCC in it is capacity as the MPA have made no initial assessment against MS01 at this time and simply present it as a potential issue requiring consideration by Highways England. Mineral sterilisation is also covered in national policy and guidance (see National Planning Policy Framework (NPPF, 2018) part 17 and Planning Practice Guidance (PPG) Mineral section).

It is noted that the emerging Minerals Local Plan (MLP) and latest Local Aggregates Assessment (LAA) has been referenced within the report. The emerging MLP is a material consideration for planning purposes. The public examination for this is scheduled for the 11th and 12th June 2019 and after this point the amount of weight attached to the MLP as a material consideration will increase in line with the NPPF. It is likely that the LAA will also be updated during 2019. Additional important information relating to the sub-national context of Gloucestershire's minerals can be found within the South West Aggregates Party reports currently located at https://www.cornwall.gov.uk/environment-and-planning/planning/minerals-waste-and-renewable-energy/south-west-aggregates-working-party/ .

The report correctly identifies that the route is located within a mineral safeguarding area and as outlined above the proposed scheme would involve a significant amount of minerals in its construction, therefore it is considered that a suitably detailed MRA would form an essential part of the EIA. It should also be noted that the route appears to impact upon a known mineral extraction site – Birdlip Quarry, based on a review of Figure 2.1 this covers the stretch immediately to the northwest of Cowley Roundabout. According to our records Birdlip Quarry is under the ownership of Hanson UK. The quarry is not currently operational although contains mineral reserves (crushed rock limestone) and is legally classified as a 'dormant' site. As a 'dormant' site these reserves do not form part of the landbank calculations outlined within the LAA. Under the provisions of the Environment Act 1995 this means no new mineral working can lawfully recommence until a scheme of modern planning conditions are approved by GCC in its capacity as the Minerals Planning Authority. It would be anticipated that the MRA should consider the future of Birdlip Quarry, including potential mineral sterilisation and that any proposals may need to consider revising the restoration for the site. The Mineral Products Association and The Planning Officers' Society have recently (April 2019) produced updated practice guidance for Minerals Safeguarding which includes useful information on the preparation of a MRA (available from https://mineralproducts.org/19-release20.htm)

Waste Comments

The Waste Core Strategy (WCS) (adopted 2012) along with 10 saved policies from the 2004 adopted Waste Local Plan forms the development plan for determining waste proposals within Gloucestershire and as such is a material consideration to this proposal. Core Policy WCS2 – Waste Reduction relates to the principles of waste minimisation and is supported by the adopted Supplementary Planning Document (SPD) - Waste minimisation in development projects. This requires a waste minimisation statement (WMS) to be prepared to support all major planning applications within the county. It is noted that the report refers to the preparation of three separate plans Construction Environmental Management Plan (CEMP), a Site Waste Management Plan (SWMP) and a Materials Management Plan (MMP). It is possible that the WMS requirements will be covered across these three documents, but a supporting WMS pointing to the relevant sections of the reports would ensure that all requirements are covered. It is noted that there would be a significant amount of inert waste generated from the proposal and therefore it is essential that this is addressed within the ES.

With regards to baseline information, the report references up-to-date information sourced from the Environment Agency, but Gloucestershire County Council published information to support the preparation of the Gloucestershire WCS. I would like to advise that some of this information is updated regularly through the Minerals and Waste Authority Monitoring Reports available from https://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/authorities-monitoring-report-amr/

It is noted that the applicant has indicated that consultation will be undertaken with Gloucestershire County Council to obtain the most recent information held on the capacity of waste management infrastructure to inform the Environmental Statement and the Gloucestershire M&WPA welcomes the engagement.

Comments from GCC as Highway Authority

GCC has considered the Scoping report produced by Highways England and would respond as follows.

Whilst committed development is mentioned, GCC as the highway authority would seek to establish that all committed development including those over and above modelled local plan scenarios is incorporated. GCC would advise HE to engage with GCC and local planning authorities to establish the over and above committed development and incorporate this into the zone of influence.

GCC considers that given the 60 year life span a forward model will need to have resilience against any future local plans at planning and highway authority levels.

GCC would also seek to be party to agreement in terms of zone of influence based on its local understanding of highways.

GCC considers that as the site is near to Noise Important Areas that agreement from all parties on traffic generation is required prior to any work being undertaken as well as agreed network diagrams. It may be necessary to obtain and agree strategic model information to support this.

This will ensure that all work is based on agreed figures for other consultants providing information to the EIA and is supportive of GCC policy and strategy.

GCC note concern that the following cannot be measured 'Fear and Intimidation'. GCC would seek clarity on the methodology that will be used to determine this.

GCC would seek to ensure that the impacts of infrastructure on air quality and noise are fully considered as well as impacts on the environment based on brake, tyre and road surface wear and micro plastics used in road surface materials _ Establish any findings from the Call for evidence undertaken by DEFR and DfT. Appears to be no mention of in potential contaminants to water courses and as a result the ocean – 'studies estimate that emissions from tyre wear alone makeup 5-10% of microplastics deposited in the oceans [Kole, et al. Wear and Tear of Tyres: A Stealthy Source of Microplastics in the Environment, Int J Environ Res Public Health. 2017 Oct; 14(10): 1265. Published online 2017 Oct 20.]

The road surface itself should be picked up as a potential risk and its sensitivity and magnitude established – particularly in terms of nitrogen species.

GCC notes the following areas where HE should consult to establish the need to balance the following issues:

Street Lighting - Road Safety vs Light Pollution & energy

Highway Alignments vs Heritage & Landscape impacts

GCC would seek clarification on the use of the word neutral on sensitivity testing as this does not appear to completely accord with negligible as stated in DMRB

Statement of Due Regard

Consideration has been given as to whether any inequality and community impact will be created by the transport and highway impacts of the proposed development. It is considered that no inequality is caused to those people who had previously utilised those sections of the existing transport network that are likely to be impacted on by the proposed development.

It is considered that the following protected groups will not be affected by the transport impacts of the proposed development: age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex, sexual orientation, other groups (such as long term unemployed), social-economically deprived groups, community cohesion, and human rights.

Public Rights of Way Comments

The PROW team is encouraged by the consultation and involvement of the team thus far and look forward to that continuing as the project progresses. Particularly in relation to the route of any diverted rights of way and to the improvement/enhancement of rights of way in the vicinity and potential ecological impact..

At 8.3.3. there is a typo – The Scheme severs the Gloucestershire Way

At 8.3.15 it is hoped signalised crossings would be avoided and alternative means of crossing the various roads utilised – under/over bridge etc.

If you would like to discuss any of the officer level points raised above, please do not hesitate to contact me.

Yours faithfully

Rob Niblett
Planning Officer
Gloucestershire County Council
[redacted]

Hoare, Owen

From: Karen Thorpe [redacted]
Sent: 16 May 2019 12:08
To: A417 Missing Link at Air Balloon
Subject: A417 Missing Link

Good afternoon,

Thank you for sending the relevant information and material regarding the Reinforcement to the A417 Missing Link.

Harlaxton Gas Networks Ltd. at this time has no assets in the area, and will not be implementing any in the near future, therefore Harlaxton has no comment to make on this scheme.

Kind Regards

Karen Thorpe
Distribution Administration Assistant

Harlaxton
Gas Networks Limited
Toll Bar Road, Marston, Grantham, Lincs, NG32 2HT

HSE

Health and Safety Executive

CEMHD Policy - Land Use Planning
NSIP Consultations
Building 1.2, Redgrave Court
Merton Road, Bootle
Merseyside, L20 7HS

Your ref: TR010056
Our ref: 4.2.1.6606

HSE email: NSIP.applications@hse.gov.uk

FAO Marnie Woods
The Planning Inspectorate
Temple Quay House
Temple Quay,
Bristol
BS1 6PN

Dear Marnie

10 June 2019

PROPOSED A417 MISSING LINK (the project)
PROPOSAL BY HIGHWAYS ENGLAND (the applicant)
INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2017 (as amended) – Regulations 10 and 11

Thank you for your letter of 15th May 2019 regarding the information to be provided in an environmental statement relating to the above project. HSE does not comment on EIA Scoping Reports but the following information is likely to be useful to the applicant.

HSE's land use planning advice

Will the proposed development fall within any of HSE's consultation distances?

With reference to 'Figure 2.1: A417 Preferred Route Announcement' contained in the document 'A417 Missing Link, Environmental Impact Assessment Scoping Report, May 2019, Highways England':

There are currently no Major Hazard Installations or Major Accident Hazard Pipelines in the vicinity of the proposed road.

Although there are currently no Major Hazard Installations or Major Accident Hazard Pipelines in the vicinity of the proposed road, should a Hazardous Substances Consent be granted or there is notification of a Major Accident Hazard Pipeline prior to the determination of the present application, then HSE reserves the right to revise its advice.

Consideration of risk assessments

Regulation 5(4) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 requires the assessment of significant effects to include, where relevant, the expected significant effects arising from the proposed development's vulnerability to major accidents. HSE's role on NSIPs is summarised in the following Advice Note 11 An Annex on the Planning Inspectorate's website - Annex G – The Health and Safety Executive . This document includes consideration of risk assessments on page 3.

Explosives sites

HSE has no comment to make as there are no licensed explosive sites in the vicinity.

Electrical Safety

No comment, from a planning perspective.

Please send any further electronic communication on this project directly to the HSE's designated e-mail account for NSIP applications. Alternatively any hard copy correspondence should be sent to:

Mr Dave Adams (MHPD)
NSIP Consultations
1.2 Redgrave Court
Merton Road
Bootle, Merseyside
L20 7HS

Yours sincerely

[redacted]

Dave Adams
CEMHD4 Policy

Historic England

Ms M Woods
Senior EIA and Land Rights Advisor
Mahor Casework Directorate
Temple Quay House
2 The Square
Bristol
BS1 6PN

12 June 2019

Dear Ms Woods

RE: Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017(the EIA Regulations) - Regulations 10 and 11

Application by Highways England (the Applicant) for an Order granting Development Consent for the A417 Missing Link (the Proposed Development)

Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if requested

PINS Ref: TR010056-000002

Thank you for consulting Historic England in respect of this request for a scoping opinion. Historic England has been involved with this project through the Environmental Technical Working Group. We acknowledge the need for the road to relieve congestion, air pollution and accidents. The scheme proposed has been promoted as a landscape led scheme which is committed to look at opportunities to enhance the natural and historic environment.

Overall the Scoping report includes a range of assessment methodologies to allow for an understanding of the environmental impacts. However we are concerned that the proposed assessment methodology set out by the applicant in their EIA Scoping Report, Chapter 7 Cultural Heritage, is not sufficient. The assessments proposed will not allow a full understanding of the impact of the scheme on designated heritage assets and a full understanding of the buried archaeology of the site.

The proposed road scheme has the potential to impact on a number of known designated and undesignated Heritage Assets. These assets are identified in Chapter 7 of the Scoping Report (7.2.2--13).

Of the designated archaeology identified within the report (7.7.2) we have particular concerns regarding the Emma's Grove Barrows and Crickley Hill. The Scoping outlines the guidance to be used to understand the impacts on setting of Assets. This includes the Historic England Good Practice Advice Planning Note 3: The Setting of Historic Assets (7.6.4). The Note does not set a setting boundary as this can be very different for different assets. The Environmental Statement (ES) should not be restricted to the 1km radius when assessing heritage assets in the vicinity whose significance may be impacted on by the road scheme.

The significance of the Emma's Grove Barrows is not fully known. It is uncertain as to the date of the large mound, which may be a prehistoric Barrow but could be an early medieval

motte (timber and earth castle). To determine its significance there will need to be further work to establish its date.

The known archaeology is discussed (7.2.8-12) and over 24 known sites are identified dating from the Mesolithic to WWII, but they not illustrated on the figures (Environmental Constraints Plan Sheet 1 of 3 and 2 of 3). There is a symbol for buried archaeology in the key but only one location is marked on the figures.

We also have concerns regarding the assessment of the archaeology along the route. The survey techniques listed in section 7.6.3 do not include any form of archaeological evaluation. This is essential to ensure the archaeology is characterised to allow us to provide informed advice on any mitigation strategy proposed. The survey techniques proposed will provide an idea of what may be present along the route corridor, but these techniques will not identify may types of archaeology; which may be of National Significance.

There is some archaeology which is potentially of National Importance, e.g. Stockwell Deserted Medieval Village and the enclosure to the NE of Emma's Grove. There is the potential for other sites to be identified through the ES process. It is therefore important to understand these sites and characterise them. The only way to do this is through archaeological evaluation trenching.

We understand that access to some area may be restricted but other techniques could be used, like Field Walking to try to understand the date and extent of archaeology in an area. It is therefore essential that a range of techniques are employed to ensure as full an understanding of the archaeology is gained to inform the ES of the EIA.

Previous work along the A417 corridor has produced significant archaeological sites which had to be fully excavated prior to construction. To ensure road construction is not delayed by archaeological work it needs to be programmed in as early as possible to any pre-construction and construction programme. To do this as full an understanding of that archaeology is needed to plan suitable archaeological mitigation.

The DMRB Vol. 1, Section 2 Part 1 HA 204/08 Section 1.6 clearly states 'All environmental effects that are likely to be significant, or risk being significant, should be assessed and reported.'

The inclusion of the Green Bridge is very welcome (2.4.13) and we feel this is an essential part of the scheme as it helps deliver the overarching landscape led design principles of the project (2.2.2). Although only one Green Bridge is mentioned the ES assessment should look at options for additional bridges which will help the scheme to achieve those principles.

The impact of this scheme on the landscape, and all the elements that make that landscape, needs to be looked at holistically. The links of archaeology to other subjects is very strong and we welcome the recognition of this in Chapter 16. The soils, geology and water courses all influenced where and how humans exploited the landscape. The changes made by humans to that landscape, to help them survive and thrive, has left us with the distinctive character of the Cotswolds today; which is recognised as being of National Significance through its designation as an AONB.

Noise and tranquillity (Chapter 12) is especially linked to the experience of Heritage Assets. These should be included in the noise sensitive receptor list (12.2.3). This will ensure the proposals in Chapter 16 are fully taken forward as well as the a full settings assessment (7.6.2 and 7.6.4).

In Chapter 11 when discussing the surplus material from the excavation that cannot be used on site (11.3.6), there is no indication as to where this may go. When considering this for the ES any site chosen, which is not a landfill site, needs to be assessed archaeologically for any impacts.

Similarly in Chapter 8 any off site planting for screening or mitigation purposes needs to have the area being planted assessed for impacts on archaeology.

We note that in Table 17.1 buried archaeology has been scoped out of the operation stage of the scheme. However we do not yet know what archaeology there is along, and beside the route, that may be affected by operational changes; for example to hydrology. Perched water tables and water logged sites may exist which could be impacted on if the water table is altered. Further work through the ES needs to be undertaken to establish if this is the case.

In our view the assessment methodology proposed will not provide sufficient information to allow an understanding of the buried archaeology, its nature, preservation and significance. Without that level of assessment we will not be able to provide detailed advice on the mitigation proposals put forward in a Construction Environment Management Plan for the DCO. The ES should include the results of archaeological trial trenching. The methodology for this should be agreed with the Local Authorities Archaeological Curators and Historic England.

This advice is based on the submitted road corridor and initial design. If later design and engineering changes mean there are changes to this there may more significant impacts to the Historic Environment. For example if the cutting just north of the Emma's Grove Barrows had to be moved closer to the barrows, for engineering and design reasons, this will have a greater impact on the barrows.

If you have any queries about any of the above, or would like to discuss anything further, please contact me

Yours Sincerely

[redacted]

Mel Barge (Ms)
Inspector of Ancient Monuments
[redacted]

Ministry of Defence

Defence Infrastructure Organisation

Marnie Woods
Senior EIA & Land Rights Advisor
The Planning Inspectorate

Safeguarding Department
Statutory & Offshore

Defence Infrastructure Organisation
Kingston Road
Sutton Coldfield
West Midlands
B75 7RL

Tel: [redacted]
E-mail: DIO-safeguarding-statutory@mod.gov.uk
www.mod.uk/DIO

Your Reference: TR010056-000002
Our reference: 10045760

10 June 2019

Dear Ms Woods

MOD Safeguarding – SITE OUTSIDE SAFEGUARDING AREA

Proposal: A417 'Missing Link' for an order granting development to change the single carriageway between Cowley roundabout and Checkley Hill into a dual carriageway.

Location: Gloucestershire

Planning Ref: TR010056-000002

Thank you for consulting Defence Infrastructure Organisation (DIO) on the above proposed development. This application relates to a site outside of Ministry of Defence (MOD) statutory safeguarding areas. We can therefore confirm that the MOD has no safeguarding objections to this proposal.

I trust this adequately explains our position on this matter, however should you have any questions regarding this matter please do not hesitate to contact me.

Yours sincerely

[redacted]

Debi Parker
Safeguarding Assistant

National Grid House
Warwick Technology Park
Gallows Hill, Warwick
CV34 6DA

Sent electronically to:

A417MissingLink@PlanningInspectorate.gov.uk

Anne Holdsworth
DCO Liaison Officer
Land & Business Support

[redacted]
Tel: [redacted]

www.nationalgrid.com

24th May 2019

FOR THE ATTENTION OF MARNIE WOODS

Dear Madam

Ref: Application by Highways England for an Order Granting Development Consent for the A417 Missing Link
Scoping Notification and Consultation

This is a response on behalf of National Grid Electricity Transmission PLC (NGET) and National Grid Gas PLC (NGG).

I refer to your letter dated 15th May 2019 regarding the Proposed Development.

National Grid infrastructure within / in close proximity to the order boundary:

Electricity Transmission

National Grid Electricity Transmission has no apparatus within the proposed order limits.
It does however have one overhead line in close proximity being:

- To the north of the order limits extents
  ZFB 400kV overhead line – Feckenham to Waltham
  Cowley to Waltham

For this reason, NGET wishes to be consulted if there are any changes to the proposed order limits that may include and/or impact on the above apparatus. I attach an Asset Plan to show the location of the overhead line.

Gas Transmission

National Grid Gas has no apparatus within or in close proximity to the proposed order limits.

If you require any further information please do not hesitate to contact me.

[redacted]

Anne Holdsworth

nationalgrid | A417 Missing Link Asset Plan

Legend:

- Substations Commissioned
- Circuits
  - Commissioned
  - Decommissioned Group
  - Planned and Spares
- OHL 400Kv Commissioned
- OHL 275Kv Commissioned
- OHL 132Kv & Below Commissioned
- Towers Commissioned
- Buried Cable Commissioned
- Fibre Cable Commissioned
- Pilot Cable
- Oil Pipe
- Cooling Pipe
- Cooling Station
- RAMM
- Overhead Transmission Line
- Operational Zones
- Cable Tunnel
- Gas Operational Boundary
- Gas Site Boundary
- Trial Hole
- Vantage Point
- Block Valve
- Compressor
- LNG Site
- Multijunction
- Minimum Offtake
- Future Minimum Offtake
- Offtake
- Pressure Reduction Installation
- Pig Trap
- Terminal
- Transferred Offtake
- Aerial Marker Post
- Pipe Crossing Point
- CP Test Post
- Transformer Rectifier
- Pipeline Crossing
- Sleeve
  - Nitrogen Sleeve
  - Other Sleeves
- Gas Zone
- Pipe Line Control Point
- Named Pipeline Section
- River Crossings

Notes:

A417 Missing Link Asset Plan

0 0.51 1.0 Kilometers

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Print by: **Holdsworth, Anne**

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Our ref: 217407

Your ref: TR010056-000002

Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ
T 0300 060 3900

The Planning Inspectorate
A417missinglink@planninginspectorate.gov.uk
By email only

Dear Sir/Madam

Planning Act 2008
Infrastructure Planning (Environmental Impact Assessment) Regulations 2017
Application by Highways England for an Order granting Development Consent
A417 Missing Link
Scoping consultation

Thank you for your consultation on the above dated 15 May 2019. We are grateful for the opportunity to provide detailed comments in relation to **biodiversity**, **geology**, **soils**, **air quality** and **landscape and visual effects**. We also have minor comments on the chapters covering **noise and vibration**, **population and human health**, and the **assessment of in-combination effects**.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

We note the purpose of the Environmental Impact Assessment Scoping Report to *"establish the scope of the Environmental Statement and the level of detail required, and to support the request for a Scoping Opinion under Regulation 10(1) of the EIA Regulations"*.

Previous advice to the applicant

Natural England has provided substantial ecological advice to the applicant in relation to the A417 Missing Link, as summarised in Table 4.2 of the Scoping Report.

Air quality (Chapter 6)

We have the following comments on the air quality chapter:

> *6.1.1.* The applicant has rightly identified the need to focus on the SSSI (Crickley Hill and Barrow Wake) that lies within 200m of the proposed road when assessing the ecological impacts of air pollution. However, we would prefer to see the Cotswold Beechwoods SAC also included in any assessment. We accept that this site is >200m from the road, however in places it is <500m away. Given the importance of this site, its sensitivity to nitrogen and the current pressures it faces, we feel that such an assessment is proportionate. As per our

comment on Figure 2.1 the alignment of the main carriageway may offer a change for the better.

6.6.7. The list of guidance documents that will be used omits our own guidance entitled *Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations (NEA001)*.[1] This internal guidance describes how Natural England advises competent authorities and others on the assessment of plans and projects (as required by the Conservation of Habitats and Species Regulations 2017 ('the Habitats Regulations') likely to generate road traffic emissions to air which are capable of affecting European Sites. It has been published for information to help competent authorities to better understand Natural England's own approach when applying the Habitats Regulations to these matters in its role as statutory adviser. It must be followed when assessing the impacts of this proposal on SACs that may be affected. We would also strongly recommend that it is followed when assessing the impacts of this proposal on SSSIs that may be affected.

The above guidance document includes advice on how to consider and address in-combination and cumulative effects, consistent with the *Wealden*[2] judgement. We also draw the applicants attention to the recent ruling made by the Court of Justice of the European Union on the interpretation of the Habitats Directive in the case of *Coöperatie Mobilisation*[3] (Joined Cases C-293/17 and C-294/17). The *Coöperatie Mobilisation* case relates to strategic approaches to dealing with nitrogen. It considers the approach to take when new plans/projects may adversely affect the ecological situation where a European site is already in 'unfavourable' conservation status, and it considers the acceptability of mitigating measures whose benefits are not certain at the time of that assessment.

Landscape & visual effects (Chapter 8)

We have the following comments on the chapter on landscape and visual effects:

8.1.1. We note that the limits of the study area will be informed by the ZTV mapping and as a result will not be limited to 1km from the proposed scheme.

8.2.1. Second sentence should read 'The AONB Management Plan helps to guide the management of the designation in order to support the designation's statutory purpose which is to conserve and enhance the natural beauty of the area.' It is a purpose of the AONB Conservation Board to increase the understanding and enjoyment of the special qualities of the designation.

8.2.6. Generally PRoW infrastructure is not considered to be a landscape receptor. Rather it is the effect of a scheme upon users of PRoWs (termed visual receptors) who are assessed as a part of the visual assessment process (as noted at 8.2.17).

8.3.3. Reference should also be made to the severance of the Cotswolds Way National Trail at the Air Balloon roundabout.

8.3.5. Reference should be made to the effect of diverting PRoWs on visual receptors for the duration of the construction period.

8.4.1. Reference should be made to the diverting of PRoW well away from construction compounds and works in order to minimise adverse effects on users. The Cotswold Way NT is a valuable asset to both the local economy and the local community in terms of the economic benefit it attracts for local businesses as well as the health and well-being opportunities it provides for local users. It is critical that the construction compounds and works do not detract from the user experience and that any temporary diversion of the trail during the construction period is made attractive for users, in terms of visual experience,

[1] http://publications.naturalengland.org.uk/publication/4720542048845824
[2] Wealden v SSCLG 2017
[3] C-293/17 and C-294/17, Coöperatie Mobilisation for the Environment UA v College van gedeputeerde staten van Limburg, 7 November 2018

the terrain and route selected and does not deter walkers from using the Cotswold Way NT. Quality Standards exist which should guide the determination of the route of the temporary diversion.

8.4.4. Reference should be made to users of local PRoWs and how the design of the scheme will seek to reduce adverse effects on users of these routes; particularly users of the Cotswolds Way NT and Gloucestershire Way. See comments at 8.4.1 which also apply to the any permeant divagation from the current route of the Cotswolds Way NT.

8.4.10. An indication as to when the mitigation planting would be become effective i.e. year 5 of the operational phase should be stated in and used to inform the EIA.

8.4.12. Enhancement opportunities specifically linked to valued landscape character, such interpretation boards, and the local PRoW network, specifically the Gloucestershire Way and Cotswolds Way NT, should also be considered.

8.4.13. We note that the width of the proposed green bridge is 50m. NE consider this to be the absolute minimum width for such a structure. For landscape mitigation purposes NE guidance for such structures states a minimum width of 80m. Considering the multiple ecological and recreational uses this bridge will need to serve NE consider 80m should be considered the absolute minimum width. Following the conclusions of the EIA this figure should be reviewed and if necessary increased. Please also see our comments above in relation to the biodiversity aspects of the green bridge.

8.5.3. NE agrees that significant adverse effects are likely to occur on both landscape and visual receptors during the construction phase of the project; this includes for all three Link Road Alternative options.

8.5.9. Reference is made to the '*1km study area'.* 8.1.1 clearly states that the study area will extend beyond 1km in places. In order to ensure consistency the EIA needs to clearly state and show what the extend of the study area actually is.

8.5.15. NE agrees that significant adverse effects are likely to occur on landscape receptors during the operational phase of the project; this includes for all 3 Link Road Alternative options.

8.5.17. NE would like to better understand how the '*loss of existing landscape features would be mitigated as far as possible by planting'.* For instance is the applicant proposing that the loss of farmland (either arable or permanent pasture) is mitigated for by tree planting?

8.5.28. NE agrees that significant adverse effects are likely to occur on visual receptors during the operational phase of the project; this includes for all 3 Link Road Alternative options. Reference is made to '*views from*…*sensitive visual receptors'*. We have assumed that this refers to viewpoints?
p.88 The section entitled 'Policy requirements, guidance and advice' makes no reference to policy.

8.6.4 (and 8.6.6). GLVIA3 sets out a clear structure for the assessment of significance. See Figure 3.5 p.39 of this document, noting however this figure is partially incorrect and that reference should also be made to section 3.26, p.38 final 3 bullet points. At 8.6.4 it is stated that the assessment methodology will follow best practice guidelines (as referenced at 8.6.2.). The GLVIA3 methodology sets out that that the assessment of sensitivity of the receptor combines the judgements reached following assessments of susceptibility and value and the assessment of magnitude of effect combines the judgements reached following assessments of size/scale, geographical extent and duration/reversibility. NE wishes to see this approach used in the EIA for this scheme. NE recommends this for all NSIP schemes where a LVIA methodology closely based upon GLVIA3 is used.

Table 8.2. We wish to see clear rational set out as to how value and susceptibility have been combined to determine sensitivity. We agree that the sensitivity of the landscape

within the Cotswolds AONB is provisionally(?) considered to be High.

Table 8.3. We wish to see clear rational set out as to how size/scale, geographical extent and duration/reversibility have been combined to determine magnitude.

8.6.7. We are confused by the sentence '*Visual receptors will be visited….'* Is this referring to visual receptor groups i.e. users of Open Access Land, PRoW network, local residents etc. or does '*visual recpetors*' refer to viewpoints? In addition reference is made to '*National Trails'*; there is only one in the vicinity of the scheme.

8.6.9. The second sentence refers to '*distance of visual receptors concerned from the proposed works*'. Distance of the visual receptor from the location of the proposed scheme is generally considered under scale of the effect as a part of the assessment of magnitude of effect. As stated the proposed methodology risks accounting for this aspect twice.

Table 8.4. We wish to see clear rational set out as to how value and susceptibility have been combined to determine sensitivity. We agree that the sensitivity of the visual receptors using the local PRoW network, including the Gloucestershire Way and Cotswolds Way NT are provisionally (?) considered to be High.

Table 8.5. We wish to see clear rational set out as to how size/scale, geographical extent and duration/reversibility have been combined to determine magnitude.

8.6.11. We note that effects judged to be moderate, large and very large are deemed to be significant. We assume that effects judged to slight / moderate may be significant.

Geology (Chapter 9)

We have the following comments in relation to geological aspects of Chapter 9:

- The scoping report recognises the presence of geological SSSIs within the footprint of the scheme (9.2.22-23) and indicates the potential for impacts on some of the geological features present in Crickley Hill and Barrow Wake SSSI (9.3.1, 9.5.2): specifically issues relating to the location of the green bridge (9.3.2) – which could, if located in the wrong place, cause significant damage to a geological feature that cannot be replicated elsewhere within the SSSI.

- While the stated purpose at 9.4.1 is '….as far as possible, to minimise effects relating to Geology….', and '….would be designed to have minimal impacts on any areas of significant outcrop….' (9.4.3), the scheme, if well designed, has the potential to enhance the quality of exposures, increase the number and diversity of exposures, and improve that access to some of the exposures. The scoping report rightly recognises the publication 'Geological conservation – a guide to good practice' as a source of guidance in this matter, but should also consider utilising advice from other sources (academic geologists, Natural England's geologists, and local geologists).

- The scoping report recognises the need to enhance of ecological features, but does not appear to go beyond the boundaries of SSSIs with regard to geological features. The proposed route for the scheme goes through several geological units that may be exposed in cuttings, some of which may complement or enhance sections exposed in SSSIs (Crickley Hill and Barrow Wake, and Knapp House Quarry SSSIs in particular). The removal of redundant sections of the A417 (10.4.27) focuses on ecological benefits, and does not seem to consider that there might be also be enhancements to geological features more generally within the footprint of the scheme where roads become redundant. In this particular case, the retention of any cuttings would retain exposures and contribute to the diversity of habitat within the proposed calcareous grassland restoration.

- While the issues related to the geological interest should be addressed in greater depth and detail in the Environmental Statement, it is noted here that the north side of the cutting to the west of the Air Balloon is a key section and exposure within Crickley Hill and Barrow Wake SSSI because it exposes the Leckhampton Member of the Birdlip Limestone

Formation. Currently the state of these exposures is poor because of the extent of scrub encroachment and the proximity of the A417 eastbound carriageway (making access unpleasant and dangerous). Enhancement and/or relocation of these exposures with safer access would greatly improve the situation.

- Paragraph 9.3.2 should read which may result not which will result in a permanent adverse impact.

Soils (Chapter 9 and parts of Chapter 11)

We have the following comments in relation to soils aspects of Chapters 9 and 11:

- Soil is a finite resource that fulfils many important functions and services (ecosystem services) for society, for example as a growing medium for food, timber and other crops, as a store for carbon and water, as a reservoir of biodiversity and as a buffer against pollution. It is therefore important that the soil resources are protected and used sustainably.

- 9.2.25 confirms that there is only partial coverage of detailed Agricultural Land Classification (ALC) for the proposed route. In order to assess the degree to which soils are going to be disturbed/harmed as part of this development and whether 'best and most versatile' agricultural land is involved, an agricultural land classification and soil resources survey of the land should be undertaken (as proposed in 9.6.2). This should normally be at a detailed level, e.g. one auger boring per hectare, supported by pits dug in each main soil type to confirm the physical characteristics of the full depth of the soil resource, i.e. 1.2 metres. The *Defra Construction Code of Practice for the Sustainable Use of Soil on Development Sites* provides guidance.

- 9.3.5 recognises that site construction will potentially lead to temporary or permanent removal of soils and 11.3.5 refers to surplus excavated soils. It is essential that soils are not considered a waste and should be re-used sustainably. The proposed CEMP and MMP are welcomed and careful consideration should be made for the reuse of surplus soils within the scheme. Topsoil should not be used as fill or buried, where its value is wasted.

- The Scoping report makes reference to the importation of topsoil, but it is important to carry out a soil resources survey (as referred to in 6.6.2) to establish what top soils (type and volumes) are available already within the construction site that can be reused, to avoid unnecessary soil movements.

- We welcome the proposed Soil Management Plan (9.4.5) and encourage the use of an appropriately experienced soil specialist to advise on, and supervise, soil handling, including identifying when soils are dry enough to be handled and how to make the best use of the different soils on site. In addition to using the *Defra Construction Code of Practice for the Sustainable Use of Soil on Development Sites* we recommend that reference to made to Defra's *Good Practice Guide for Handling Soils*.

- 9.5.3 covers significant effect. Not only should the loss of Best and Most Versatile (BMV) agricultural land be considered, but also non BMV land and soils as a whole. The DMRB assessment of significant effects on soils and land quality is currently being updated.

Biodiversity (Chapter 10 and parts of Chapter 2)

We have the following comments in relation to biodiversity:

Figure 2.1. The preferred route would appear to offer a marked increase in distance between the Cotswold Beechwoods SAC (and Cotswold Commons & Beechwoods SSSI) from 600m (A417 to nearest SAC boundary) to 1.67km (New carriageway to nearest SAC boundary). However this does not take account of the A436 options some of which pass relatively close to the SAC and some of which imply direct land-take from the Crickley Hill and Barrow wake SSSI (see e.g. section 9.5). The additional 1000m 'stand off' between the proposed new A417 main carriageway and the SAC represents a material enhancement to

the current situation. Given that air quality tends also to be influenced by the prevailing wind direction (i.e. from the south-west) the proposed alignment of the main carriageway appears to offer a noteworthy change for the better.

2.3.5. This list omits certain protected sites that could be affected. The Cotswold Beechwoods Special Area of Conservation (SAC) is within 500 metres of the scheme. Chapter 10 does get this right (from 10.2.7. onwards). This error needs correcting, and an additional bullet point highlighting the presence of the SAC should be added to the list in paragraph 2.3.5. Also in the bullet point list of 2.3.5. Crickley Hill and Barrow Wake SSSI is in part within the Scheme footprint (correctly noted in Chapter 10), so the bullet point needs correcting to acknowledge this.

10.3.2. We are not aware of the 'current assessment' that is being referred to and would need to see it in order to advise whether this conclusion is correct.

10.3.4. It is not correct to say that 'there are no further works within' Crickley Hill and Barrow Wake SSSI. The Scheme proposes removing the existing A417 surface, and potentially a significant part of the current viewpoint car parking, both of which lie within the SSSI boundary – unless restoration is not classed as either 'construction' or 'works'.

10.3.7. The SSSI name is Leckhampton Hill and Charlton Kings Common. This error is repeated in 13.3.20, but the SSSI name is correct in 10.2.9 and 10.4.8.

10.4. Whilst it is understandable that it is not possible to present any details of a mitigation strategy at this stage, it would be possible to highlight the importance of the green bridge within the scoping report. If the green bridge is well designed and of a large enough scale, it has huge potential to provide multiple connectivity opportunities not only for the two parts of the (currently split) SSSI, but also for priority habitats, priority species (including bats and butterflies), to enable improved future management through the movement of grazing livestock and to enable species migration in the light of climate change. Therefore mention of the green bridge should be of a feature wider than the minimal 50 metre size currently stated in the Plan and more of a scale that reflects its critical value in the design of this (environmentally led) scheme.

10.4.14. Any hedgerow planting or gapping up should be with location appropriate species sourced from local genetic stock.

10.4.3. We note the references to Cotswold Beechwoods SAC and hydrology. This section does not mention other indirect impacts potentially associated with construction traffic (reasonable mitigation in the shape of agreed HGV and construction traffic routes being a logical output from the NSIP dialogue). These should be addressed in the proposed Construction Environmental Management Plan (CEMP).

10.6.5. We welcome the acknowledgement that Habitats Regulations Assessments will be required. We would remind the applicant to consider the *People over Wind & Sweetman – v Coillte Teoranta*[4] judgement regarding the screening of projects under the Habitats Regulations and the treatment of mitigation measures.

Noise and vibration (Chapter 12)

With reference to paragraph 12.2.3. we note that Cotswolds Beechwoods SAC is within 1km of the site and working area. We would expect that CEMP measures to avoid indirect impacts associated with construction traffic passing through or close to the SAC will, by default, also deal with any noise related issues. We also query whether the second bullet point under 'A436 Link Road Alternative 2: parallel to the A417' should be under a separate heading of 'A436 Link Road Alternative 3: via South Hill'.

[4] CJEU case reference C323-17

Population and human health (Chapter 13)

Section 13.4 does not detail the effects on potential mitigation and environmental enhancement of the three alternative A436 Link Road options. A436 Link Road Alternative 1: Bridge over A417 has a major negative effect on potential habitat and corridor restoration options compared with Alternatives 2 and 3. The relative potential mitigation/enhancement benefit of the three a436 Link Road Alternatives are not adequately covered in this Scoping Report.

Assessment of cumulative effects (Chapter 16)

In relation to paragraph 16.3 we would re-emphasise our comments above in relation to the *Wealdon* judgement and our own guidance.

If you have any queries in relation to this letter please do not hesitate to contact me. For any new consultations in relation to the A417 Missing Link please send all correspondence to consultations@naturalengland.org.uk.

Yours faithfully

[redacted]

Dr Paul Horswill
Senior Adviser
West Midlands Team

Public Health England

Environmental Hazards and Emergencies Department
Centre for Radiation, Chemical and Environmental Hazards (CRCE)
Seaton House
City Link
London Road
Nottingham NG2 4LA

nsipconsultations@phe.gov.uk

www.gov.uk/phe

Your Ref: TR010056-000002
Our Ref: CIRIS 50202

Ms Marnie Woods
Senior EIA and Land Rights Advisor
The Planning Inspectorate
Temple Quay House
2 The Square
Bristol, BS1 6PN

10th June 2019

Dear Ms Woods,

Re: Scoping Consultation
Application for an Order Granting Development Consent for the Proposed A417 Missing Link

Thank you for including Public Health England (PHE) in the scoping consultation phase of the above application. Advice offered by PHE is impartial and independent.

PHE exists to protect and improve the nation's health and wellbeing, and reduce health inequalities; these two organisational aims are reflected in the way we review and respond to Nationally Significant Infrastructure Project (NSIP) applications.

The health of an individual or a population is the result of a complex interaction of a wide range of different determinants of health, from an individual's genetic make-up, to lifestyles and behaviours, and the communities, local economy, built and natural environments to global ecosystem trends. All developments will have some effect on the determinants of health, which in turn will influence the health and wellbeing of the general population, vulnerable groups and individual people. Although assessing impacts on health beyond direct effects from for example emissions to air or road traffic incidents is complex, there is a need to ensure a proportionate assessment focused on an application's significant effects.

Environmental Public Health
We understand that the promoter will wish to avoid unnecessary duplication and that many issues including air quality, emissions to water, waste, contaminated land etc. will be covered elsewhere in the environmental statement (ES). We believe the summation of relevant issues into a specific section of the report provides a focus which ensures that public health is given adequate consideration. The section should summarise key information, risk assessments, proposed mitigation measures, conclusions and residual impacts, relating to human health. Compliance with the requirements of National Policy Statements and relevant guidance and standards should also be highlighted.

In terms of the level of detail to be included in an ES, we recognise that the differing nature of projects is such that their impacts will vary. Any assessments undertaken to inform the ES should be proportionate to the potential impacts of the proposal, therefore we accept that, in some circumstances particular assessments may not be relevant to an application, or that an assessment may be adequately completed using a qualitative rather than quantitative methodology. In cases where this decision is made the promoters should fully explain and justify their rationale in the submitted documentation.

Our position is that pollutants associated with road traffic, particularly particulate matter and oxides of nitrogen are non-threshold; i.e., an exposed population is likely to be subject to potential harm at any level and that reducing public exposures of non-threshold pollutants (such as particulate matter and nitrogen dioxide) below air quality standards will have potential public health benefits. We support approaches which minimise or mitigate public exposure to non-threshold air pollutants, address inequalities (in exposure), maximise co-benefits (such as physical exercise). We encourage their consideration during development design, environmental and health impact assessment, and development consent.

It is noted that the current proposals do not appear to consider possible health impacts of Electric and Magnetic Fields (EMF). It is unclear if these works fall outside of the scope of the application; we request that the ES clarifies this and if necessary, the proposer should confirm either that the proposed development does not impact any receptors from potential sources of EMF; or ensure that an adequate assessment of the possible impacts is undertaken and included in the ES.

Appendix 1 outlines generic areas that should be addressed by all promoters when preparing ES for inclusion with an NSIP submission.

Human Health and Wellbeing
This section of PHE's scoping response, identifies the wider determinants of health and wellbeing we expect the ES to address, to demonstrate whether they are likely to give rise to significant effects. PHE has focused its approach on scoping determinants of health and wellbeing under four themes, which have been derived from an analysis of the wider determinants of health mentioned in the National Policy Statements.

The four themes are:
- Access
- Traffic and Transport
- Socioeconomic
- Land Use

Having considered the submitted scoping report PHE wish to make the following specific comments and recommendations:

Methodology
Definition of health
The scoping report does not define health, but does make reference to many wider determinants. It is useful to be clear and provide a definition of health.

Additionally the scoping report does not mention mental health, however it is important that mental health has parity of esteem with physical health and wellbeing. Mental well-being is fundamental to achieving a healthy, resilient and thriving population. It underpins healthy lifestyles, physical health, educational attainment, employment and productivity, relationships, community safety and cohesion and quality of life. A scheme of this scale and nature has impacts on the over-arching protective factors, which are:

• Enhancing control
• Increasing resilience and community assets
• Facilitating participation and promoting inclusion

Recommendation
We would recommend the use of the broad definition of health proposed by the World Health Organisation (WHO) and we welcome a specific reference to mental health.

There should be parity between mental and physical health, and any assessment of health impact should include the appreciation of both. A systematic approach to the assessment of the effects on mental health, including suicide, is required.

The PEIR should reference the methodology used to complete assessments for the effects on mental health and wellbeing.

Vulnerable Population
A complete list of vulnerable populations to be considered has not been provided and with no links to the list of protected characteristics within an Equality Impact Assessment (EqIA). The impacts on health and wellbeing and health inequalities of the scheme may have particular effect on vulnerable or disadvantaged populations, including those that fall within the list of protected characteristics. The ES and any EqIA should not be completely separated.

Recommendation
The assessments and findings of the ES and any EqIA should be crossed referenced between the two documents, particularly to ensure the comprehensive assessment of potential impacts for health and inequalities and where resulting mitigation measures are mutually supportive.

Physical activity and active travel / access to open space
The scoping report identifies how non-motorised user (NMU) will be impacted through the loss or change in formal Public Rights of Way (PRoW) but does not appear to consider impacts on the existing road network.

Active travel forms an important part in helping to promote healthy weight environments and as such it is important that any changes have a positive long term impact where possible. Changes to NMU routes have the potential to impact on usage, create displacement to other routes and potentially lead to increased road traffic collisions.

A scheme of this scale and nature can also provide opportunities to enhance the existing infrastructure that supports active travel and we welcome the proposal to amend the route and design of the scheme to contribute to improved provision for active travel and physical activity. Local community engagement can provide useful insight into design needs of the local population.

It is important to ensure that any impact on tranquillity within publicly accessible open space is considered.

Recommendations
The overall risk to NMU and impact on active travel should be considered on a case-by-case basis, taking into account, the number and type of users and the effect that the temporary traffic management system will have on their journey and safety.

Any impacts of traffic and transport must include an assessment of the impact on the existing road network.

Any traffic counts and assessment should also, as far as reasonably practicable, identify informal routes used by NMU or potential routes used due to displacement.

The final ES should identify the temporary traffic management system design principles or standards that will be maintained with specific reference to NMU. This may be incorporated within the Code of Construction Practice.

The scheme should continue to identify any additional opportunities to contribute to improved infrastructure provision for active travel and physical activity. The developers should explore the acceptability and design of walking, cycling and horse riding routes with local stakeholders and, if feasible, consider providing a range of alternative accessible designs for consideration. It is important to assess the potential of modal shifts to walking, cycling and public transport.

Housing affordability and supply
The scoping report identifies the potential for temporary and permanent land take in order to achieve the construction and operational phase. Loss of homes will attract compensation, but existing schemes only consider property owners.

Compensation schemes may not address the impact on the loss of homes on the tenants of these properties, who will often be considered vulnerable.

Recommendation
The impact of the development on the tenants of social or private rented sector housing should be considered within the PEIR, which should identify the scale and nature of impact and address and specific mitigation measures.

Monitoring
The scoping report does not identify any proposed approaches to monitoring. The PEIR should identify monitoring requirements, to be determined by the outcome of further detailed survey work and consultation with key stakeholders and the public.

Recommendations
The ES should contain details of monitoring. Monitoring strategies should be based on principles identified within the final ES. These could include:
- Critical assumptions
- Critical mitigation measures
- Significant impacts on health

Noise and Health Aspects
PHE recommends that the proposed consultation with the local community and wider public recognises the potential for increased noise levels associated with the construction and operational phases of the Scheme and possible noise mitigation strategies (Scoping Report 4.1.3).

PHE encourages the scheme promoter to use effective ways of communicating changes in the acoustic environment as a result of the scheme to local communities. For example, immersive sound demonstrations can help make noise and visual impacts intuitive to understand and accessible to a wider demographic and have been used in major road and rail infrastructure projects such as HS2 and the planned upgrades to the A303. High quality infographics are also useful for this purpose.

PHE expects the Consultation Report (4.4.9) to explain how stakeholder responses in relation to noise have influenced the development of the proposal, including any mitigation measures. In addition, the applicant should propose a suitable strategy to disseminate the findings of the PEIR (and EIA) regarding the effects of noise on health to stakeholders, including communities which may experience a change in their local noise environment as a result of the scheme.

Health outcomes and significance of impacts

PHE expects proper consideration to be given to the potential effects on human health due to changes in environmental noise arising from construction and operational phases of the Scheme. PHE recommends the quantification of health outcomes such as annoyance, sleep disturbance and cardiovascular effects – these can be expressed in terms of number of people affected, Disability Adjusted Life Years (DALYs) and/or monetary terms, and PHE expects the applicant to use the methodologies and exposure response relationships set out in publications by the WHO [1] [2]and the IGCBN [3].

PHE recommends that assessments of significance are based on impacts on health and quality of life, and not around noise exposure per se (12.6.8), in line with the Noise Policy Statement for England. Furthermore, PHE expects significance to reflect both the severity of the health outcome and the size of the population affected. Other considerations that can be taken into account are:

i. The existing noise exposure of affected communities – in particular the six designated Noise Important Areas in proximity to the scheme. These are areas with the highest levels of noise exposure at a national level, and require very careful consideration in terms of opportunities for improvement of health and quality of life through noise management;
ii. Cumulative exposure to other environmental risk factors, including other sources of noise and air pollution; and
iii. Local health needs, sensitivities and objectives.

Mitigation measures

PHE expects decisions about noise mitigation measures (12.4.3) to be underpinned by good quality evidence, in particular whether mitigation measures are proven to reduce adverse impacts on health and quality of life. For interventions where evidence is weak or lacking, PHE expects a proposed strategy for monitoring and evaluating their effectiveness during construction and operation of the Scheme.

With regards to road traffic noise, PHE would expect to see consideration of low-noise road surfaces, acoustic barriers, traffic management and quiet façades [4], with noise insulation schemes and secondary glazing considered as a last resort. PHE expects any proposed noise insulation schemes or similar to take a holistic approach which achieves a healthy indoor environment, taking into consideration noise, ventilation, overheating risk, indoor air

[1] WHO Environmental Noise Guidelines for the European Region, 2018
[2] WHO Burden of Disease from Environmental Noise, 2012
[3] Defra/Interdepartmental Group on Costs and Benefits Noise Subject Group, 2014
[4] Lex Brown and Van Kamp. WHO Environmental Noise Guidelines for the European Region: A Systematic Review of Transport Noise Interventions and Their Impacts on Health. Int. J. Environ. Res. Public Health 2017, 14(8): 873

quality and occupants' need to open windows. It should be noted that there is at present insufficient good quality evidence as to whether insulation schemes are effective at reducing annoyance and self-reported sleep disturbance [5], and initiatives to evaluate the effectiveness of noise insulation to improve health outcomes are strongly encouraged.

PHE acknowledges that a Construction Environmental Management Plan (12.4.1) will be developed upon appointing a contractor and will be implemented by said Contractor, in part to mitigate the adverse impact of construction noise. PHE recommends that the CEMP includes a detailed programme of construction which highlights the times and durations of particularly noisy works, the proposed noise mitigation measures, and a strategy for actively communicating this information to local communities.

Green spaces and private amenity areas

PHE expects proposals to take into consideration the evidence which suggests that quiet areas can have both a direct beneficial health effect and can also help restore or compensate for the adverse health effects of noise in the residential environment [5] [6] [7]. Research from the Netherlands suggests that people living in noisy areas appear to have a greater need for quiet areas than people not exposed to noise at home [5]. PHE notes that a number of footpaths, Sites of Special Scientific Interest and a Special Area of Conservation have been identified as noise sensitive receptors. PHE encourages the scheme promoter to consider using a soundscapes approach [8] to assess any potential impacts of noise on people visiting these sites.

Noise insulation schemes do not protect amenity spaces (such as private gardens or community green spaces) from increased noise exposure, and there may be opportunities to create new tranquil public spaces that are easily accessible to those communities exposed to increased noise from the scheme.

Baseline noise conditions

PHE understands that noise monitoring has not yet been undertaken at this stage in the scheme development and welcomes the scheme promoters commitment to conducting a baseline noise survey at locations representative of sensitive receptors within the scheme study area (12.7.1).

PHE recommends that the noise survey is carried out in such a way as to provide a reliable depiction of local diurnal noise variations for both weekdays and weekends, in a variety of locations, including the difference between day (07:00-19:00), evening (19:00-23:00) and night-time (23:00-07:00) periods. This is particularly important if there are areas within the scheme assessment boundary with atypical traffic day/evening/night distributions (e.g. near a freight distribution centre).

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[5] Health Council of the Netherlands Publication no. 2006/12, 2006

[6] LIFE09 ENV/NL/000423, QSIDE - The positive effects of quiet façades and quiet urban areas on traffic noise annoyance and sleep disturbance

[7] COST TD0804, Soundscape of European Cities and Landscapes, 2013

[8] BS ISO 12913-2 Soundscape. Part two: data collection and reporting requirements

We are happy to assist and discuss proposals further in the light of this advice.

Yours sincerely

On behalf of Public Health England

nsipconsultations@phe.gov.uk

Please mark any correspondence for the attention of National Infrastructure Planning Administration.

Appendix 1: PHE recommendations regarding the scoping document

General approach

The EIA should give consideration to best practice guidance such as the Government's Good Practice Guide for EIA[9]. It is important that the EIA identifies and assesses the potential public health impacts of the activities at, and emissions from, the installation. Assessment should consider the development, operational, and decommissioning phases.

It is not PHE's role to undertake these assessments on behalf of promoters as this would conflict with PHE's role as an impartial and independent body.

Consideration of alternatives (including alternative sites, choice of process, and the phasing of construction) is widely regarded as good practice. Ideally, EIA should start at the stage of site and process selection, so that the environmental merits of practicable alternatives can be properly considered. Where this is undertaken, the main alternatives considered should be outlined in the ES[10].

The following text covers a range of issues that PHE would expect to be addressed by the promoter. However this list is not exhaustive and the onus is on the promoter to ensure that the relevant public health issues are identified and addressed. PHE's advice and recommendations carry no statutory weight and constitute non-binding guidance.

Receptors

The ES should clearly identify the development's location and the location and distance from the development of off-site human receptors that may be affected by emissions from, or activities at, the development. Off-site human receptors may include people living in residential premises; people working in commercial, and industrial premises and people using transport infrastructure (such as roads and railways), recreational areas, and publicly-accessible land. Consideration should also be given to environmental receptors such as the surrounding land, watercourses, surface and groundwater, and drinking water supplies such as wells, boreholes and water abstraction points.

Impacts arising from construction and decommissioning

Any assessment of impacts arising from emissions due to construction and decommissioning should consider potential impacts on all receptors and describe monitoring and mitigation during these phases. Construction and decommissioning will be associated with vehicle movements and cumulative impacts should be accounted for.

We would expect the promoter to follow best practice guidance during all phases from construction to decommissioning to ensure appropriate measures are in place to mitigate any potential impact on health from emissions (point source, fugitive and traffic-related). An effective Construction Environmental Management Plan (CEMP) (and Decommissioning Environmental Management Plan (DEMP)) will help provide reassurance that activities are well managed. The promoter should ensure that there are robust mechanisms in place to respond to any complaints of traffic-related pollution, during construction, operation, and decommissioning of the facility.

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[9] Environmental Impact Assessment: A guide to good practice and procedures - A consultation paper; 2006; Department for Communities and Local Government. Available from: http://webarchive.nationalarchives.gov.uk/20100410180038/http:/communities.gov.uk/planningandbuilding/planning/sustainabilityenvironmental/environmentalimpactassessment/

[10] DCLG guidance, 1999 http://www.communities.gov.uk/documents/planningandbuilding/pdf/155958.pdf

Emissions to air and water

Significant impacts are unlikely to arise from installations which employ Best Available Techniques (BAT) and which meet regulatory requirements concerning emission limits and design parameters. However, PHE has a number of comments regarding emissions in order that the EIA provides a comprehensive assessment of potential impacts.

When considering a baseline (of existing environmental quality) and in the assessment and future monitoring of impacts these:

- should include appropriate screening assessments and detailed dispersion modelling where this is screened as necessary
- should encompass all pollutants which may be emitted by the installation in combination with all pollutants arising from associated development and transport, ideally these should be considered in a single holistic assessment
- should consider the construction, operational, and decommissioning phases
- should consider the typical operational emissions and emissions from start-up, shut-down, abnormal operation and accidents when assessing potential impacts and include an assessment of worst-case impacts
- should fully account for fugitive emissions
- should include appropriate estimates of background levels
- should identify cumulative and incremental impacts (i.e. assess cumulative impacts from multiple sources), including those arising from associated development, other existing and proposed development in the local area, and new vehicle movements associated with the proposed development; associated transport emissions should include consideration of non-road impacts (i.e. rail, sea, and air)
- should include consideration of local authority, Environment Agency, Defra national network, and any other local site-specific sources of monitoring data
- should compare predicted environmental concentrations to the applicable standard or guideline value for the affected medium (such as UK Air Quality Standards and Objectives and Environmental Assessment Levels)
    - If no standard or guideline value exists, the predicted exposure to humans should be estimated and compared to an appropriate health-based value (a Tolerable Daily Intake or equivalent). Further guidance is provided in Annex 1
    - This should consider all applicable routes of exposure e.g. include consideration of aspects such as the deposition of chemicals emitted to air and their uptake via ingestion
- should identify and consider impacts on residential areas and sensitive receptors (such as schools, nursing homes and healthcare facilities) in the area(s) which may be affected by emissions, this should include consideration of any new receptors arising from future development

Whilst screening of impacts using qualitative methodologies is common practice (e.g. for impacts arising from fugitive emissions such as dust), where it is possible to undertake a quantitative assessment of impacts then this should be undertaken.

PHE's view is that the EIA should appraise and describe the measures that will be used to control both point source and fugitive emissions and demonstrate that standards, guideline values or health-based values will not be exceeded due to emissions from the installation, as described above. This should include consideration of any emitted pollutants for which there are no set emission limits. When assessing the potential impact of a proposed installation on environmental quality, predicted environmental concentrations should be compared to the permitted concentrations in the affected media; this should include both standards for short and long-term exposure.

Additional points specific to emissions to air
When considering a baseline (of existing air quality) and in the assessment and future monitoring of impacts these:

- should include consideration of impacts on existing areas of poor air quality e.g. existing or proposed local authority Air Quality Management Areas (AQMAs)
- should include modelling using appropriate meteorological data (i.e. come from the nearest suitable meteorological station and include a range of years and worst case conditions)
- should include modelling taking into account local topography

Additional points specific to emissions to water
When considering a baseline (of existing water quality) and in the assessment and future monitoring of impacts these:

- should include assessment of potential impacts on human health and not focus solely on ecological impacts
- should identify and consider all routes by which emissions may lead to population exposure (e.g. surface watercourses; recreational waters; sewers; geological routes etc.)
- should assess the potential off-site effects of emissions to groundwater (e.g. on aquifers used for drinking water) and surface water (used for drinking water abstraction) in terms of the potential for population exposure
- should include consideration of potential impacts on recreational users (e.g. from fishing, canoeing etc) alongside assessment of potential exposure via drinking water

Land quality

We would expect the promoter to provide details of any hazardous contamination present on site (including ground gas) as part of the site condition report.
Emissions to and from the ground should be considered in terms of the previous history of the site and the potential of the site, once operational, to give rise to issues. Public health impacts associated with ground contamination and/or the migration of material off-site should be assessed[11] and the potential impact on nearby receptors and control and mitigation measures should be outlined.

Relevant areas outlined in the Government's Good Practice Guide for EIA include:

- effects associated with ground contamination that may already exist
- effects associated with the potential for polluting substances that are used (during construction / operation) to cause new ground contamination issues on a site, for example introducing / changing the source of contamination
- impacts associated with re-use of soils and waste soils, for example, re-use of site-sourced materials on-site or offsite, disposal of site-sourced materials offsite, importation of materials to the site, etc.

Waste

The EIA should demonstrate compliance with the waste hierarchy (e.g. with respect to re-use, recycling or recovery and disposal).
For wastes arising from the installation the EIA should consider:

- the implications and wider environmental and public health impacts of different waste disposal options

[11] Following the approach outlined in the section above dealing with emissions to air and water i.e. comparing predicted environmental concentrations to the applicable standard or guideline value for the affected medium (such as Soil Guideline Values)

- disposal route(s) and transport method(s) and how potential impacts on public health will be mitigated

Other aspects

Within the EIA PHE would expect to see information about how the promoter would respond to accidents with potential off-site emissions e.g. flooding or fires, spills, leaks or releases off-site. Assessment of accidents should: identify all potential hazards in relation to construction, operation and decommissioning; include an assessment of the risks posed; and identify risk management measures and contingency actions that will be employed in the event of an accident in order to mitigate off-site effects.

The EIA should include consideration of the COMAH Regulations (Control of Major Accident Hazards) and the Major Accident Off-Site Emergency Plan (Management of Waste from Extractive Industries) (England and Wales) Regulations 2009: both in terms of their applicability to the installation itself, and the installation's potential to impact on, or be impacted by, any nearby installations themselves subject to the these Regulations.

There is evidence that, in some cases, perception of risk may have a greater impact on health than the hazard itself. A 2009 report[12], jointly published by Liverpool John Moores University and the HPA, examined health risk perception and environmental problems using a number of case studies. As a point to consider, the report suggested: "Estimation of community anxiety and stress should be included as part of every risk or impact assessment of proposed plans that involve a potential environmental hazard. This is true even when the physical health risks may be negligible." PHE supports the inclusion of this information within EIAs as good practice.

Electromagnetic fields (EMF)

This statement is intended to support planning proposals involving electrical installations such as substations and connecting underground cables or overhead lines. PHE advice on the health effects of power frequency electric and magnetic fields is available in the following link:

https://www.gov.uk/government/collections/electromagnetic-fields#low-frequency-electric-and-magnetic-fields

There is a potential health impact associated with the electric and magnetic fields around substations, and power lines and cables. The field strength tends to reduce with distance from such equipment.

The following information provides a framework for considering the health impact associated with the electric and magnetic fields produced by the proposed development, including the direct and indirect effects of the electric and magnetic fields as indicated above.

Policy Measures for the Electricity Industry

The Department of Energy and Climate Change has published a voluntary code of practice which sets out key principles for complying with the ICNIRP guidelines:

[12] Available from: http://www.cph.org.uk/wp-content/uploads/2012/08/health-risk-perception-and-environmental-problems--summary-report.pdf

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/37447/1256-code-practice-emf-public-exp-guidelines.pdf

Companion codes of practice dealing with optimum phasing of high voltage power lines and aspects of the guidelines that relate to indirect effects are also available:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48309/1255-code-practice-optimum-phasing-power-lines.pdf

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/224766/powerlines_vcop_microshocks.pdf

Exposure Guidelines

PHE recommends the adoption in the UK of the EMF exposure guidelines published by the International Commission on Non-ionizing Radiation Protection (ICNIRP). Formal advice to this effect was published by one of PHE's predecessor organisations (NRPB) in 2004 based on an accompanying comprehensive review of the scientific evidence:-

http://webarchive.nationalarchives.gov.uk/20140629102627/http://www.hpa.org.uk/Publications/Radiation/NPRBArchive/DocumentsOfTheNRPB/Absd1502/

Updates to the ICNIRP guidelines for static fields have been issued in 2009 and for low frequency fields in 2010. However, Government policy is that the ICNIRP guidelines are implemented in line with the terms of the 1999 EU Council Recommendation on limiting exposure of the general public (1999/519/EC):

http://webarchive.nationalarchives.gov.uk/+/www.dh.gov.uk/en/Publichealth/Healthprotection/DH_4089500

Static magnetic fields

For static magnetic fields, the ICNIRP guidelines published in 2009 recommend that acute exposure of the general public should not exceed 400 mT (millitesla), for any part of the body, although the previously recommended value of 40 mT is the value used in the Council Recommendation. However, because of potential indirect adverse effects, ICNIRP recognises that practical policies need to be implemented to prevent inadvertent harmful exposure of people with implanted electronic medical devices and implants containing ferromagnetic materials, and injuries due to flying ferromagnetic objects, and these considerations can lead to much lower restrictions, such as 0.5 mT.

Power frequency electric and magnetic fields

At 50 Hz, the known direct effects include those of induced currents in the body on the central nervous system (CNS) and indirect effects include the risk of painful spark discharge on contact with metal objects exposed to the field. The ICNIRP guidelines published in 1998 give reference levels for public exposure to 50 Hz electric and magnetic fields, and these are respectively 5 kV m^{-1} (kilovolts per metre) and 100 μT (microtesla). The reference level for magnetic fields changes to 200 μT in the revised (ICNIRP 2010) guidelines because of new

basic restrictions based on induced electric fields inside the body, rather than induced current density. If people are not exposed to field strengths above these levels, direct effects on the CNS should be avoided and indirect effects such as the risk of painful spark discharge will be small. The reference levels are not in themselves limits but provide guidance for assessing compliance with the basic restrictions and reducing the risk of indirect effects.

Long term effects

There is concern about the possible effects of long-term exposure to electromagnetic fields, including possible carcinogenic effects at levels much lower than those given in the ICNIRP guidelines. In the NRPB advice issued in 2004, it was concluded that the studies that suggest health effects, including those concerning childhood leukaemia, could not be used to derive quantitative guidance on restricting exposure. However, the results of these studies represented uncertainty in the underlying evidence base, and taken together with people's concerns, provided a basis for providing an additional recommendation for Government to consider the need for further precautionary measures, particularly with respect to the exposure of children to power frequency magnetic fields.

The Stakeholder Advisory Group on ELF EMFs (SAGE)

SAGE was set up to explore the implications for a precautionary approach to extremely low frequency electric and magnetic fields (ELF EMFs), and to make practical recommendations to Government:

http://www.emfs.info/policy/sage/

SAGE issued its First Interim Assessment in 2007, making several recommendations concerning high voltage power lines. Government supported the implantation of low cost options such as optimal phasing to reduce exposure; however it did not support not support the option of creating corridors around power lines on health grounds, which was considered to be a disproportionate measure given the evidence base on the potential long term health risks arising from exposure. The Government response to SAGE's First Interim Assessment is available here:

http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_107124

The Government also supported calls for providing more information on power frequency electric and magnetic fields, which is available on the PHE web pages (see first link above).

Ionising radiation

Particular considerations apply when an application involves the possibility of exposure to ionising radiation. In such cases it is important that the basic principles of radiation protection recommended by the International Commission on Radiological Protection[13] (ICRP) are

[13] These recommendations are given in publications of the ICRP notably publications 90 and 103 see the website at http://www.icrp.org/

followed. PHE provides advice on the application of these recommendations in the UK. The ICRP recommendations are implemented in the Euratom Basic Safety Standards[14] (BSS) and these form the basis for UK legislation, including the Ionising Radiation Regulations 1999, the Radioactive Substances Act 1993, and the Environmental Permitting Regulations 2016.

PHE expects promoters to carry out the necessary radiological impact assessments to demonstrate compliance with UK legislation and the principles of radiation protection. This should be set out clearly in a separate section or report and should not require any further analysis by PHE. In particular, the important principles of justification, optimisation and radiation dose limitation should be addressed. In addition compliance with the Euratom BSS and UK legislation should be clear.

When considering the radiological impact of routine discharges of radionuclides to the environment PHE would expect to see a full radiation dose assessment considering both individual and collective (population) doses for the public and, where necessary, workers. For individual doses, consideration should be given to those members of the public who are likely to receive the highest exposures (referred to as the representative person, which is equivalent to the previous term, critical group). Different age groups should be considered as appropriate and should normally include adults, 1 year old and 10 year old children. In particular situations doses to the fetus should also be calculated[15]. The estimated doses to the representative person should be compared to the appropriate radiation dose criteria (dose constraints and dose limits), taking account of other releases of radionuclides from nearby locations as appropriate. Collective doses should also be considered for the UK, European and world populations where appropriate. The methods for assessing individual and collective radiation doses should follow the guidance given in 'Principles for the Assessment of Prospective Public Doses arising from Authorised Discharges of Radioactive Waste to the Environment August 2012 [16].It is important that the methods used in any radiological dose assessment are clear and that key parameter values and assumptions are given (for example, the location of the representative persons, habit data and models used in the assessment).

Any radiological impact assessment should also consider the possibility of short-term planned releases and the potential for accidental releases of radionuclides to the environment. This can be done by referring to compliance with the Ionising Radiation Regulations and other relevant legislation and guidance.

The radiological impact of any solid waste storage and disposal should also be addressed in the assessment to ensure that this complies with UK practice and legislation; information should be provided on the category of waste involved (e.g. very low level waste, VLLW). It is also important that the radiological impact associated with the decommissioning of the site is

[14] Council Directive 96/29/EURATOM laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation.

[15] HPA (2008) Guidance on the application of dose coefficients for the embryo, fetus and breastfed infant in dose assessments for members of the public. Doc HPA, RCE-5, 1-78, available at https://www.gov.uk/government/publications/embryo-fetus-and-breastfed-infant-application-of-dose-coefficients

[16] The Environment Agency (EA), Scottish Environment Protection Agency (SEPA), Northern Ireland Environment Agency, Health Protection Agency and the Food Standards Agency (FSA). Principles for the Assessment of Prospective Public Doses arising from Authorised Discharges of Radioactive Waste to the Environment August 2012. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/296390/geho1202bklh-e-e.pdf

addressed. Of relevance here is PHE advice on radiological criteria and assessments for land-based solid waste disposal facilities[17]. PHE advises that assessments of radiological impact during the operational phase should be performed in the same way as for any site authorised to discharge radioactive waste. PHE also advises that assessments of radiological impact during the post operational phase of the facility should consider long timescales (possibly in excess of 10,000 years) that are appropriate to the long-lived nature of the radionuclides in the waste, some of which may have half-lives of millions of years. The radiological assessment should consider exposure of members of hypothetical representative groups for a number of scenarios including the expected migration of radionuclides from the facility, and inadvertent intrusion into the facility once institutional control has ceased. For scenarios where the probability of occurrence can be estimated, both doses and health risks should be presented, where the health risk is the product of the probability that the scenario occurs, the dose if the scenario occurs and the health risk corresponding to unit dose. For inadvertent intrusion, the dose if the intrusion occurs should be presented. It is recommended that the post-closure phase be considered as a series of timescales, with the approach changing from more quantitative to more qualitative as times further in the future are considered. The level of detail and sophistication in the modelling should also reflect the level of hazard presented by the waste. The uncertainty due to the long timescales means that the concept of collective dose has very limited use, although estimates of collective dose from the 'expected' migration scenario can be used to compare the relatively early impacts from some disposal options if required.

[17] HPA RCE-8, Radiological Protection Objectives for the Land-based Disposal of Solid Radioactive Wastes, February 2009

Annex 1

Human health risk assessment (chemical pollutants)

The points below are cross-cutting and should be considered when undertaking a human health risk assessment:

- The promoter should consider including Chemical Abstract Service (CAS) numbers alongside chemical names, where referenced in the ES
- Where available, the most recent United Kingdom standards for the appropriate media (e.g. air, water, and/or soil) and health-based guideline values should be used when quantifying the risk to human health from chemical pollutants. Where UK standards or guideline values are not available, those recommended by the European Union or World Health Organisation can be used
- When assessing the human health risk of a chemical emitted from a facility or operation, the background exposure to the chemical from other sources should be taken into account
- When quantitatively assessing the health risk of genotoxic and carcinogenic chemical pollutants PHE does not favour the use of mathematical models to extrapolate from high dose levels used in animal carcinogenicity studies to well below the observed region of a dose-response relationship. When only animal data are available, we recommend that the 'Margin of Exposure' (MOE) approach[18] is used

[18] Benford D et al. 2010. Application of the margin of exposure approach to substances in food that are genotoxic and carcinogenic. Food Chem Toxicol 48 Suppl 1: S2-24

A417 Missing Link – proposed development by Highways England

Royal Mail Group Limited comments on information to be provided in applicant's Environmental Statement

Introduction

Reference the letter from PINS to Royal Mail dated 15 May 2019 requesting Royal Mail's comments on the information that should be provided in Highways England's Environmental Statement.

Royal Mail's consultants BNP Paribas Real Estate have reviewed the applicant's Scoping Report dated March 2019, scrutinising the proposed development and its potential impacts on Royal Mail's business interests.

Royal Mail– relevant information

Under section 35 of the Postal Services Act 2011 (the "Act"), Royal Mail has been designated by Ofcom (the independent communications regulator) as a provider of the Universal Postal Service.

Royal Mail is the only such provider in the United Kingdom. Its services are regulated by the Communications Industry Regulator, Ofcom.

In respect of its postal services functions, section 29 of the Act provides that Ofcom's primary regulatory duty is to secure the provision of the Universal Postal Service. Ofcom discharges this duty by imposing regulatory conditions on Royal Mail, requiring it to provide the Universal Postal Service.

By sections 30 and 31 of the Act (read with sections 32 and 33) there is a set of minimum standards for Universal Service Providers, which Ofcom must secure. The conditions imposed by Ofcom reflect those standards. There is, in effect, a statutory obligation on Royal Mail to provide at least one collection from letterboxes and post offices six days a week and one delivery of letters to all 29 million homes and businesses in the UK six days a week (five days a week for parcels). Royal Mail must also provide a range of "end to end" services meeting users' needs, e.g. First Class, Second Class, Special Delivery by 1 pm, International and Redirections services.

Royal Mail is under some of the highest specification performance obligations for quality of service in Europe. Its performance of the Universal Service Provider obligations is in the public interest and should not be affected detrimentally by any statutorily authorised project.

Royal Mail's postal sorting and delivery operations rely heavily on road communications. Royal Mail's ability to provide efficient mail collection, sorting and delivery to the public is sensitive to changes in the capacity of the highway network.

Royal Mail is a major road user nationally. Disruption to the highway network and traffic delays can have direct consequences on Royal Mail's operations, its ability to meet the Universal Service Obligation and comply with the regulatory regime for postal services thereby presenting a significant risk to Royal Mail's business.

Potential impacts of the scheme on Royal Mail

Royal Mail has five operational facilities within 12 miles of the proposed DCO boundary as listed below:

Site	Address	Distance
GLOUCESTER NORTH DELIVERY OFFICE	HURRICANE ROAD GLOUCESTER GL3 4EE	5.6
CHELTENHAM DELIVERY OFFICE	SWINDON ROAD CHELTENHAM GL50 4BB	7.3
CHELTENHAM VEHICLE PARK	THE BREWERY, MONSOON AVENUE CHELTENHAM GL50 4EJ	7.4
GLOUCESTER VEHICLE SERVICE CENTRE / OFFICES	EASTERN AVENUE GLOUCESTER GL4 3AA	8.1
GLOUCESTER SOUTH DELIVERY OFFICE	OLYMPUS PARK GLOUCESTER GL2 4BB	11.4

This section of the A417 is a strategically important distribution route for Royal Mail services, important to mail handling and delivery at the regional and national levels. All Royal Mail vehicles / services that use the affected sections of these roads are at risk of delays during the estimated 3 year construction period.

In exercising its statutory duties, Royal Mail vehicles use all of the adjacent local roads on a daily basis. Any additional congestion on these roads during the construction phase has the potential to significantly disrupt Royal Mail's operations.

Royal Mail therefore wishes to ensure the protection of its future ability to provide an efficient mail sorting and delivery service to the public in accordance with its statutory obligations which may be adversely affected by the construction of this proposed scheme.

Royal Mail's comments on information that should be provided in Highways England's Environmental Statement

Royal Mail fully supports the objectives of the proposed scheme; if congestion, journey delays and accidents can be reduced by the scheme then there will be significant benefits to all road users.

However, Royal Mail asks that Highways England fully notes the above and addresses the following comments / requests:

1. Royal Mail requests that the ES includes information on the needs of major road users (such as Royal Mail) and acknowledges the requirement to ensure that major road users are not disrupted though full consultation at the appropriate time in the DCO and development processes.

2. The ES should include detailed information on the construction traffic mitigation measures that are proposed to be implemented, including a draft Construction Traffic Management Plan (CTMP).

3. Royal Mail requests that it is fully pre-consulted by Highways England on any proposed road closures / diversions/ alternative access arrangements, hours of working and the content of the CTMP. The ES should acknowledge the need for this consultation with Royal Mail and other relevant local businesses / occupiers.

Royal Mail is able to supply the applicant with information on its road usage / trips if required.

Should PINS or Highways England have any queries in relation to the above then in the first instance please contact Holly Trotman [redacted] of Royal Mail's Legal Services Team or Daniel Parry-Jones [redacted] of BNP Paribas Real Estate.

Hoare, Owen

From: Myles Kidd [redacted]
Sent: 09 June 2019 22:50
To: A417 Missing Link at Air Balloon
Cc: Biel Casey2; Richard Gillingham; Alice Jennings; DCTransport
Subject: TR010056 - A417 Missing Link - EIA Scoping Notification and Consultation

Your reference: TR010056-000002

Dear Marnie Woods

Thank you for your email of 15th May 2019 and linked Environmental Impact Assessment Scoping Report for the A417 "Missing Link" scheme. We have reviewed the scoping document and South Gloucestershire Council do not have any comments to add.

Kind Regards

Myles

Myles Kidd B.Eng. (Hons) MCIHT, CMILT, MTPS

Transport Development Control Manager
Strategic Transport & Environmental Policy
Department of Environment & Community Services
South Gloucestershire Council
: PO Box 1954, Bristol, BS37 0DD
Office: Badminton Road, Yate, BS37 5AF
☎: [redacted]
: [redacted]
:www.southglos.gov.uk

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South Gloucestershire Council Achieving excellence for our residents and their communities, ensuring South Gloucestershire continues to be a great place to live and work

_____

_____

Hoare, Owen

From: John Careford [redacted]
Sent: 17 May 2019 12:27
To: A417 Missing Link at Air Balloon
Subject: Scoping Consultation

Dear Marnie,
Thank you for consulting Stratford-on-Avon District Council.
I can confirm that the Council has no comments.
Regards,

John Careford *MRTPI*
Policy Manager (Enterprise, Housing & Planning)
Policy Team, Stratford-on-Avon District Council
[redacted]

Hoare, Owen

From: [redacted]
Sent: 05 June 2019 15:06
To: A417 Missing Link at Air Balloon
Subject: FW: TR010056-000002 // S.19/1053/MISC

F.A.O Marnie Woods

Dear Madam,

Thank you for consulting Stroud District Council on the proposed changes to the A417, 'Missing Link'.

The documentation has been reviewed and is considered to not pose any significant concern to Stroud District Council. The District Council have no further comments to make in relation to the scoping opinion.

Kind Regards,

Amy

Amy Robertson
Senior Planner

Stroud District Council
Ebley Mill
Westward Road
Stroud
GL5 4UB

Hoare, Owen

From: Liz Huggins [redacted]
Sent: 17 May 2019 11:29
To: A417 Missing Link at Air Balloon
Subject: TR010056-000002 A417 Missing Link
Attachments: A417 scoping opinion.pdf

Follow Up Flag: Follow up
Flag Status: Completed

Dear Marnie Woods

Further to your attached letter received here at the West Oxfordshire District Council we would like to respond that we do not have any comment to contribute.

Best regards

Liz Huggins
Appeal Support Team Administrator
West Oxfordshire District Council
Elmfield, New Yatt Road
Witney
Oxfordshire OX28 1PB
Email: [redacted]