

Date: 14 December 2021  
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**BY EMAIL ONLY**

Dear Sir,

**NSIP: A417 Missing link – Written Representations**  
**User Code: TR010056**

Thank you for your consultation on the above dated 16 November 2021 which was received by Natural England on the same date.

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.

**Written Representation**

PART I: Summary of Natural England's advice. We have matters that are yet to be resolved.

PART II: Annexes including Natural England's answers to the ExA's first written questions.

## Contents

|   |   |    |
|---|---|----|
| 1 | Part 1 – Executive Summary .....  | 4  |
| 2 | Part 2 – Introduction .....   | 6  |
|   | Purpose and structure of these representations.....   | 6  |
| 3 | Part 3 – Conservation designations, features and interests that could be affected by the proposed project ..... | 7  |
|   | International conservation designations .....   | 7  |
|   | National conservation designations.....   | 8  |
|   | European Protected Species .....  | 9  |
|   | Nationally Protected Species .....  | 9  |
|   | Landscape designations .....  | 9  |
|   | Non-designated interests and features of concern .....  | 9  |
| 4 | Part 4 – Natural England's concerns and advice .....  | 11 |
|   | The principal issues.....   | 11 |
|   | Constructing a new road in an AONB.....   | 12 |
|   | Cotswold Way National Trail.....  | 12 |
|   | Habitats sites .....  | 12 |
|   | Habitats Regulations Assessment Screening .....   | 12 |
|   | Severn Estuary Ramsar site .....  | 12 |
|   | Cotswold Beechwoods Special Area of Conservation .....  | 14 |
|   | Nationally designated sites.....  | 15 |
|   | Bushley Muzzard, Brimpsfield SSSI .....   | 15 |
|   | Crickley Hill and Barrow Wake SSSI .....  | 15 |
|   | Protected species .....   | 17 |
|   | Bats .....  | 17 |
|   | Badgers .....   | 17 |
|   | Roman snail.....  | 17 |
|   | Great crested newts .....   | 18 |
|   | Otter .....   | 18 |
|   | Reptiles.....   | 18 |
|   | Barn owl.....   | 19 |
|   | Breeding and wintering birds.....   | 19 |
|   | Fish.....   | 19 |
|   | Priority Habitat.....   | 20 |
|   | Ancient woodland.....   | 20 |
|   | Petrifying springs with tufa formation.....   | 21 |

|   |    |
|---|----|
| Biodiversity net gain .....                           | 21 |
| Net losses from the scheme.....                       | 21 |
| Lowland meadow .....                                  | 22 |
| Soils (including “best and most versatile land”)..... | 23 |
| Air quality.....                                      | 23 |
| 5 Part 5 – Conclusions .....                          | 24 |
| 6 Part 6 – Examiners Questions .....                  | 25 |
| 7 Part 7 – Annexes.....                               | 25 |

## 1 Part 1 – Executive Summary

Natural England advises that, in relation to the issues within our remit, there is no fundamental reason or principle why the project should not be permitted. However aspects of the project could be improved in order to avoid, reduce or better mitigate some environmental impacts. In particular we remain concerned regarding the impacts of the project on Crickley Hill and Barrow Wake Site of Special Scientific Interest and the overall biodiversity loss caused by the scheme.

### Constructing a new road in an AONB

Natural England is satisfied that the surveys are adequate and that the scheme's proposed mitigation is appropriate.

### Cotswold Way National Trail

Natural England is satisfied with the proposals with regard to the Cotswold Way National Trail. We welcome the proposed provision of a crossing over the A417, which would connect into the Air Balloon Way. This would cross over the A417 and connect to the Air Balloon Way. The detail will be decided at detailed design stage.

### Habitats Sites

We are satisfied that the screening out of impacts on the Forest of Dean Bat Sites Special Area of Conservation (SAC), North Meadow and Clattinger Farm SAC, and the Severn Estuary SAC and Special Protection Area (SPA) is appropriate.

With regard to the Cotswold Beechwoods SAC, we advise that with the additional measures proposed, we agree with the conclusion of the Statement to Inform Appropriate Assessment that there are no adverse effects on integrity.

We are now advising that the Severn Estuary Ramsar site cannot be screened out and a Statement to Inform Appropriate Assessment should be undertaken.

### Nationally designated sites

The scheme would adversely impact the Barrow Wake part of Crickley Hill and Barrow Wake Site of Special Scientific Interest (SSSI), as a result of land take and increased recreational activity. Natural England wishes to see the complete closure of the car park, ground levels rationalised and the land restored to calcareous grassland, with an understanding that this would contribute towards offsetting the net loss of biodiversity resulting from this scheme. We would also like to see the roundabout removed from the scheme.

### Protected species

Natural England has no outstanding concerns in relation to impacts on protected species. We have issued Letters of No Impediment for all species which require a licence, namely, bats, badgers and Roman snail.

### Fish

There is potential for direct impacts within the tributary of Norman's Brook to fish such as European bullhead, European eel, brown trout and brook lamprey due to the temporary loss of habitat and river realignment. Natural England is now recommending that the Severn Esuary Ramsar site is progressed to the Statement to Inform Appropriate Assessment stage of the Habitat Regulations Assessment process, due to the potential for works to impact on European eel. We consider that the detailed design

should include the removal of barriers to eel and measures to improve the ability of Norman's Brook to support populations of European eel.

#### Priority habitat

The scheme would result in losses of Priority habitat, including lowland meadow, lowland calcareous grassland, calcareous species-rich grassland, broadleaved woodland, hedgerows, veteran trees, and the Annex 1 habitat Petrifying springs with tufa formation (*Cratoneurion*).

#### Ancient woodland

Ullen Wood is an ancient semi-natural woodland (ASNW) situated to the north east of the scheme. The scheme would result in air quality impacts which, in our view, would result in the gradual loss of 2.1ha of ancient woodland. Natural England accepts that the scheme impacts are unavoidable with this route, that mitigation is not possible, and we therefore accept the principle of compensation, in this specific case. We are satisfied that the compensation proposed is appropriate in the circumstances.

#### Petrifying springs with tufa formation

The scheme would result in the loss of one feature with qualifying vegetation of the Annex 1 habitat H7220 Petrifying springs with tufa formation (*Cratoneurion*), as a result of the realignment of the tributary of Norman's Brook. Natural England agrees that it is not possible to mitigate the loss of tufa habitat impacted by the scheme. Natural England is satisfied with the proposed approach to mitigation and compensation, and in light of the conditions and suggested future management proposals at these sites. We will continue to engage through detailed design stage.

#### Biodiversity Net Gain

The scheme would result in a net loss of biodiversity in the region of 20-25%. In general, we support the decisions taken to minimise impacts on habitats and species and provide mitigation and compensation, with a focus on providing priority habitats and functional habitat mosaics. However, this loss remains extremely disappointing.

#### Soils

Out of a total of 130.2ha of affected agricultural land, 18.9ha of Best and Most Versatile Agricultural Land would be permanently lost. Natural England is raising no objections on this matter.

## 2 Part 2 – Introduction

### Purpose and structure of these representations

- 2.1 These Written Representations are submitted in pursuance of rule 10(1) of the Infrastructure Planning (Examination Procedure) Rules 2010 ('ExPR') in relation to an application under the Planning Act 2008 for a Development Consent Order ('DCO') for the A417 Missing Link scheme submitted by National Highways ('the Applicant') to the Secretary of State.
- 2.2 Natural England has already provided a summary of its principal concerns in its Relevant Representations, submitted to the Planning Inspectorate on 2 September 2021. This document comprises an updated detailed statement of Natural England's views, as they have developed in view of the common ground discussions that have taken place with the Applicant to date. These are structured as follows:
- a. Section 2 describes the conservation designations, features and interests that may be affected by the Project and need to be considered.
  - b. Section 3 comprises Natural England's submissions in respect of the issues that concern it. This submission cross-refers to, and is supported by, the evidence contained in the Annexes.
  - c. Section 4 sets out Natural England's concerns and advice, cross referenced with our answer to the Examining Authority's written questions which were asked on 16 November 2021, and the rest of this document.
  - d. Section 5 provides a summary of Natural England's case.
  - e. The Annexes contain evidence referred to in the main body of these Representations.

### 3 Part 3 – Conservation designations, features and interests that could be affected by the proposed project

3.1 The following is a brief summary of the interest features of the relevant designated areas of concern in this matter. Designation citations and maps are included in Annex B.

#### International conservation designations

| Site Name                                       | Distance from project site (indicative) | Type of habitat, reasons for designation or conservation interest  | Features for which outstanding concerns remain (where applicable) |
|---|---|--|---|
| Cotswold Beechwoods SAC                         | 291m west                               | H6210 Semi-natural dry grasslands and scrubland facies: on calcareous substrates ( <i>Festuco-Brometalia</i> ), (note that this includes the priority feature "important orchid rich sites").<br>H9130 <i>Asperulo-Fagetum</i> beech forests.  | None, provided mitigation is secured.                             |
| Severn Estuary SAC                              | Approximately 11 miles west             | SAC H1110 Sandbanks which are slightly covered by sea water all the time<br>H1130 Estuaries<br>H1140 Mudflats and sandflats not covered by seawater at low tide<br>H1170 Reefs<br>H1330 Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritimae</i> )<br>S1095 Sea lamprey, <i>Petromyzon marinus</i><br>S1099 River lamprey, <i>Lampetra fluviatilis</i><br>S1103 Twaite shad, <i>Alosa fallax</i> | Needs progressing to Appropriate Assessment.                      |
| Severn Estuary SPA                              | Approximately 11 miles west             | Bewick's swan, <i>Cygnus columbianus bewickii</i> - A037, nb<br>Dunlin, <i>Calidris alpina alpina</i> - A672, nb<br>Gadwall, <i>Anas strepera</i> - A051, nb<br>Greater white-fronted goose, <i>Anser albifrons albifrons</i> - A394, nb<br>Redshank, <i>Tringa totanus</i> - A162, nb<br>Shelduck, <i>Tadorna tadorna</i> - A048, nb<br>Waterbird assemblage  | None  |
| Severn Estuary Ramsar site                      | Approximately 11 miles west             | Wetlands   | None  |
| North Meadow and Clattinger Farm SAC            | 12.4 miles south east                   | H6510 Lowland hay meadows ( <i>A. pratensis</i> , <i>S. officinalis</i> ).   | None  |
| The Wye Valley and Forest of Dean Bat sites SAC | 13.7 miles west                         | S1303 Lesser horseshoe bat, <i>Rhinolophus hipposideros</i> .<br>S1304 Greater horseshoe bat, <i>Rhinolophus ferrumequinum</i> .   | None  |

## National conservation designations

| Site Name   | Distance from project site (indicative) | Type of habitat, reasons for designation or conservation interest  | Features for which outstanding concerns remain (where applicable)  |
|---|---|--|--|
| Crickley Hill and Barrow Wake SSSI                                      | Within red line boundary                | Mixed biological and geological site. The site supports a diverse range of vegetation types, including mosaics and transitional habitats.  | Lowland calcareous grassland<br>(CG3 – <i>Bromus erectus</i> and CG5 – <i>Bromus erectus</i> – <i>Brachypodium pinnatum</i> )<br><br>Lowland woodland<br>(W12 – <i>Fagus sylvatica</i> – <i>Mercurialis perennis</i> woodland and W8 – <i>Fraxinus excelsior</i> – <i>Acer campestre</i> woodland) |
| Bushley Muzzard, Brimpsfield SSSI                                       | 218m west                               | Cotswold springline marsh. Vegetation closes to NVC M22 fen meadow type, although not a perfect match. Supports a number of rare vascular plants which are scarce locally. Set in a matrix of semi-improved grassland.   | Mitigation for the loss of tufa forming watercourses elsewhere could be delivered within the SSSI boundary.  |
| Cotswold Commons and Beechwoods SSSI (see also Cotswold Beechwoods SAC) | 291m west                               | Beech woodland. Supports an outstanding assemblage of nationally rare and scarce plants. The site is important for its assemblage of invertebrates, particularly non-marine molluscs. Parts of the site are wooded common. The site includes several grasslands. Blocks of mixed | None   |



|   |                      |   |      |
|---|----------------------|---|------|
|   |                      | scrub further add to its diversity. The habitat mosaics adds to its conversation value.   |      |
| Leckhampton Hill and Charlton Kings Common SSSI | 0.7 miles north east | Site consists of mainly unmanged grassland and scrub. Valuable flora including many nationally and locally scare species. One of only two sites in Gloucestershire for <i>Salvia pratensis</i> . Structural diversity contributes to its value for butterflies and other invertebrates. | None |

#### European Protected Species

- Bats;
- Roman snail;
- Great crested newts;
- Otter;
- Fish species including European bullhead, European eel, brown trout and brook lamprey.

#### Nationally Protected Species

- Badger;
- Barn owl;
- Reptiles;
- Great crested newts.

#### Landscape designations

- The scheme is in the Cotswolds Area of Outstanding Natural Beauty (AONB).
- The Cotswolds National Trail crosses the A417.

#### Non-designated interests and features of concern

The following areas of non-designated but valuable and sensitive habitat are/could be affected:

- 9 Ancient semi-natural woodlands within 2km of the scheme. Ullen Wood is adjacent to the scheme boundary. Ancient semi-natural woodland is an irreplaceable habitat and of national importance;

- 9 Non-statutory sites of national importance are within 2km of the scheme;
- 11 Non-statutory sites of county importance are within 2km of the scheme;
- 21 broadleaved veteran trees within or adjacent to the scheme, one of which is considered to be ancient. Veteran and ancient trees have national importance;
- Priority Habitats within the DCO boundary are lowland mixed deciduous woodland, lowland calcareous grassland and lowland meadow. Traditional orchard and wood pasture and parkland are also present within 2km of the scheme.
- 32ha Best and most versatile agricultural land.

## 4 Part 4 – Natural England's concerns and advice

### The principal issues

- 4.1 Natural England identified the following main issues in its Relevant Representations:
- **Constructing a new road in an AONB** – The missing link is a new three mile stretch of road through the Cotswolds Areas of Outstanding Natural Beauty (AONB). The road is up a steep scarp edge and therefore its construction requires significant engineering. The road would have landscape and visual impacts during construction and operation.
  - **Cotswold Way National Trail** – The scheme would include a diversion of the Cotswold Way National Trail across a footbridge, the 'Cotswold way crossing'. This would cross over the A417 and connect to the Air Balloon Way.
  - **Habitats sites** – The scheme has the potential to impact on Cotswold Beechwoods SAC, the Forest of Dean Bat Sites SAC and North Meadow and Clattinger Farm SAC. A Habitats Regulations Assessment has been undertaken.
  - **Nationally designated sites** – The scheme would adversely impact the Barrow Wake part of Crickley Hill and Barrow Wake SSSI, as a result of land take and increased recreational activity. There are also potential impacts on Bushley Muzzard, Brimpsfield SSSI through delivering mitigation for the loss of tufaceous habitats within the SSSI boundary.
  - **Protected species** – The scheme would impact on bats, barn owls, great crested newts, otter, Roman snails, badgers, breeding and wintering bird assemblages, terrestrial invertebrates, aquatic invertebrates and fish. Losses in both habitat extent and continuity give rise to the need for suitable avoidance and mitigation measures (including relevant licence applications) together with compensation and enhancement.
  - **Ancient woodland** – Ullen Wood is an ancient semi-natural woodland (ASNW) of national importance situated to the north east of the scheme, adjacent to the existing A436. As a result of the scheme, the A436 roundabout would be within 45m of the woodland and the new A436 and A417 alignment would be within 25m of the woodland at its nearest point, although the road would be within a deep cutting. This would result in air quality impacts.
  - **Priority habitat** – The scheme would result in losses of Priority habitat, including lowland meadow, lowland calcareous grassland, calcareous species-rich grassland, broadleaved woodland, hedgerows, veteran trees, and the Annex 1 habitat Petrifying springs with tufa formation (*Cratoneurion*).
  - **Biodiversity Net Gain** – The scheme would result in a net loss of biodiversity in the region of 20-25%.
  - **Soils (including “best and most versatile land”)** – Out of a total of 130.2ha of affected agricultural land, 32ha is classed as best and most versatile agricultural land (Agricultural Land Classification (ALC) grades 1-3a). Of this, 18.9ha of this BMV agricultural land would be permanently lost, and a further 13.13ha temporarily lost during construction and then reinstated.
  - **Air quality** – The substantial changes being made to the layout of the roads in the area will alter patterns of nitrogen deposition.
- 4.2 These issues will be discussed in corresponding sections below along with any updates on the progress or resolution of issues.

### Constructing a new road in an AONB

- 4.3 Natural England considers that the scheme would not be detrimental to the purpose of the Cotswolds AONB. Natural England is satisfied that the design of the scheme has fulfilled the requirement for high environmental standards (as set out in National Planning Statement on National Networks at 5.153) and that the design includes measures which enhance aspects of the environment of the Cotswolds AONB. Section 7.5 of document 7.1 'Case for Scheme' provides the evidence for this. However, we remain concerned by the level of biodiversity loss that the scheme would cause.

### Cotswold Way National Trail

- 4.4 The scheme includes a diversion of the Cotswold Way National Trail across a footbridge, the Cotswold way crossing. This would cross over the A417 and connect to the Air Balloon Way. Natural England has no objection to the principle of the proposals which have the potential to provide a better (safer) experience for walkers. It will be important to provide appropriate alternative routes during the lengthy construction phase. The design of the crossing will be discussed and agreed at Detailed Design stage.

### Habitats sites

#### Habitats Regulations Assessment Screening

- 4.5 Natural England has been consulted on the Habitat Regulations Assessment Screening and the Statement to Inform Appropriate Assessment. We are satisfied that the screening out of the Forest of Dean Bat Sites Special Area of Conservation (SAC), North Meadow and Clattinger Farm SAC, and the Severn Estuary SAC and Special Protection Area (SPA) is appropriate.

#### Severn Estuary Ramsar site

- 4.6 Natural England is amending its advice regarding the Severn Estuary Ramsar site. We cannot agree with the reasoning that was used to screen out impacts on European eel, a listed interest feature of the River Severn Ramsar site. We are now advising that this site is progressed to the Appropriate Assessment stage.
- 4.7 The Severn Estuary Ramsar site is approximately 19km west of the scheme boundary. A section of Norman's Brook which runs adjacent to the existing A417 will be subject to realignment as a component of the scheme. This section which will be subject to direct effects from the scheme is approximately 50km upstream from the Severn Estuary Ramsar's furthest upstream boundary.
- 4.8 The HRA says that because the affected extent of the (very large) catchment is tiny in percentage terms, then the risks of effects on eel are 'negligible'.
- 4.9 HRA paragraph 248:  
*European eel is a catadromous species which utilises a wide range of habitat in freshwater. Norman's Brook cannot be ruled out as supporting eel on this basis. Furthermore, it cannot be concluded that eel would not be able to pass the in-stream barriers present downstream of the affected reach of Norman's Brook. However, the affected reach of Norman's Brook, approximately 1.1km in length, represents a small proportion of the River Severn catchment which eel may utilise,*

*approximately 0.0005% of the total catchment. As such the any potential reduction of functional habitat for eel is concluded to be negligible.*

4.10 Natural England advises that this reasoning is not satisfactory to allow a conclusion of no likely significant effects. We have not given this advice previously as our thinking and evidence on functionally linked watercourses of the Severn Estuary has developed in the last year and is still emerging. However, with the scheme now at Examination stage, we advise the following approach.

4.11 It is clear from the River Habitat Survey and Fish Habitat Assessment Report in Appendix 8.23 that Norman's Brook is severely modified and that there are many barriers to fish passage. European eel is the possible exception to this.

4.12 The report concludes:

*4.1.2 Fish habitat within the survey sites is fragmented by significant weirs and culverts, many of which are considered to be impassable to all fish species (with the potential exception of European eel).*

4.13 There is therefore the possibility of eels being impacted by works. We advise that there is a likely significant effect, and that this matter should therefore be progressed to the Appropriate Assessment stage of the Habitat Regulations Assessment process. This approach would be more in accordance with case law the 'People over Wind' judgement (CJEU ref C323/17).

4.14 The Appropriate Assessment can take mitigation and watercourse enhancement already being proposed into account. The Environmental Management Plan sets out a requirement in BD28 for the sensitive timing of works in relation to fish:

*BD28 Sensitive timing of works involving realignment of tributary of Norman's Brook regarding tufa habitat, aquatic macroinvertebrates and fish (including eggs laid in spawning habitats) to minimise habitat damage and mortality and injury of species.*

4.15 The Landscape and Ecological Management Plan (LEMP) states:

*5.16.1 The detailed design of the new river habitat in the diverted channel would be agreed in consultation with EA specialists. The detailed design would focus on balancing the habitat requirements (substrate, depth, flow types and refuges) of aquatic communities present, with returning the river to a more natural step-pool habitat that would have existed prior to modification of the river by numerous weirs.*

*5.16.2 The new channel would also seek to improve connectivity of habitat for aquatic species. The requirements for fish passage through this channel may be further refined following pre-construction fish surveys.*

4.16 The scheme provides a good opportunity to improve the Norman's Brook for eel and other species by removing barriers and restoring the watercourse to one with more natural hydrological functions, including flows and habitats. The exact proposals are a matter for detailed design if the DCO is granted and will be agreed in consultation with Environment Agency specialists. Natural England is willing to input if that would be of assistance. We advise that this detailed

design should include improving the watercourses potential to support populations of European eel.

#### Cotswold Beechwoods Special Area of Conservation

- 4.17 The Cotswolds Beechwoods Special Area of Conservation (SAC) was screened in as having likely significant effects due to the potential for the scheme to increase the recreational pressure on the SAC. A Statement to Inform Appropriate Assessment was undertaken (SIAA) (document 415). The SIAA concluded that there were uncertainties around the efficacy of measures that are integral to the scheme. Therefore additional precautionary mitigation needed to be provided.
- 4.18 The additional precautionary measures referred to in the conclusion are described in section 7 of the Appropriate Assessment:

##### *7.1 Mitigation*

*7.1.1 Due to the possibility that integral measures to the scheme in the form of alternative recreational provision will not remove the risk of an effect entirely, a precautionary approach is being taken to mitigation for this scheme, in order to increase confidence that recreational disturbance would not result in detrimental impacts to the qualifying interests of the SAC. Natural England are supportive of the provision of additional recreational control measures at the SAC (Statement of Commonality (Document Reference 7.3)). They recommend that these are developed in tandem with the recreation mitigation strategy currently being prepared by the local planning authorities in the vicinity of the SAC.*

*7.1.2 Highways England will work with Natural England and Stroud District Council (in their capacity as lead authors/ owners of the recreation mitigation strategy), to agree specific measures to control recreational use of the SAC. Such measures may include the provision of signage/ interpretation boards to raise public awareness of the value of ancient woodland and trees, and the importance of respecting measures installed to reduce root compaction. From correspondence with Natural England it is understood that the draft mitigation strategy includes reference to signage and information boards, and that there is an opportunity for Highways England to collaborate with the participating planning authorities to provide suitable measures.*

*7.1.3 The commitment to agree such measures is identified in the Register of Environmental Actions and Commitments contained within ES Appendix 2.1 EMP, and documented in Annex D LEMP (Document Reference 6.4) of ES Appendix 2.1 EMP.*

- 4.19 The A417 Missing link scheme includes the Cotswold Way crossing, the Gloucestershire Way green bridge, the Air Balloon Way, and parking provision near to the Golden Heart. The Beechwoods are only a 2.3km walk from the new Cotswold Way crossing. These new assets could potentially significantly alter the way people utilise this landscape, and the interrelationship between these assets and the Cotswold Beechwoods is difficult to predict. The additional mitigation proposed is considered to be a necessary precautionary, allowing the conclusion of no adverse effects on the integrity of the Cotswold Beechwoods SAC. This matter is covered in section 6.25 of our Statement of Common Ground with National Highways.
- 4.20 The combination of the A417 Missing link scheme and the growth proposed locally provides a really unique opportunity to change the way people interact with this landscape, for the better. Stroud District Council, Tewkesbury Borough Council, Cotswolds District Council, Cheltenham

Borough Council and Gloucester City Council have undertaken visitor surveys of the Cotswold Beechwoods SAC, to inform their Habitats Regulations Assessments of their development Plans and planning applications. Plans and projects resulting in additional recreational pressure are deemed to be having an adverse effect on the integrity of the site, and as such, they are required to contribute towards the management of the site and the provision of new recreational resources. There is further information on this in the Statement to Inform Appropriate Assessment – Document 415. There is also evidence that Crickley Hill Country Park (which is a SSSI) is being impacted by heavy recreational pressure. It is our strong recommendation that National Highways, the Local Planning Authorities, the National Trust and Gloucestershire Wildlife Trust work together to devise a holistic solution to the issue of recreational pressure. Natural England would be pleased to be involved in this discussion. This is potentially something that could be progressed through the Designated Environmental Funds. However we would welcome it if it could also tie in the mitigation discussed in paragraph 4.19.

#### Nationally designated sites

- 4.21 Natural England is satisfied that the scheme is not likely to damage or destroy:
- Cotswold Commons and Beechwoods SSSI
  - Leckhampton Hill and Charlton Kings Common SSSI.

#### Bushley Muzzard, Brimpsfield SSSI

- 4.22 Natural England is satisfied that the scheme itself would not impact on Bushley Muzzard, Brimpsfield SSSI. However, proposals to offset for the loss of tufa forming watercourses by enhancing features already present in the SSSI could impact on the site. This is discussed further under the sections on tufa.

#### Crickley Hill and Barrow Wake SSSI

- 4.23 Crickley Hill and Barrow Wake SSSI lies on the Cotswold scarp south of Cheltenham. The site is dissected by the existing A417, with the Crickley Hill portion to the north and the Barrow Wake portion to the south. The site is protected for a mix of biological and geological interests. It supports a range of habitats characteristic of the Cotswold limestone, including species rich grassland, scrub and semi-natural woodland, together with nationally important rock exposures. The SSSI citation is provided in Annex B.
- 4.24 Natural England is not satisfied that the project would not damage features of interest of Crickley Hill and Barrow Wake Site of Special Scientific Interest (SSSI). The roundabout on the B4070 Barrow Wake Road would result in the loss of a small amount of land that is within the SSSI boundaries. More critically, we are concerned that the roundabout improves access to the Barrow Wake car park, which is likely to experience increased popularity as people can use it to access the new 'Air Balloon Way'. Increased footfall is likely to damage the site, particularly the calcareous grassland which is sensitive to trampling.
- 4.25 The proposed access roundabout would require land take totally 500m<sup>2</sup> from within the Barrow Wake part of Crickley Hill and Barrow Wake SSSI. This land is road verge habitat, including young to semi-mature trees, such as ash, hazel, willow and hawthorn, with ruderal species. As such, we acknowledge that this loss would not significantly impact features for which the site is notified. Nevertheless, we consider that this is a step in the wrong direction for the conservation

of this site as it means we would lose the ability to return some secondary woodland to limestone grassland.

- 4.26 The improved access to the car park and the appeal of the Air Balloon Way would lead to increased footfall in the SSSI, as visitors utilise the car park to access the Air Balloon Way trail and Crickley Hill country park via the new footbridge. This is likely to lead to increased trampling and erosion within the SSSI, damaging the calcareous grassland, particularly as people move to the ridgeline to enjoy the views. In addition more people could impact on the ability to graze the site safely, which is essential for its management.
- 4.27 Paragraph 8.10.228 of Environmental Statement Chapter 8 – Biodiversity acknowledges that the viewpoint close to the car park will be a particular draw for visitors walking the Air Balloon Way, and that the grassland habitat in closer proximity to this location is more likely to be impacted by increased visitor numbers. The ES states that:  
*“segregated routes, signage and other measures to deter public access from sensitive features would be discussed and agreed at detailed design stage, to help reduce and avoid adverse impacts on SSSI habitats that could arise from additional visitors attracted to the viewpoint and immediate surrounds”.*  
Natural England would not consider additional infrastructure in the SSSI to be suitable or effective mitigation.
- 4.28 Natural England understands that it is National Highway’s view that the scheme is not altering Barrow Wake car park and that any changes to the car park are outside of their control. However, the car park is within the red line boundary of the site. The scheme as proposed would have an adverse impact on the SSSI and therefore changes should be made to avoid or mitigate for this impact. We consider that with the inclusion of an access roundabout the A417 missing link proposals is locking in the existing situation. This is a missed opportunity to deliver a greater amount of positive enhancement from this scheme.
- 4.29 Natural England wishes to see the complete closure of the car park, ground levels rationalised and the land restored to calcareous grassland, with an understanding that this would contribute towards offsetting the net loss of biodiversity resulting from this scheme. Crickley Hill and Barrow Wake SSSI is a core reservoir for biodiversity and the scheme should do everything possible to protect and enhance the site and use it as a ‘pool’ from which species can expand across the landscape, aiding the recovery of nature.
- 4.30 Decisions around the Barrow Wake car park should not been taken in isolation; they should be set in the context of a wider conversation around the recreational use of this area. Designated sites in this area are already being negatively impacted by recreational pressure. Crickley Hill Country Park (the northern portion of the Crickley Hill and Barrow Wake Site of Special Scientific Interest) and the nearby Cotswold Beechwoods Special Area of Conservation are both already negatively impacted by recreational pressure, and in the absence of appropriate mitigation, planned growth in the local area could make the situation worse. It is our strong recommendation that National Highways, the Local Planning Authorities, the National Trust and Gloucestershire Wildlife Trust work together to devise a holistic solution to this issue. Natural England would be pleased to be part of this discussion. This is also covered in our answer to Examiners question 1.3.15.



## Protected species

### Bats

- 4.31 The DCO area and its surrounds are important for many species of bats, which forage, roost, breed and hibernate in the area. The foraging and commuting assemblage of the four Annex II bat species (greater horseshoe, lesser horseshoe, Barbastelle and Bechsteins) in this area is considered to be of national importance. The foraging and commuting assemblage of the other bat species identified (common and soprano pipistrelle, Nathusius' pipistrelle, noctule, serotine, Leisler's, Myotis species and brown long-eared) is considered to be of county importance.
- 4.32 The scheme would result in the loss of two roosts in buildings and four roosts in trees. Suitable alternative roosting habitat will need to be provided, close to existing foraging and commuting roosts. Natural England welcomes the proposed mitigation for the losses of roosts and measures to minimise disturbance, as summarised in the ES Chapter 8 paragraphs 8.10.114 onwards and further detailed in in Annex D LEMP of ES Appendix 2.1 EMP (document reference 6.4). Embedded mitigation includes a bat underpass at Crickley Hill and three greened overbridges (the Gloucestershire Way, crossing and Stockwell and Cowley overbridges). The scheme replaces priority habitats with a greater amount than lost and has been amended to provide improved habitat connectivity.
- 4.33 A mitigation licence will be required from Natural England, detailing methods and mitigation. Updated surveys will be needed to inform licence applications. We remain keen that the updated surveys include an element of thermal imaging, especially where the crossing points and the locations of the green bridges are concerned. On the basis of the information shared to date we are not aware of any issues which could not be overcome. Natural England issued a Letter of No Impediment for bats on 28 October 2021.

### Badgers

- 4.34 There are four main territories in the scheme area. One main sett will be lost due to its location under the Shab Hill junction and another main sett will be severed from its territories. Foraging habitat will be lost. Construction activities could lead to the collapse of tunnels or abandonment of setts. The closure of the setts will require a licence from Natural England, detailing methods and mitigation. We welcome the proposals set out in the ES Chapter 8 paragraphs 8.10.132-134. Updated surveys will be needed to inform licence applications. On the basis of the information shared to date we are not aware of any issues which could not be overcome. Natural England issued a Letter of No Impediment for badgers on 28 October 2021.

### Roman snail

- 4.35 Roman snail have been identified in two discrete locations and incidental records have also been identified in additional locations. Construction activities could result in individual Roman snail being killed. A translocation exercise is proposed to be carried out, encompassing all identified or potential Roman snail habitats likely to be impacted by the scheme or associated works. All Roman snail found would be moved to a suitable receptor site, including a newly created receptor site adjacent to Birdlip Quarry. It is proposed to deliver replacement habitat through landscaping schemes, including grassy banks, log piles and bare ground interspersed into banks (ES Chapter 4 paragraph 8.9.94). The translocation exercise and mitigation measures would be undertaken under a Natural England conservation licence, referred to within Annex D LEMP of

ES Appendix 2.1 EMP (Document Reference 6.4). On the basis of the information shared to date, Natural England is satisfied with this proposed mitigation and has no objections to the scheme in relation to impacts on roman snail. Natural England issued a Letter of No Impediment for Roman snail on 21 October. We would recommend that an overall method statement is produced so that one Roman Snail licence can be issued for all of the works that could affect this species.

#### Great crested newts

- 4.36 Waterbodies supporting great crested newts are present in the area (e.g. Pond 2a supports a breeding population and there is a non-breeding pond near to National Star College). However ponds and supporting terrestrial habitat will not be directly impacted by the works. Mitigation proposed includes the sensitive timing of works and non-licensed methodologies of vegetation clearance. This is described in ES Chapter 8 paragraph 8.9.51 and incorporated in Annex D LEMP of ES Appendix 2.1 EMP (Document Reference 6.4). On this basis, Natural England has no objections to the scheme in relation to impacts on great crested newts. As a licence is not required, there is no need for a Letter of No Impediment. See also Examiners question 1.3.16.

#### Otter

- 4.37 Otters were confirmed to be present along the Upper Frome and Horsebere Brook watercourses within the study area, although they are also known to be present in the wider area within the River Churn and northern reaches of Norman's Brook. No evidence of otter was recorded within the DCO Boundary (ES Chapter 8 paragraph 8.9.79). Overnight working hours will be restricted and temporary lighting managed, as set out in ES Chapter 8 paragraph 8.9.83 and detailed in ES Appendix 2.1 EMP (Document Reference 6.4). Mitigation proposals state that preconstruction surveys will be carried out in order to inform any required licences from Natural England. On this basis, Natural England has no objections to the scheme in relation to impacts on otter. As a licence is not required, there is no need for a Letter of No Impediment.

#### Reptiles

- 4.38 Reptiles were identified at 17 locations across the scheme and the presence of the four widespread reptile species (adder, grass snake, common lizard and slow worm) together was identified at four of these locations. Exceptional numbers of slow worms were recorded at Crickley Hill and south-west of the Air Balloon roundabout (ES chapter 8 paragraph 8.9.72).
- 4.39 Mitigation measures are described in ES chapter 8 paragraph 8.9.74-78 and detailed in Annex D LEMP of ES Appendix 2.1 EMP (Document Reference 6.4) and include the creation of a translocation site of approximately 1.5ha for reptiles to the north of the Birdlip Quarry in the first year of the programme (2023 – 2024) prior to construction, extending to 3ha on completion of the works in that area. Retained reptile habitat and receptor sites adjacent to the scheme would be protected with reptile fencing. Elsewhere, habitat manipulation will be employed to displace reptiles. Where drystone walls are being dismantled, this will be sensitively timed and informed by preconstruction surveys. On the basis of the information shared to date, Natural England is satisfied with this proposed mitigation and has no objections to the scheme in relation to impacts on reptiles. As a licence is not required, there is no need for a Letter of No Impediment.
- 4.40 Paragraph 2.5.8 of the Reptile Survey explains that a number of surveys were undertaken outside of the optimal survey season. Natural England is satisfied that the information collected

is adequate (Examiners question 1.3.36). . We are also satisfied that the proposed translocation is being approached appropriately. Ultimately we would support the translocation of reptiles to whatever site was deemed to be the most suitable to securing the long-term health of reptile populations (Examiners question 1.3.29).

- 4.41 On the basis of the information shared to date, Natural England is satisfied with this proposed mitigation and has no objections to the scheme in relation to impacts on reptiles. As a licence is not required, there is no need for a Letter of No Impediment. This is covered paragraph 6.20 of our Statement of Common Ground.

#### Barn owl

- 4.42 Evidence suggests that up to three pairs of barn owls live within 500m of the DCO boundary in the region of Rushwood Kennels and Stockwell Farm, with the barn owls present within 100m of the proposed road around the Fly Up area considered to be at high risk of mortality. The ES concludes that barn owl population would be adversely impacted by disturbance from noise and lighting (from vehicles) and increased risk of injury or mortality from operational activities (8.10.296).
- 4.43 Mitigation proposal include strategic planting of woody species in areas considered to be of high collision risk, for example at Shab Hill to encourage barn owls to fly high over the road network. Planting design has aimed to provide suitable foraging and commuting routes for barn owls to connect existing habitat each side of the road corridor where barn owls are known to be present and also to direct barn owl to overbridges to use as safe crossing points. Grass verges would be managed as short grassland, and areas within junctions would include scrub planting to reduce the habitat suitability for small mammals and therefore decrease the foraging potential for barn owls near the road network (8.10.293). The ES confirms in paragraph 8.9.61 & 8.9.69 that pre-construction surveys for Schedule 1 birds including roosting or nesting barn owls will be undertaken. Natural England is satisfied with this proposed mitigation and has no objections to the scheme in relation to impacts on barn owl. As a licence is not required, there is no need for a Letter of No Impediment.

#### Breeding and wintering birds

- 4.44 The Existing A417 already poses a risk to birds from collision, however the scheme would increase this risk with the wider extent from dualling. The scheme would also increase disturbance through noise and lighting (from traffic). The provision of the greened crossing points and the embedded landscaping including steep embankments and reduced vegetation on verges (used for foraging/connectivity) would improve connectivity and reduce mortality risk. The planting of trees and hedgerows would assist in encouraging and channelling movement of birds over the bridges as safe crossing points (ES Chapter 8 paragraph 2.10.286). Natural England is satisfied with this proposed mitigation and has no objections to the scheme in relation to impacts on birds. As a licence is not required, there is no need for a Letter of No Impediment.

#### Fish

- 4.45 There is potential for direct impacts within the tributary of Norman's Brook to fish such as European bullhead, European eel, brown trout and brook lamprey due to the temporary loss of habitat and river realignment.

- 4.46 As covered in section 4.4.2 of this letter and our response to the Examiners question 1.3.34, Natural England is now recommending that the Severn Esuary Ramsar site is progressed to the Statement to Inform Appropriate Assessment stage of the Habitat Regulations Assessment process, due to the potential for works to impact on European eel.
- 4.47 It is clear from the River Habitat Survey and Fish Habitat Assessment Report in Appendix 8.23 that Norman's Brook is severely modified and that there are many barriers to fish passage. The scheme provides a good opportunity to improve the Norman's Brook for eel and other species by removing barriers and restoring the watercourse to one with more natural hydrological functions, including flows and habitats. The Eel Regulations (2009) put a legal requirement on the owner or operator of a weir or other obstacle to "*construct and operate and eel pass to allow the free passage of eels*". With this in mind we consider that the detailed design should include the removal of barriers to eel and measures to improve the ability of Norman's Brook to support populations of European eel. The exact proposals are a matter for detailed design if the DCO is granted and would be agreed in consultation with Environment Agency specialists. Natural England can be involved in these discussions, if that would be of assistance.

### Priority Habitat

#### Ancient woodland

- 4.48 Ullen Wood is an ancient semi-natural woodland (ASNW) situated to the north east of the scheme adjacent to the existing A436. As a result of the scheme, the A417 would be much closer to this woodland. The A436 roundabout would be within 45m of the woodland and the new A436 and A417 alignment would be within 25m of the woodland at its nearest point, although the road would be within a deep cutting. This would result in air quality impacts.
- 4.49 Environmental Statement Chapter 8 – Biodiversity states that air quality modelling shows a maximum increase in nitrogen deposition within the ancient woodland of 1.08kg N/ha/yr, which is a 10.8% increase against the lower critical load for broadleaved woodland at 10kg N/ha/yr. The lower critical load would also be substantially exceeded in the "Do-Minimum" baseline in 2026, with total nitrogen deposition predicted at over 34kg N/ha/yr throughout the woodland (8.10.262). This is considered likely to lead to degradation of a 2.1ha area, through a reduction in species richness and/or changes to species composition (8.10.262). We attest that this amounts to the loss of ancient woodland habitat, rather than degradation, albeit over a long timeframe. The Environmental Statement concludes that this would be a significant adverse effect on Ullen Wood.
- 4.50 Impacts are unavoidable with this proposed route. National Highways states that mitigation such as speed control measures, barriers and the cut and removal of vegetation would not be suitable here (Environmental Statement Chapter 8 paragraph 8.9.108). In accordance with the mitigation hierarchy, compensation is therefore proposed. This is in the form of planting a native broadleaved woodland habitat buffer (8.10.267). The landscape design includes a buffer of woodland and scrub planting to the south-west of Ullen Wood, as shown in ES Figure 7.11 Environmental Masterplan (Document Reference 6.3). This buffer has been designed to include a minimum of 2.1ha of compensatory woodland creation in a location where the predicated change in nitrogen deposition is below the 0.4kg N/ha/yr threshold for habitat degradation. This compensation is presented as appropriate to this location, taking into account other habitat types in the area such as calcareous grassland. In addition, National Highways has committed to

explore opportunities to contribute towards the enhancement of Ullen Wood through improvements to its management.

- 4.51 The LEMP states in paragraph xlvii:  
*Monitoring for change in species composition would be required in Ullen wood during the operational phase of the scheme to ensure the efficacy of conservation management techniques in preventing degradation of woodland habitat from increased nitrogen deposition.*
- 4.52 Paragraph xlviii states:  
*A conservation led woodland management plan to alleviate environmental pressures on Ullen Wood will be implemented to improve woodland structure, creating variation of light conditions in the woodland and increasing diversity of the ground flora. This will be achieved through introduction of woodland management measures such as selective thinning of trees (taking natural ash dieback/ related felling into account), rotational coppicing of hazel, and erection of deer exclusion fencing.*
- 4.53 Natural England accepts that the scheme impacts are unavoidable with this route, that mitigation is not possible, and we therefore accept the principle of compensation, in this specific case. We are satisfied that the compensation proposed is appropriate in the circumstances. This subject is included in our Statement of Common Ground with National Highways, in the 'matters agreed' section.

#### Petrifying springs with tufa formation

- 4.54 The scheme would result in the loss of one feature with qualifying vegetation of the Annex 1 habitat H7220 Petrifying springs with tufa formation (Cratoneurion), as a result of the realignment of the tributary of Norman's Brook. Natural England agrees that it is not possible to mitigate the loss of tufa habitat impacted by the scheme.
- 4.55 The proposed mitigation is to design the realigned Norman's Brook channel so that it supports tufa forming conditions. This will be the subject of detailed design work. As additional compensation, off-site restoration of existing tufaceous formations in degraded condition will be undertaken. The methodology and results for the assessment of compensation options are provided within ES Appendix 8.25 Tufa-forming springs: selection of potential compensation sites, and full compensatory measures are included in ES Appendix 2.1 EMP. Further to a meeting on 23 November 2021 to discuss proposals, Natural England is satisfied with the proposed approach to compensation, which will exceed the scale of loss, and in light of the conditions and suggested future management proposals at these sites. We will continue to engage through detailed design stage.
- 4.56 This matter is covered by 6.17 of our Statement of Common Ground with National Highways.

#### Biodiversity net gain

##### Net losses from the scheme

- 4.57 According to Biodiversity Metric 2.0, the A417 missing link scheme will result in a net loss of biodiversity in the region of 20-25%. Biodiversity Metric 3.0 has now been published, but is not expected to materially alter that result.

4.58 This scale of biodiversity loss is extremely disappointing and does not, in our opinion, fit with the vision for the scheme as 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”* (scheme vision).

Neither does it fit with the scheme’s stated objective of:

*“Improving the natural environment and heritage: to maximise opportunities for landscape, historic and natural environment enhancement within the Cotswolds AONB and to reduce negative impacts of the scheme on the surrounding environment”.*

4.59 As stated in our Statement of Common Ground with National Highways, point 6.1:  
*Natural England understands that there is currently no statutory obligation for Highways England to achieve Biodiversity Net Gain (BNG) given the scheme is a Nationally Significant Infrastructure Project. Natural England agree that Highways England has worked hard to maximise biodiversity improvements on the land that is available. Highways England has worked collaboratively with Natural England and other environmental bodies to consider the evolving Biodiversity Metric 2.0 tool and have agreed to focus on providing Priority Habitats (Natural Environment and Rural Communities Act 2006), which are in keeping with the special qualities of the Cotswolds AONB, as part of this scheme.*

4.60 In general we support the decisions taken to minimise impacts on habitats and species and provide mitigation and compensation, with a focus on providing priority habitats and functional habitat mosaics. We particularly welcome the delivery of a 72.5ha net gain of calcareous grassland, the inclusion of the 37m wide Gloucestershire Way green bridge and the addition of habitat stepping stones to enable species to reach the bridge. However, a net loss of 20-25% is substantial. In addition, it will take many years for habitats created as compensation to become biodiverse, potentially leaving a time gap between. There are also questions around the likely success rate of habitat creation, as discussed in our response to Examiners question 1.3.4.

4.61 Although net gain is not yet mandatory, there are clear policy drivers pushing for the A417 missing link to deliver biodiversity net gain. The Government is committed to nature recovery, as set out in the 25 Year Environment Plan. Amendments to the Environment Bill will make it a requirement for an NSIPs to deliver a minimum of 10% biodiversity net gain from 2023. Highways England itself has a strategic aim to achieve no net loss of biodiversity across the strategic road network by 2025 and biodiversity net gain by 2040.

4.62 The high value of this area is evidenced by the scoring given by the metric. National landscapes such as the Cotswolds Area of Outstanding Natural Beauty are seen as vitally important to achieving nature recovery, as described in the Glover Review. It is Natural England’s view that that the only way to deliver net gain from this scheme would be by making the red line boundary of the site bigger, to bring more land into play to compensate for the losses caused by the scheme.

#### Lowland meadow

4.63 There is ongoing consultation between Natural England and National Highways regarding an area of species-rich grassland in a field to the north of Shab Hill, which is unavoidably impacted

by the scheme. The Environmental Statement takes a precautionary approach and classifies this habitat as lowland meadow priority habitat.

- 4.64 Natural England has undertaken a brief desk-based investigation and has queried whether this field meets the necessary criteria. This is based upon analysis of the survey data by Natural England's grasslands specialist, an aerial photograph that appears to show crop in this field (image undated but from 1999 or afterwards) and evidence of the land having previously being under an environmental stewardship scheme. On this basis, Natural England advise that the field is likely to represent relatively recently created semi-improved grassland, created through arable reversion under the stewardship scheme, rather than lowland meadow habitat.
- 4.65 We have requested that National Highways undertakes a further survey visit to confirm the presence or absence of key indicator species of lowland meadow that were not recorded in the original National Vegetation Classification surveys. Natural England will approach the Rural Payments Agency to obtain further details on the previous stewardship scheme and Highways England will further engage with the landowner to seek any further relevant information on the history of this field. This item is marked as an outstanding matter until these steps are complete (see matter outstanding 6.1 in Table 5-1 of the Statement of Common Ground).
- 4.66 We understand that the BNG calculation being submitted to the Examining Authority at Deadline 1 will reflect the latest thinking that this is not lowland meadow.

#### Soils (including "best and most versatile land")

- 4.67 Out of a total of 130.2ha of affected agricultural land, 32ha is classed as best and most versatile agricultural land (Agricultural Land Classification (ALC) grades 1-3a). Of this, 18.9ha of this BMV agricultural land would be permanently lost, and a further 13.13ha temporarily lost during construction and then reinstated.

#### Air quality

- 4.68 The substantial changes being made to the layout of the roads in the area will alter patterns of nitrogen deposition. Broadly speaking the impact is positive with all designated sites receiving either a decrease, no change or a negligible increase in nitrogen deposition. One ancient woodland (Ullen Wood) will receive an increase which Highways England proposed to compensate for through woodland planting. This is explored further in section 4.7.1 of this letter.

## 5 Part 5 – Conclusions

- 5.1 Natural England advises that, in relation to the issues within our remit, there is no fundamental reason or principle why the project should not be permitted. We welcome the positive proposals included in the scheme, particularly the proposed Cotswold Way National Trail crossing, the proposed repurposing of the old road carriageway to form a multiuse track dubbed 'the Air Balloon Way', the Gloucestershire Way green bridge, the creation of 72ha of calcareous grassland. However, it is our view that the scheme could do more to offset its impacts and improve the environment.
- 5.2 The scheme would result in losses of Priority habitat, including lowland meadow, lowland calcareous grassland, calcareous species-rich grassland, broadleaved woodland, hedgerows, veteran trees, and the Annex 1 habitat Petrifying springs with tufa formation (Cratoneurion). It would also have impacts which we consider equate to the slow loss of 2.1ha of Ullen Wood Ancient Semi-Natural Woodland. Defra Biodiversity Metric 2.0 puts losses from the scheme in the region of 20-25%. In general, we support the decisions taken to minimise impacts on habitats and species and provide mitigation and compensation, with a focus on providing priority habitats and functional habitat mosaics. However, the overall loss remains extremely disappointing. If the scheme is to offset this loss then we consider the red line boundary would need to be bigger, in order to make more land available for offsetting.
- 5.3 This scheme is likely to change the way people undertake their recreation – where they go and what they do. The combination of the A417 Missing link scheme and the growth proposed around Cheltenham and Gloucester provides a really unique opportunity to change the way people interact with this landscape, for the better. It is our view that there should be a wider discussion about this, and that National Highways and the A417 Missing link should commit to playing a positive role in this.
- 5.4 Natural England wishes to see the complete closure of the car park at Barrow Wake, in order to avoid increasing recreational pressure on the Site of Special Scientific Interest. We advise that the area is restored to calcareous grassland, making a positive contribution towards offsetting the net loss of biodiversity resulting from this scheme. We would also like the proposed roundabout to be removed from the scheme.
- 5.5 There is potential for direct impacts within the tributary of Norman's Brook to fish such as European bullhead, European eel, brown trout and brook lamprey due to the temporary loss of habitat and river realignment. Natural England is now recommending that the Severn Esuary Ramsar site is progressed to the Statement to Inform Appropriate Assessment stage of the Habitat Regulations Assessment process, due to the potential for works to impact on European eel.



## **6 Part 6 – Examiners Questions**

- 6.1 In its Rule 8 letter dated 16 November 2021, the Examining Authority asked Natural England a number of questions. These are set out, along with the answers, in the table provided at Annex A. The table cross-refers to passages in these Written Representations and their Annexes.

## **7 Part 7 – Annexes**

Please see separate documents for Annexes.

**Annex A:** Natural England's responses to the Examining Authorities initial questions.

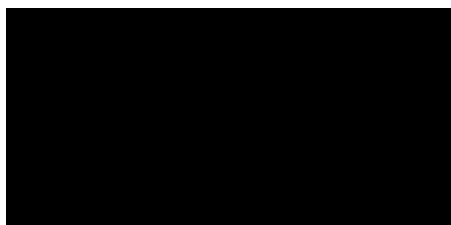
**Annex B:** Designated site maps and citations.

**Annex C:** Natural England's response to the Habitat Regulations Assessment, April 2021.

If you have any queries relating to the advice in this letter please contact me on



Yours faithfully



Emma Johnson  
Area Manager – West Midlands team