M54 to M6 Link Road

TR010054

Volume 8

8.8 P(B) Draft Statement of Common Ground with Natural England

Regulation 5(2)(q)

Planning Act 2008

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

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M54 to M6 Link Road

Development Consent Order 202[ ]

8.8 P(B) Draft Statement of Common Ground with Natural England

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Planning Inspectorate Scheme Reference	TR010054
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Author	M54 to M6 Link Road Project Team and Highways England

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7 (P11)	February 2021	Issue to the ExA for Deadline 6

STATEMENT OF COMMON GROUND

This Statement of Common Ground has been prepared and agreed by (1) Highways England Company Limited and (2) Natural England.

Signed…….
Andrew Kelly
Project Manager
on behalf of Highways England
Date: [DATE]

Signed…….
[NAME]
[POSITION]
on behalf of Natural England
Date: [DATE]

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1 Introduction

1.1 Purpose of this document

1.1.1 This draft Statement of Common Ground ('SoCG') has been prepared in respect of an application for a Development Consent Order (DCO) ('the application') under section 37 of the Planning Act 2008 ('PA 2008') for the proposed M54 to M6 Link Road ('the Scheme') made by Highways England Company Limited ('Highways England') to the Secretary of State for Transport ('Secretary of State').

1.1.2 This SoCG does not seek to replicate information which is available elsewhere within the application documents. All documents are available on the Planning Inspectorate website.

1.1.3 This SoCG has been produced to confirm to the Examining Authority where agreement has been reached between the parties to it, and where agreement has not (yet) been reached. SoCGs are an established means in the planning process of allowing all parties to identify and so focus on specific issues that may need to be addressed during the examination.

1.1.4 **This SoCG has been drafted by Highways England based on correspondence with Natural England during the development of the Scheme and records the matters agreed and not agreed.**

1.1.5 **Initial drafts of the SoCG were provided to Natural England on 3 June 2019 and 10 January 2020. Comments were received from Natural England on 23 March 2020. A revised SoCG was sent to Natural England on 15 October 2020. Comments were received on 27 October 2020, with minor revisions agreed between Highways England and Natural England on 02 November 2020. A revised draft of the SoCG was sent to Natural England for comment on 16 December 2020, and comments received on 5 January 2021, and incorporated into version 6 of this SoCG. A revised SoCG was sent to Natural England on 25 January 2021. Comments were received on 8 February 2021 and these comments have been incorporated into this SoCG. Highways England will continue to work to finalise the contents of this SoCG at the earliest opportunity as the Application proceeds through the Examination process.**

1.2 Parties to this Statement of Common Ground

1.2.1 This SoCG has been prepared by (1) Highways England as the Applicant and (2) Natural England (NE).

1.2.2 Highways England became the Government-owned Strategic Highways Company on 1 April 2015. It is the highway authority in England for the strategic road network and has the necessary powers and duties to operate, manage, maintain and enhance the network. Regulatory powers remain with the Secretary of State. The legislation establishing Highways England made provision for all legal rights and obligations of the Highways Agency, including in respect of the application, to be conferred upon or assumed by Highways England.

1.2.3 NE is an executive non-departmental public body sponsored by the Department for Environment, Food and Rural Affairs (Defra). NE is the government's advisor to

protect England's nature and landscape for people to enjoy and for the services they provide.

1.2.4 NE's role in relation to the Development Consent Order (DCO) process derives from the PA 2008 and secondary legislation made under PA 2008. The roles and responsibilities of NE under the PA 2008 fall into the following categories:

- As one of the prescribed consultees under section 42 of the PA 2008 that applicants are required to consult before submitting a Nationally Significant Infrastructure Projects (NSIP) application.
- As one of the consultation bodies that the Planning Inspectorate must consult before a scoping opinion is adopted in relation to any Environmental Impact Assessment (EIA) and as a prescribed consultee for the environmental information submitted pursuant to the Infrastructure Planning (EIA) Regulations 2009.
- As a statutory party in the examination of DCO applications.
- As a statutory nature conservation body under the Conservation of Habitats and Species and Planning (Various amendments) (England & Wales) Regulations 2018 (Habitats Regulations) in respect of the Habitats Regulations Assessment (HRA).
- As a consenting and licensing body/authority in respect of protected species and operations likely to damage the protected features of Sites of Special Scientific Interest (SSSIs) pursuant to the Wildlife and Countryside Act 1981 (as amended) (WCA 1981) and in relation to European protected species under the Habitats Regulations.

1.3 Terminology

1.3.1 In the tables in the issues chapter of this SoCG, "Not Agreed" indicates a final position, and 'Under discussion' where these points will be the subject of ongoing discussion wherever possible to resolve, or refine, the extent of disagreement between the parties. "Agreed" indicates where the issue has been resolved.

1.3.2 It can be taken that any matters not specifically referred to in the issues chapter of this SoCG are not of material interest or relevance to NE, and therefore have not been the subject of any discussions between the parties. As such, those matters can be read as agreed, only to the extent that they are either not of material interest or relevance to NE.

2 Record of Engagement

2.1.1 A summary of the meetings and correspondence that has taken place between Highways England and Natural England in relation to the application is outlined in Table 2.1 of this Statement. A list of the initials, names, role and organisation of the people mentioned in Table 2.1 is included at Appendix A. A list of abbreviations is included in Chapter 12 of the Introduction to the Application [APP-001/1.1].

Table 2.1: Record of Engagement

Date	Form of correspondence	Key topics discussed and key outcomes
30/08/2017	Meeting with TP, RR, DL, AS (Aecom), TB (Amey) & GM (NE)	Introduction to the Scheme and route options, DCO process, project timescales and engagement methodology. Discussion of potential effects of route options on ancient woodland. Natural England confirmed route Option C (east) would have direct impacts upon ancient woodland at Burns Wood, Spring Coppice and Keeper's Wood and they would object to the Scheme at DCO if this option were taken forward as other options are available.
24/01/2019	Letter from AK (HE) to ES (NE)	Advising of Scheme progress and requesting a meeting to discuss NE views on proposed Dark Lane alignment.
24/01/2019	Email from TP (Aecom) to GD (NE)	Referring to previous discussions and requesting discretionary advice.
14/02/2019	Email from JR (NE) to TP (Aecom)	Including a quotation for advice based on information provided on request form.
15/02/2019	Email from TP (Aecom) to JR (NE)	Approving proposed fee for advice.
07/03/2019	Email from TP (Aecom) to JR, GD (NE)	Returning signed contract for advice and seeking date for first meeting.
27/03/2019	Meeting with GD (NE), RR, TP (Aecom) & TB, SG, DT (Amey)	Overview of survey effort to date and further surveys planned. Future engagement and EIA process. Provided NE with an understanding of the overall programme and requirement for on-going engagement. Discussion of main issues – HRA, possible ancient woodland fragments, Badgers, Bats. Discussed options for Dark Lane alignment.
24/04/2019	Email from TP (Aecom) to GD (NE)	Attaching purchase order to accompany contract for service advice.
30/04/2019	Email from TP (Aecom) to GD (NE)	Requesting advice on extent of Great Crested Newt (GCN) survey season and requesting extension of survey period until May 2019.

Date	Form of correspondence	Key topics discussed and key outcomes
03/05/2019	Email from TP (Aecom) to GD (NE)	Attaching minutes from meeting on 27/03/2019 and first draft of SoCG.
23/05/2019	Email from TP (Aecom) to GD (NE)	Advising of S42 consultation period and requesting comment from NE on Preliminary Environmental Information Report (PEIR) chapter and appendix reports by 04/07/2019. Arrangements for next meeting.
24/05/2019 & 04/06/2019	Emails from TP (Aecom) to GD (NE)	Checking receipt of S42 brochure and arrangements for meeting on 16/07/2019.
03/07/2019	Online statutory consultation questionnaire response from NE to HE	NE comments on the PEIR as published for statutory consultation.
10/07/2019	Email from TP (Aecom) to GD (NE)	Attaching agenda for meeting.
16/07/2019	Meeting with GD, EG (NE), TC, GL (HE), HM (Tyler Grange), MO, AL, TP, AS (Aecom)	Overview of the Scheme and its current status. Update on the assessment of European Protected Sites. Information provided to NE on species scoped out of further assessment. Update on ecology survey progress and preliminary results. Discussion on the identification of ancient woodland within the Scheme boundary in response to NE comments in the PEIR.
17/07/2019	Email from HM (Tyler Grange) to GD (NE)	Queries discussed at meeting: outlined the reasoning for scoping out dormouse surveys to NE and requested NE's agreement. Provided information on the approach being used for bat surveys across the Scheme requesting NE's agreement. Requested clarification regarding the two years of bat survey data requested in the NE response to the PEIR. Outlined assumptions with regards to potential GCN waterbodies that could not accessed or were dry. Provided further information in relation to the justification for scoping out the Cannock Chase Special Area of Conservation (SAC) and the Cannock Extension Canal SAC.
24/07/2019	Email from GD (NE) to TP (Aecom)	Response to the justification for scoping dormouse out of further survey/assessment.
30/07/2019	Email from TP (Aecom) to GD, EG (NE)	Issue of minutes from the meeting on the 16/07/2019 and provision of potential dates for a further meeting.
31/07/2019	Email from GD (NE) to TP (Aecom)	Further response to the justification for scoping dormouse out of further survey/assessment and response on meeting dates.

Date	Form of correspondence	Key topics discussed and key outcomes
09/08/2019	Email from GD (NE) to HM (Tyler Grange & TP (Aecom)	Response on queries regarding bat survey data, assumptions in relation to GCN, the assessment of European Sites and net gain.
04/09/2019	Meeting with GD, HW, LB (NE), HM (Tyler Grange), TP, AS, RR (Aecom)	Overview of the Scheme and its current status. Update on the assessment of European Protected Sites. Information provided on species scoped out of further assessment. Update on ecology survey progress and preliminary results. Discussion on programme for draft GCN, bat and badger licences and provision of letters of no impediment.
16/09/2019	Meeting with GD, EG (NE), AK, TC (HE), HM (Tyler Grange), TP, AS (Aecom)	Advised that Option 2 is progressing at Dark Lane and the related tree loss. Discussion about extent of ancient woodland and mitigation/compensation ratios, also habitat losses and gains.
16/09/2019	Email from HM (Tyler Grange) to (NE)	Email outlining bat surveys conducted in 2018 and 2019 and information on bat roosts likely to require a bat licence to inform letter of no impediment. Response received 01/11/19 (see below).
16/09/2019	Email from CG-S (Tyler Grange) to LB (NE)	Confirming the scope of the survey work to date in 2018 and 2019 with plan. Providing information on the location of bat roosts and potential tree loss to inform a future letter of no impediment regarding a licence for the site.
17/09/2019	Email from HM (Tyler Grange) to GD (NE)	Queries regarding noise and vibration including receptors to be assessed in relation to noise and vibration impacts during construction and requesting agreement that operational vibration is not an issue in relation to potential ecological receptors.
04/10/2019	Email from KB (Tyler Grange) to HW (NE)	Email seeking agreement of assumed medium populations, definition of metapopulation boundaries and evaluation to inform draft license application and letter of no impediment.
07/10/2019	Document issue from (Tyler Grange) to GD (NE)	Issue of the Habitats Regulations Assessment: No Likely Significant Effects report [TR010054/APP/6.9] for review.
08/10/2019	Email from GD (NE) to TP (Aecom) & HM (Tyler Grange)	Acknowledging receipt of Habitats Regulations Assessment report. Stating that her response to noise and vibration email is imminent.
10/10/2019	Email from GD (NE) to HM (Tyler Grange)	Response to HM email of 17/09/2019 providing advice on noise and vibration assessment and querying whether an assessment of air quality on veteran trees and ancient woodland is being undertaken.
28/10/2019	Email from KB (Tyler Grange) to GD (NE)	Seeking agreement of items in email of 04/10/19 regarding GCN surveys and interpretation of results to inform draft license application and letter of no impediment.

Date	Form of correspondence	Key topics discussed and key outcomes
28/10/2019	Email from CG-S (Tyler Grange) to LB (NE)	Email seeking agreement of items in email of 16/09/2019 regarding bat surveys and bat roosts requiring license to inform draft bat license and letter of no impediment.
01/11/2019	Email from LB (NE) to CG-S (Tyler Grange)	Response to Tyler Grange email of 16/09/2019 regarding bat data – requesting further survey data in 2020 and asking for additional information on completed surveys, impacts, assessment and mitigation/compensation to inform letter of no impediment.
01/11/2019	Email from HW (NE) to KB (Tyler Grange)	Response to Aecom email of 04/10/19 – assumption of medium population would require on application of New Licensing Policy 4. Accepted approach to assumption of metapopulation size, definition of metapopulation boundaries and evaluation. Given county level importance may need to prepare a Habitat Management and Maintenance Plan as part of the application submission.
01/11/2019	Email from GD (NE) to TP (Aecom) & HM (Tyler Grange)	Comments on the draft Habitats Regulations Assessment: No Likely Significant Effects.
12/11/2019	Email from HM (Tyler Grange) to GD (NE)	Email seeking agreement of the critical load for veteran trees and ancient woodland in the air quality assessment.
12/11/2019	Email from GD (NE) to HM (Tyler Grange)	Agreement to the proposed critical loads to use for ancient woodland and veteran tree assessment.
14/11/2019	Email from HM (Tyler Grange) to GD (NE)	Response to comments on the Habitats Regulations Assessment stating that NE's comments are unlikely to alter the outcome of the assessment.
15/11/2019	Email from HM (Tyler Grange) to NE	Attaching a draft badger licence application sent to obtain a letter of no impediment.
22/11/2019	Email from GD (NE) to HM (Tyler Grange)	Confirmation of agreement to the conclusions of the Habitats Regulations Assessment: No Likely Significant Effects report [TR010054/APP/6.9].
05/01/2020	Email from CG-S (Tyler Grange) to NE	Attaching a draft bat mitigation licence application for a letter of no impediment.
06/12/2019	Email from MW-H (Aecom) to HW (NE)	Attaching draft GCN mitigation licence application for a letter of no impediment.
13/12/2019	Email from HW (NE) to AK (HE)	Attaching the formal response to the draft species (Badger) management licence application (letter of no impediment).
10/01/2020	Email from TP (Aecom) to GD (NE)	Attaching a second draft of the SoCG for review and comment.

Date	Form of correspondence	Key topics discussed and key outcomes
10/01/2020	Email from TP (Aecom) to GD (NE)	Attaching Environmental Statement (ES) Chapter 9. Geology & Soils and appendices
10/01/2020	Email from HW (NE) to AK (HE)	Attaching letter of no impediment for GCN.
14/01/2020	Email from GD (NE) to AK (HE)	Enclosing a letter of no impediment with caveats for the Bat licence application
24/01/2020	Email from GD (NE) to TP (Aecom)	Detailed comments on the ALC assessment and soils (ES Vol. 6.1 Chapter 9 Geology and Soils [APP-048/6.1] and ES Vol 6.3 Appendix 9.2 [APP-192/6.3]).
06/03/20	Email from TP (Aecom) to GD (NE)	Inform NE of the Planning Inspectorate's acceptance of the application. Responses provided to the detailed comments on ALC with a request for comments to be provided on these responses. Request comments on the draft SoCG submitted to NE 10 January 2020.
23/03/20	Email from GD (NE) to TP (Aecom)	Confirmation NE have read through the SoCG and agree with the notes. It is understood that following further comments since January 2020 updates are required to the SoCG to reflect recent advice.
27/03/20	Email from TP (Aecom) to GD (NE)	Summarise phone call on 26/03/20. Query as to how the creation of species-rich grassland would affect the BMV status of agricultural soils.
31/03/20	Email from GD (NE) to TP (Aecom)	Comments on ALC responses provided. Advising the Lead Advisor for NE has had to significantly reduce their working hours in response to Covid-19. Contact details provided for alternative NE employees in GDs absence.
09/04/20	Email from GD (NE) to TP (Aecom)	Requesting detail regarding the area and average width of the Scheme and where these details can be found in the DCO application.
17/04/20	Email from GD (NE) to TP (Aecom)	Response to query on species-rich grassland.
23/04/20	Email from TP (Aecom) to GD (NE)	Response to query around area and average width, with reference to Chapter 2: The Scheme of the ES [APP-041/6.1] and the text around average cross sections. Inform of the extension to the relevant representations period to the 18 May 2020 and request early site of NE's relevant representations if possible.

Date	Form of correspondence	Key topics discussed and key outcomes
24/04/20	Email from GD (NE) to TP (Aecom)	Confirmation that NE were aware of the extension to the relevant representations period and that relevant representations would be sent to the project time when they are sent to the Planning Inspectorate, likely to be towards the end of the period due to resourcing issues.
31/07/20	Email from TP (Aecom) to GD (NE)	Notify Natural England of additional work undertaken to consider how the changes in the Design Manual for Roads and Bridges (DMRB) guidance for the Noise and Air Quality assessment would affect the assessment as reported in the ES. Application document AS-059/8.2 was attached to the email for information and comment. Inform Natural England of proposed design changes including the review of environmental mitigation following the results of the 2020 great crested newt surveys.
03/08/20	Tel TP (Aecom) to GD (NE)	TP outlined contents of Email of 31/07/20 and requested early opinion from NE of approach to woodland mitigation in relation to AQ.
11/08/20	Email from GD (NE) to TP (Aecom)	Regarding a ratio of 1:1 for nitrogen deposition on ancient woodland, Natural England is not aware of any set mitigation in these circumstances. We would advise that compensatory planting along with management improvements would be appropriate compensation in the circumstances. What ratio should be used should be considered in relation to the potential impact both alone and cumulatively, whether the site is currently exceeding nitrogen deposition levels and evidence of whether the woodland is already being impacted by nitrogen deposition.
18/08/20	Letter from Highways England to GD (NE)	Supplementary consultation letter sent.
18/08/20	Email from GD (NE) to TP (Aecom)	Request deadline for the review of document AS-059/8.2 'DMRB Updates and the Impact on the DCO Application'. Request update on the BMV technical note.
09/09/20	Email from MO (Aecom) to GD (NE)	Provide a summary of GCN survey results for 2020, absence of GCN in those ponds lost to the Scheme. Outlined the changes to mitigation measures proposed as a result of the change to the baseline data. Providing pond replacement on a 1:1 ratio as no ponds have been found to support GCN. Enquire whether the updates survey results and change to the mitigation would require a resubmission of the GCN method statement to obtain an updated Letter of No Impediment.

Date	Form of correspondence	Key topics discussed and key outcomes
09/09/20	Email from TP (Aecom) to GD (NE)	Inform NE that we are currently preparing an ES Addendum to assess the number of design changes and incorporate the results of GCN survey results. As this would change the loss of BMV we are updating this information in the BMV technical note before submission to NE. Request comments on document AS-059/8.2 'DMRB Updates and the Impact on the DCO Application' in the next two weeks.
10/09/20	Email from GD (NE) to MO (Aecom)	Confirmed that based on the information you have provided, there is not a requirement for the LONI to be re-issued.
11/09/20	Email from GD (NE) to TP (Aecom)	Are there any particular themes around the air quality assessment reported in AS-059/8.2 'DMRB Updates and the Impact on the DCO Application' which you wish to discuss?
12/10/20	Email from TP (Aecom) to GD (NE)	Advising all matters under discussion and Relevant Representations are now incorporated into an updated SoCG which will be issued to NE shortly.
15/10/20	Email from TP (Aecom) to GD (NE)	Sent draft SoCG and BMV land technical note to NE for review. NE to indicate with reference to the SoCG any items that NE consider to be agreed, complete the likelihood of agreement column and provide further comments for items which remain under discussion.
26/10/20	Email from GD (NE) to TP (Aecom)	Comments on the BMV land technical note provided. Comments on the SoCG will be provided tomorrow.
27/10/20	Email from GD (NE) to TP (Aecom)	Comments on the SoCG provided.
29/10/20	Telephone conversation between GD (NE) and TP (Aecom)	Call to discuss comments on SoCG.
29/10/20	Email from TP (Aecom) to GD (NE)	Amendments to SoCG as discussed, sent for approval.
02/10/20	Email from GD (NE) to TP (Aecom)	Changes to SoCG agreed.
13/11/20	Email from TP (Aecom) to GD (NE)	Sent notification of hearings and Highways England draft responses to WQ responses. These can be progressed in the SoCG.
18/11/20	Email from GD (NE) to TP (Aecom)	Proposed dates for calls to discuss outstanding issues in the SoCG.

Date	Form of correspondence	Key topics discussed and key outcomes
26/11/20	Virtual meeting between GD, JH (NE) and TP, MO, DE, VO, HP and AS (Aecom)	Meeting to discuss outstanding issues in the SoCG relating to biodiversity net gains and best and most versatile agricultural land.
02/12/20	Email from TP (Aecom) to GD (NE)	Minutes from the meeting on 26 November provided for review and comment.
02/12/20	Email from GD (NE) to TP (Aecom)	Confirm receipt of minutes. Request direction to where temporary and permanent land plans are on the inspectorate's website.
02/12/20	Email from TP (Aecom) to GD (NE)	Sent a mark-up of the masterplan showing areas of proposed species rich grassland, Figure 9.4: Soil Resources of the ES, a pdf of the draft DCO (Version 3) and a link to the land plans.
03/12/20	Virtual meeting between GD, PH (NE) and TP, MO, EC, HP and AS (Aecom)	Meeting to discuss outstanding issues in the SoCG relating to air quality impacts on biodiversity receptors. Discussion of points for the first issue specific hearing on Biodiversity and Cultural Heritage.
15/12/20	Virtual meeting between GD (NE), TP and AS (Aecom)	Meeting to discuss outstanding issues in the SoCG.
16/12/20	Email from TP (Aecom) to GD (NE)	Sent revised draft SoCG and Agricultural Soils Technical Note for comment.
23/12/20	Email from TP (Aecom) to GD (NE)	Sent updated Habitats Regulations Assessment (HRA). Inquire as to whether NE would be able to provide an acceptance email to be included in Annex E of the HRA prior to submission.
23/12/20	Email from GD (NE) to TP (Aecom)	Confirm NE are producing a letter to be submitted to the Inspectorate to confirm that NE agree that the HRA correctly reports no Likely Significant Effects.
04/01/21	Email from GD (NE) to TP (Aecom)	Inquire when the revised draft GCN licence would be ready for submission.
05/01/21	Email from TP (Aecom) to GD (NE)	Confirm the date for submission of the revised licence was agreed with the ExA as being the 29 January 2021. Earlier submission is unlikely.
05/01/21	Email from GD (NE) to TP (Aecom)	Sent comments on the draft SoCG.

Date	Form of correspondence	Key topics discussed and key outcomes
05/01/21	Email from GD (NE) to TP (Aecom)	Sent comments on the Agricultural Soils Technical Note.
08/01/21	Email from GD (NE) to TP (Aecom)	Confirming that NE agree with the HRA conclusion of no likely significant effect for Cannock Chase SAC and Cannock Extension Canal SAC.
08/01/21	Email from GD (NE) to TP (Aecom)	Agree meeting minutes from 25 November 2020, with minor amendments.
19/01/21	Email from GD (NE) to TP (Aecom)	Sent further information on The Chasewater and The Southern Staffordshire Coalfield Heaths SSSI.
25/01/21	Email from TP (Aecom) to GD (NE)	Sent revised SoCG [REP4-031/8.8P(B)] and Ancient Woodland Map Regression Oxden Leasow / Whitgreaves Wood North [REP4-037/8.23] submitted to the ExA at Deadline 4 for information and comment.
28/01/21	Email from GD (NE) to TP (Aecom)	Confirming what the deadlines are for reviewing the Ancient Woodland Map Regression Oxden Leasow / Whitgreaves Wood North [REP4-037/8.23] and updating the text on the HRA.
08/02/21	Email from GD (NE) to TP (Aecom)	Confirming approval of amendments to the SoCG.

2.1.2 It is agreed that this is an accurate record of the key meetings and consultation undertaken between (1) Applicant and (2) Natural England in relation to the issues addressed in this SoCG.

2.1.3 The Applicant and NE have worked collaboratively throughout the DCO application stage using the Discretionary Advice Service (DAS) to engage with relevant experts within NE.

3 Issues

3.1 Introduction and General Matters

3.1.1 This chapter sets out the 'issues' which are agreed, not agreed, or are under discussion between NE and Highways England.

3.1.2 The progress note submitted by The Planning Inspectorate on the 20 July 2020 under Section 88 of the Planning Act 2008 (as amended) and The Infrastructure Planning (Examination Procedure) Rules 2010, sets out in Annex B the Examining Authority's 'Initial Assessment of Principle Issues'. In Annex C the Planning Inspectorate sets out a list of SoCG that the Examining Authority request the Applicant to enter into with a number of parties including Natural England.

3.1.3 The Examining Authority request the SoCG between Natural England and the Applicant include the following issues:

- Habitats, Ecology and Nature Conservation, including assessment of cumulative effects (Issue ref: NE-01).
- The loss of the Best and Most Versatile Agricultural Land (Issue ref: NE-02).
- Adequacy and means of securing mitigation (Issue ref: NE-03).
- Effects on protected species and sites (Issue ref: NE-04).
- Effects on Whitgreaves Wood, Brooklands Farm SBI and other areas of ancient woodland (Issue ref: NE-05).
- The need for and means of securing mitigation actions (Issue ref: NE-06).
- Need for Habitat Regulations Assessment/Appropriate Assessment (Issue ref: NE-07).
- Appropriateness of Biodiversity Net Gain approach (Issue ref: NE-08).

3.2 Issues related to the Environmental Statement (ES)

Table 3.1: Issues related to the ES

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
Chapter 8: Biodiversity [AS-025/6.1]						
Legislation and policy'	Section 8.2	Natural England is content that the ES includes details of applicable legislation and policy.	Details of applicable legislation and policy are provided in Section 8.2 of the ES.	Agreed	Agreed	Agreed
Ecological impact assessment methodology	Section 8.3	Natural England is content that the ecological impact assessment methodology, including desk studies and timing of the 2015/2018 surveys, is appropriate for assessing the ecological effects of the Scheme.	The ecological impact assessment methodology used was reported in the EIA Scoping Report and ES and has taken account of NE comments. Details of methodologies used to undertake the environmental impact assessment are provided in Section 8.3 of the ES.	Agreed	Agreed	Agreed
Scope of ecological surveys	Section 8.3 Appendix 8.4 to 8.14 [APP-178 to 186/6.3]	Natural England is content that the survey coverage and methodologies used are appropriate for the ecological impact assessment. Natural England note that further surveys will be on-going, and these surveys will inform the mitigation measures proposed.	The surveys required to appropriately define ecological baseline conditions are sufficient to enable the ecological impact assessment. The surveys have been subject to ongoing discussions between Highways England and NE during the preparation of the DCO application and were outlined in the PEIR as reviewed by NE.	Agreed	Agreed	Agreed

[1] RR= Relevant representation reference, IR = Issue Reference, as set out on Page 9 of this SoCG.
[2] Indication on likelihood that the matter will be agreed by the close of the Examination period as rated by the applicant (app) and the Interested Party (IP). Dark green = agreed, light green = high likelihood of agreement, orange = medium likelihood of agreement, red = low likelihood of agreement.

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
GCN population size	Appendix 8.11 [APP-183/6.3]	Natural England considers assuming a medium GCN population size due to lack of survey access or where surveys were incomplete is reliant upon New Licensing Policy 4. As part of the licence application, explanation will need to be provided as to why update surveys are not considered appropriate. The compensation needs to be appropriate for the size class that has been assumed. Draft licenses were submitted to Natural England for comments and approval prior to submission of the DCO application with an explanation as to why medium populations were assumed. A letter of no impediment was issued by Natural England for GCN on 10 January 2020, refer to Appendix B (B2) of the Consents and Agreements Position Statement (CAPS) [TR010054/APP/3.3] and Appendix 8.3 of the ES [TR010054/APP/6.3]. No further submission is required to update the letter of no impediment following the updated 2020 survey results and the subsequent	Further surveys have been undertaken in spring/summer 2020 to determine the presence/ absence of GCN where populations were assumed. No GCN populations were identified in those ponds directly impacted by the Scheme. The number of ecology mitigation ponds has therefore been reduced from 12 to eight to mitigate for the loss of seven ponds and the partial loss of two ponds (1:1 ratio). No ponds are now required at a 2:1 ratio. Further ecology surveys will be undertaken prior to construction of the Scheme to inform the detail of the mitigation proposed in the licence applications. This information is not required to inform the Environmental Impact Assessment or the quantum of land required to be acquired for environmental mitigation purposes (i.e. it would not result in a requirement for mitigation that cannot be delivered on land identified for acquisition or result in a reduction in mitigation required such that areas of mitigation can be removed from the Scheme). A revised draft license for great crested newts will be submitted to Natural England on 29 January 2021.	Agreed	Agreed	Agreed

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
		amendments to the GCN mitigation proposed (refer to email 10/09/20).				
Study area	Section 8.5	Natural England is content that the study areas considered in the ES are appropriate.	Details of study area for each aspect of the biodiversity assessment is reported in Section 8.5 of the ES.	Agreed	Agreed	Agreed
Baseline conditions	Section 8.6	Natural England is content that the ES appropriately defines baseline conditions.	Details of the baseline conditions are reported in Section 8.6 of the ES as well as the results of ecological surveys reported in Appendix 8.4 to 8.14 [APP-178 to 186/6.3]. Baseline data will be updated based on the results of ongoing surveys. Any amendments will be discussed with Natural England.	Agreed	Agreed	Agreed
Veteran trees WQ2.3.9	Section 8.6 Para 8.6.13 to 8.6.14	Natural England confirm they are content that all veteran trees which could be impacted by the Scheme have been identified in the ES.	Seven veteran trees have been identified within the biodiversity study area, five of which are within the Scheme boundary (T137, T227, T221, T214 and 211). T226 is shown on the Environmental Masterplan [AS-086 to 092/6.2] as a veteran tree, however, as set out in Appendix 7.1: Arboricultural Impact Assessment [AS-101/6.1] this tree is a prominent tree, a particularly large over-mature ash, but it is not considered to be a veteran tree. A further 12 veteran trees were identified as part of the assessment of impacts from nitrogen deposition. These trees are	Agreed	Agreed	Agreed

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
			located within 200 m of the affected road network but are outside the Order limits. Further details of these veteran trees can be found in application document, 'DMRB Updates and the Impact on the DCO Application' [AS-059/8.2]."			
GCN, defining meta-populations	Section 8.6 and Appendix 8.11 [APP-183/6.3]	NE are content that the methodology to determine GCN metapopulation is appropriate, with agreement that dispersal barriers (whether natural or man-made) need to be considered as potential constraints to dispersal. NE are content with the evaluation that the ten metapopulations of GCN with potential to be affected by the Scheme are each of up to County ecological importance.	Details of the methodology for determining GCN populations and receptor importance is provided in Section 8.3 of the ES and Appendix 8.11 [APP-183/6.3] whilst receptor sensitivity for GCN is provided in Section 4.4 of Appendix 8.11 [APP-183/6.3].	Agreed	Agreed	Agreed
Biodiversity net gains **IR: NE-08** **RR-037ad**		NE are content that Highways England utilised appropriate methodology for the calculation of the biodiversity metric, Appendix 8.2 [APP-176/6.3] based on the guidance available at the time of writing. Biodiversity Net Gain – Natural England acknowledges Highways England's approach to the scheme whereby 'no net loss to biodiversity' is proposed. Natural England will continue in dialogue with Highways England to flesh out mitigation and/or	A biodiversity metric calculation has been undertaken based on the method published by Defra in Biodiversity Offsetting Pilots Technical Paper: the metric for the biodiversity offsetting pilot in England (Defra, 2012), to determine effects of the Scheme. In July 2019 DEFRA published Net Gain: Summary of responses and government response to consultation on the objectives of net gain policy. The document was clear that consultation proposals for a mandatory requirement for net gain did not	Agreed	Agreed	Agreed

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
		compensation proposals and thereby to establish the potential scope for biodiversity net gains.	include nationally significant infrastructure projects because they have 'fundamentally different characteristics to other development types'. Further, whilst Highways England agree that delivering biodiversity net gain is desirable, it is not at this time required by the Planning Act 2008 consenting regime. In addition, it should be noted that Highways England is seeking to acquire land for the Scheme through compulsory acquisition. In order to secure those powers, Highways England must demonstrate that the land subject to compulsory acquisition is required for the Scheme or is required to facilitate or is incidental to the Scheme (section 122 of the Planning Act 2008). This means that, whilst land required to mitigate the impact of the Scheme can be secured through compulsory acquisition, such powers do not extend to the acquisition of land for enhancement or gain. Highways England is nonetheless seeking to fully mitigate the impact of the Scheme on biodiversity so far as possible and seeks to deliver a scheme that results in no net loss in biodiversity. Proposed changes to the Scheme accepted by the ExA in October 2020 reduce the impact of the Scheme on existing habitats and allow for retention			

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
			and restoration of selected areas. As part of this submission the biodiversity metric has been re-calculated using Defra Metric 2.0 and submitted to the inspectorate as a revision of Appendix 8.2: Biodiversity Metric Calculations [TR010054/APP/6.3]. The Biodiversity Metric Calculations Version 3 (Appendix 8.2 [AS-103]) show that following completion of the Scheme, total biodiversity units would be marginally higher, with an area based gain of 2.21% of units (17.32 units), a linear based gain of 26.27% (8.2 units) and a 2.23% (0.33 units) gain of river habitats. The Scheme is within the range -5 % to +5 % for river and area based habitats (woodland, grassland etc.) which can be classed as no net loss in accordance with Table 11.9 of CIRIA C776a Good practice principles for development (Ref 8), and can be classed as achieving a net gain in linear (hedgerow) habitats. Highways England has accepted a designated fund application for an initial feasibility study to identify opportunities and appropriate sites which could be improved to provide biodiversity net gains to be delivered on land outside of the Scheme boundary in partnership with key stakeholders and landowners. For avoidance of doubt, the proposals associated Designated Funds applications			

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
			are not part of the DCO application and are not material to decision making on this application.			
Biodiversity net gains IR: NE-08 RR-037ad		Natural England and Highways England agree that the project should achieve no net loss in biodiversity to mitigate the impact of the Scheme. The two parties agree that this is the minimum the project should achieve. Natural England generally expects to see at least a 10% net gain achieved and Highways England has sought to achieve this for certain habitats where possible (e.g. the project will achieve a net gain of over 10% for linear habitats but not for the Scheme overall on an area basis). However, Highways England and Natural England agree that whilst biodiversity net gain is desirable and may become mandatory for NSIPs in the future, the lack of a policy imperative to deliver net gains make it challenging to justify the compulsory acquisition of land to do so. In the context of a Scheme where most of the land will be acquired through compulsory acquisition, Highways England and Natural England agree that it may not be possible to deliver 10% net gains in biodiversity through the DCO process for this particular Scheme. Natural England will continue dialogue with Highways England to establish the potential scope for biodiversity net gains outside the DCO process.		Agreed	Agreed	Agreed
Protected species licences **IR: NE-04** **IR: NE-03**	Section 8.8 Para 8.8.5	Natural England considers that licences would be required for the following protected species: GCN roosting bats; badgers.	Draft licences were submitted to Natural England for comment and approval prior to submission of the DCO application. Based on current survey results, there is no requirement for water vole and otter licences. Letters of no impediment have been received from NE for all three species and are contained in Appendix B of the Consents and Agreements Position	Agreed	Agreed	Agreed

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
			Statement (CAPS) [APP-020/ 3.3] and Appendix 8.3 of the ES [APP-177/ 6.3]. The requirement to secure European Protected Species Licences is set out in the OEMP, Table 3.2, PW-BIO3 to 7 and Table 3.3, MW-BIO1. Delivery of the OEMP [APP-218/6.11] is a Requirement in the draft DCO [APP-017/3.1]. Baseline data and mitigation measures will be updated based on the results of ongoing surveys. Any amendments will be discussed and agreed with Natural England.			
Ancient woodland and compen-sation measures **IR: NE-03**	Section 8.8 Para 8.8.3	Approach regarding possible fragments of ancient woodland should always be to avoid loss in the first instance. Any unavoidable loss of ancient woodland must be compensated for with appropriate planting at a ratio agreed with Natural England. Following the meeting on 16/09/19 Natural England are in agreement that the ratio of 7:1 is appropriate.	The locations of ancient woodland within or adjacent to the Scheme boundary have been discussed and agreed with NE as outlined in meeting minutes of 16/07/19. A 7:1 ratio of woodland planting to compensate for the loss of ancient woodland at Whitgreaves Wood and Brookfield Farm SBI was agreed with Natural England as outlined in meeting minutes of 16/09/19. This ratio is set out in the OEMP, Table 3.4, D-BIO11. Delivery of the OEMP [APP-218/6.11] is a Requirement in the draft DCO [APP-017/3.1].	Agreed	Agreed	Agreed
Ancient woodland and compen-	Section 8.8	Improvement works to Whitgreaves Wood have been discussed as part of the mitigation	The Order limits were altered prior to the submission of the DCO application to	Agreed	Agreed	Agreed

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
sation measures **RR-37ak** **IR: NE-03**		strategy for ancient woodland. Currently the Applicant is in discussions with National Trust who own the woodland and further dialogue may be required. Discussions on the details of compensation measures, including the interplay with best and most versatile and/soils resources, will also be required. Noting Highways England responses Natural England are content that this compensation measure is appropriately secured.	include Whitgreaves Wood for the purpose of improvements to ancient woodland. The OEMP [AS-112/6.11] Table 3.4 MW - G7 lists the detailed Management Plans that are to be produced and appended to the CEMP. Enhancement measures and management plans for this woodland will be determined at the detailed design stage in consultation with Natural England and the National Trust. The works to this site and ongoing maintenance are secured through a legal agreement between the Applicant and the National Trust.			
Ancient woodland and compen-sation measures **IR: NE-03**	Section 8.8	Natural England is not aware of any set mitigation for nitrogen deposition impacts on ancient woodlands. We would advise that compensatory planting along with management improvements would be appropriate compensation in the circumstances. What ratio should be used should be considered in relation to the potential impact both alone and cumulatively, whether the site is currently exceeding nitrogen deposition levels and evidence of whether the woodland is already being impacted by nitrogen deposition.	A 1:1 ratio of woodland planting to compensate for the impacts of nitrogen deposition on ancient woodland is proposed. This is set out in 'DMRB updates and the Implications on the DCO Application' [AS-059/8.2] submitted to the Planning Inspectorate on 30 July 2020 and submitted to Natural England for information on 31 July 2020. It is not possible to accommodate further suitable compensation measures such as woodland edge buffer or additional woodland enhancements within the Order limits.	Agreed	Agreed	Agreed

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
		Natural England recognise the limitations to further compensation measures within the Order limits.				
Mitigation measures **IR: NE-03** **IR: NE-06**	Section 8.8	Natural England is content that the mitigation measures defined in the ES are appropriate and are required to minimise the impacts of the Scheme as reported in Chapter 8: Biodiversity of the ES. It is agreed that these mitigation measures are appropriately secured through the Outline Environmental Management Plan (OEMP).	Details of mitigation measures are reported in Section 8.8 of the ES and the OEMP. Delivery of the OEMP [APP-218/6.11] is a Requirement in the draft DCO [APP-017/3.1]. Commitment D-BIO11 of the OEMP, Table 3.4 has been amended to secure consultation with Natural England on the compensation measures for ancient woodland. "Compensation measures for the impact on ancient woodland will be designed in consultation with Natural England at the detailed design stage."	Agreed	Agreed	Agreed
Effects on ancient woodland **IR: NE-05**	Section 8.9 8.9.26 to 8.9.31 and 8.9.129 [AS-025/6.3]	Natural England is content that potential impacts and effects on ancient woodland have been appropriately assessed within the ES. With exception of a previously unidentified site, see below.	The effects on ancient woodland are reported in Section 8.9 'Assessment of likely significant effects' of the ES [AS-025/6.1]. A new application document 'DMRB Updates and the Impact on the DCO Application' [AS-059/8.2] was submitted to the Inspectorate on 30 July 2020 documenting a revision to the Air Quality and Biodiversity assessments as a result of changes to the Design Manual for Roads and Bridges assessment guidance.	Agreed	Agreed	Agreed

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
			This change in guidance requires the assessment of impacts on ancient woodland from nitrogen deposition that are within 200 m of the affected road network (ARN) and altered the methodology for the assessment of air quality impacts on biodiversity receptors. This document was sent to Natural England on 31 July 2020.			
Effects on ancient woodland Supp. Consultation Response September 2020	Section 8.9	We are aware that the Staffordshire Wildlife Trust in their Relevant Representation raised a concern that remnant of Oxden Leasow/ Whitgreaves Wood on the north side of the M54 could be potential ancient woodland. We note that the proposed change 1 will result in a reduction in the amount of woodland being removed. If the woodland is found to be ancient woodland we would welcome discussion on the likely impacts of the scheme on the woodland.	This woodland fragment was omitted from our reported investigation on potential ancient woodland sites. Historic map regression has been undertaken and set out in a technical note submitted to the ExA at Deadline 4.	Under discussion	High	High
Effects on ancient woodland and veteran trees Method **IR:NE-05**	Section 8.9	Natural England have agreed to the use of a critical load of 10-20 kg N ha^{-1} $year^{-1}$ in relation to ancient woodland and veteran trees for the assessment of impacts of air quality.	The critical load of 10-20 kg N ha^{-1} $year^{-1}$ has been used in the air quality assessment for ancient woodland and veteran trees reported In Chapter 8: Biodiversity of the ES [AS-025/6.1].	Agreed	Agreed	Agreed

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
Effects on protected species **IR: NE-04**	Section 8.9 Para. 8.9.50 to 8.9.120 and Para 8.9.149 to 8.9.182	Natural England is content that the Environmental Statement appropriately assesses the effects of the Scheme on protected species and that impacts would be managed through adherence to mitigation measures detailed in the OEMP.	The effects on protected species are reported in Section 8.9 'Assessment of likely significant effects' of the ES [AS-025/6.1]. Delivery of the OEMP [APP-218/6.11] is a Requirement in the draft DCO [APP-017/3.1].	Agreed	Agreed	Agreed
Effects on SSSI **RR-037ai/aq** **IR: NE-01** **IR: NE-04**	Section 8.9 Para 8.9.4 to 8.9.5 (construction) Para 8.9.127 (operation)	Natural England is content that the Environmental Statement appropriately assesses the construction effects of the Scheme on SSSI. Natural England notes that the air quality assessment (operational assessment) found that there would be an increase in NOx and nitrogen deposition at Stowe Pool and Walk Mill Clay Pit SSSI and Chasewater and the Southern Staffordshire Coalfield Heaths SSSI. Further discussions are required over the assessment and the ES conclusions with regard to the potential impacts of these increases and mitigation. Consistent with our comments (RR-037am) regarding recent guidance and case law we would welcome further dialogue with the applicant regarding the assessment of Stowe Pool & Walk	With regard to the Stowe Pool & Walk Mill Claypit SSSI, paragraph 8.9.128 of the ES states that "*The implementation of the Scheme would result in an increase in Nitrogen deposition of up to 0.3 kg N/ha/yr within the SSSI"*. The maximum change in Ndep is +0.3 kg N/ha/yr (up to 10 m from the ARN) (+0.2 kg N/ha/yr/ up to 40 m from the ARN). For freshwater bodies and fresh watercourses there are no robust assessment thresholds for critical loads available on APIS (Ref 8.51) and most freshwater bodies are phosphate-limited (i.e. phosphorus is the naturally scarce nutrient that controls eutrophication, rather than nitrogen which is naturally relatively abundant in most lowland freshwater systems). As the predominant habitat type is listed as standing open water and canals (Ref 8.51), the change has been assessed against the higher end of critical load range for this habitat type (10 kg N/ha/yr) as the lower end of the range is	Agreed	Agreed	Agreed

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
		Mill Claypit SSSI and the Chasewater and the Southern Staffordshire Coalfield Heaths SSSI.	intended for oligotrophic lakes with little agricultural input that are often limited by nitrogen. Up to 40 m from the ARN, the site will be subject to an increase in nitrogen deposition of 2-3%. However, the change in nitrogen deposition is less than 0.4 kg N/ha/yr. The site comprises predominantly open water which is already exposed to traffic emissions. Given the size of the water body, mixing and dilution of the deposited nitrogen would be expected, minimising any effects. Therefore, it is not considered likely that the white-clawed crayfish population would be affected. Therefore, in summary, no change to the qualifying features of Stowe Pool and Walk Mill Clay Pit SSSI would be anticipated which is an effect of neutral significance. Please see our response to RR-037am on the relevance of quoted case law to SSSIs. The Air Pollution Information System (APIS) website states that for the white-clawed crayfish interest features of Stowe Pool & Walk Mill Claypit SSSI no critical load has been assigned. This is because the majority of lowland open freshwater bodies are phosphorus limited (i.e. phosphorus is the principal nutrient limiting eutrophication) rather than nitrogen-limited. Phosphorus does not come from			

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
			vehicle exhaust emissions. Moreover, in the absence of any appropriate nitrogen critical load, no modelling assessment can be undertaken. As detailed in paragraph 8.9.127 of the ES [AS-025/6.1], an increase in NOx or nitrogen deposition does not necessarily equate to a significant effect that requires mitigating. With regard to the Chasewater and the Southern Staffordshire Coalfield Heaths SSSI there are six units within 200m of the ARN (Units 7, 8, 9, 13, 14 and 15). There is no change in nitrogen deposition for units 7, 9, 13 and 15 (or a change of <0.1kg N/ha/yr). Nitrogen deposition would only increase (i.e. an increase of 0.1 kg N/ha/yr or greater) in two of the Chasewater and the Southern Staffordshire Coalfield Heaths SSSI units (Unit 8 and Unit 14), and this increase is less than 1% of the critical load for dwarf shrub heath and fen, marsh and swamp (respectively). In line with DMRB LA 105, this is not considered to result in a significant effect on the SSSI and therefore no mitigation measures are proposed. Note that the assessment of impacts these statutory ecological sites from nitrogen deposition is inherently cumulative. The traffic data used in the air quality assessment takes into account traffic flows			

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
			associated with 'reasonably foreseeable' developments.			
Effects on non-statutory designated sites **IR: NE-04**	Section 8.9 Para 8.9.8 to 8.9.25 (construction) Para 8.9.129 to 8.9.134 (operation)	Natural England wishes to confirm that the Environmental Statement appropriately assesses the construction and operational effects of the Scheme on non-statutory designated sites specifically in respect to air quality, and the related impacts would be managed through adherence to mitigation measures.	The effects on non-statutory designated sites are reported in Section 8.9 'Assessment of likely significant effects' of the ES [AS-025/6.1]. Following a change to DMRB air quality methodology a sensitivity test was undertaken to determine whether these changes would alter the assessment of air quality impacts on biodiversity receptors as reported in the ES [AS-025/6.1]. This is reported in 'DMRB updates and the Implications on the DCO Application' [AS-059/8.2] submitted to the Planning Inspectorate on 30 July 2020 and submitted to Natural England for information on 31 July 2020. The document reported no change to the conclusions of the assessment of impacts on non-statutory designated sites. Delivery of the OEMP [APP-218/6.11] is a Requirement in the draft DCO [APP-017/3.1].	Agreed	Agreed	Agreed
Effects on priority habitats	Section 8.9 Para 8.9.32 to 8.9.49 (construction)	In a similar vein to the European Sites and SSSI commentary above (RR-037i), further discussions will be required on potential air quality impacts (operational assessment) and their	The assessment of impacts on priority habitats (ancient woodland and veteran trees) from nitrogen deposition is inherently cumulative. The traffic data used in the air quality assessment takes into account traffic flows associated with	Agreed	Agreed	Agreed

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
RR-037ar **IR: NE-01** **IR: NE-04** **IR: NE-05**	Para 8.9.135 to 8.9.148 (operation)	mitigation in relation to priority habitats (ancient woodland, deciduous woodland, veteran trees and hedgerows) Noting Highways England's response Natural England are content that the assessment of impacts on priority habitats is appropriate.	'reasonably foreseeable' developments, as set out in the Transport Assessment Report [APP-222/7.4 and subsequent revisions]. This traffic data forms part of the do-minimum and do-something scenarios used in the air quality assessment. The legal requirement for 'in combination' assessment (including the Wealden judgment and the Dutch Nitrogen case) is explicitly for European sites and the HRA process. There is no comparable legal driver requiring this approach to be taken for Priority Habitats, nor is there any such requirement in DMRB or in government policy (e.g. NPSNN or the NPPF). To extend the same provisions to Priority Habitats would effectively elevate all areas of Priority Habitat to the status of European sites.			
Chapter 9: Geology and Soils [APP-048/6.1]						
Legislation and policy	Section 8.2	Natural England is content that the ES includes details of applicable legislation and policy.	Details of applicable legislation and policy are provided in Section 9.2 of the ES.	Agreed	Agreed	Agreed
Assessment methodology	Section 9.3	Natural England is content that the assessment methodologies applied to undertake the environmental impact assessment as reported within the ES are appropriate, with the exception of	Details of methodologies used to undertake the environmental impact assessment are provided in Section 9.3 of the ES.	Agreed	Agreed	Agreed

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
		the assessment of impacts on agricultural soils.				
Assessment methodology **RR 037al** **IR: NE-02**	Section 9.3	Cumulative losses of BMV agricultural land need to be discussed. Impact on soils in the context of the NCA (table 9.13) is not particularly relevant. Cumulative approach means of the scheme in combination with other developments. The LA109 approach seems flawed if individual grades are being reported separately? Noting Highways England's response Natural England still has some concerns about how this is reported. Discussions are ongoing.	Dialogue between Highways England and Natural England around the impacts on best and most versatile agricultural soils is ongoing, correspondence and those aspects agreed and still under discussion are set out here. A technical note on agricultural soils has been produced and submitted to Natural England and minor amendments to the OEMP [AS-042/6.11] PW-GEO4, PW-GEO5 and MW-GEO5, have been updated to address concerns raised by Natural England around soil storage practices and the restoration and maintenance of BMV in areas of habitat creation. These are provided in Version 3 of the OEMP submitted to the Planning Inspectorate on 9 October 2020. Agricultural soils are present across the Country in varying grades as classified under the agricultural land classification Grades 1 to 5. The Magnitude of impact criteria for soils as set out in DMRB LA109 takes into consideration the area of soil loss; with more than 20 ha of agricultural soils resulting in a Major impact on soil resources and the loss of 1 to 20 ha of agricultural soils resulting in a Moderate	Under discussion	High	High

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
			impact. Based on the significance of effect matrix set out in DMRB LA104, these impacts combined with the Value (sensitivity) of the receptors (Grades 1 and 2 Very high importance, Grade 3a high importance) set out that the loss of >1 ha of best and most versatile (BMV) agricultural soils would result in a Moderate to Very Large adverse effect which is considered to be a significant effect. In itself the loss of 1 ha of BMV against the total area of BMV soils across England is a small proportion. However, in combination with other developments this impact would likely be considered significant, as is confirmed using the criteria in DMRB. It is therefore considered that the Value (sensitivity), Magnitude and Significance criteria set out with DMRB LA109 for the assessment of agricultural soils takes into consideration cumulative effects. This technical note has been updated to provide further text on the cumulative effect on BMV and sent to Natural England for comment. Comments were received on 07/01/21. Amendments to the technical note and OEMP, as requested by Natural England have been included in the technical note provided as Appendix B of this SoCG and in Version 4 of the OEMP submitted at Deadline 4. These updates			

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
			have not yet been seen by Natural England.			
Assumptions and limitations	Section 9.4	Natural England is content that the assumptions and limitations reported in the ES in relation the agricultural soils are reasonable and do not impact upon the validity of the assessment findings.	Details of the assumptions and limitations which informed the ES are reported in Section 9.4 of the ES.	Agreed	Agreed	Agreed
Study area	Section 9.5	Natural England is content that the study area for agricultural soils reported in the ES is appropriate.	Details of the study area is reported in Section 9.5 of the ES.	Agreed	Agreed	Agreed
Mitigation measures Soil resources	Section 9.8	It should be noted that BS3882:2015 British Standard for Topsoil is not applicable to topsoil that is to remain in-situ or be used to preclude the use of topsoil that is already on-site and is suitable for its intended use. It is primarily designed for traded topsoils. This should be made clearer in the ES. Noting Highways England's response further discussion needed; could be handled as a footnote to clarify. Concerned that some in-situ soils are regarded as not meeting BS standard. Natural England are content that this issue has been addressed in the updated Outline Environmental	The DMRB refers to this standard and so it was decided to retain the reference in this location. 9.8.11 also make reference to the Defra Construction Code of Practice to control the use of topsoil in site. No change was made to the submitted Chapter. An update has been made to the OEMP (Version 3), Table 3.2, PW-GEO5: "*Excavated materials management:* *To form part of the Soil Management Strategy, the preliminary works contractor (all) shall develop a:* • *Soils handling strategy with reference to BS3882: 2015 Specification for Topsoil (Ref 3.6) and the Defra Construction Code of Practice for the Sustainable Use of Soils on Construction Site (Ref*	Agreed	Agreed	Agreed

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
		Management Plan (Version 3) [AS-112/6.11].	*3.5), BS3882: 2015 Specification for Topsoil1 (Ref 3.6) and MAFF, Good practice guide for handling soils (Ref 3.29).* • *Soil Resource Plan which would confirm the soil types, the most appropriate re-use for the different types of soils and proposed methods for handling, storing and replacing soils on-site*." And a footnote added to the OEMP: [1] It is noted that BS3882:2015 is only applicable to the classification and composition of natural or manufactured topsoils that are moved or traded for creating soil profiles intended to support plant growth. It is Highways England's opinion that this update would address this query if accepted by the Planning Inspectorate.			
Mitigation measures Soil resources/ BMV **RR-037al** **IR: NE-02**	Section 9.8	Natural England welcome the intention to return agricultural land to its former condition. This should include a commitment to return it to the same agricultural land classification grade where land is temporarily taken for the construction of the Scheme.	Text is provided in the OEMP [APP-218/6.11] MW- GEO9, PW- GEO4 and MW- GEO7 for the reinstatement and restoration of agricultural soils to their existing condition where agricultural land is temporarily taken for the Scheme. Delivery of the OEMP is a Requirement in the draft DCO.	Agreed.	Agreed	Agreed
Mitigation measures Best and	Section 9.8	Where BMV land would be returned to other uses, this soil should also be returned to a BMV	Chapter 9: Geology and Soils [APP-048/6.1] of the ES assumes that all areas of agricultural land taken permanently by	Agreed	Agreed	Agreed

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
Most Versatile (BMV) agricultural land **RR-037al** **IR: NE-02**		standard in order to minimise loss of BMV potential e.g in areas of woodland planting. Noting Highways England's response, Natural England are content that soils for re-use will be appropriately protected during the construction of the Scheme, with the exception of those soils stripped for the creation of species rich grassland which is still under discussion, as set out elsewhere in this SoCG (see issue 'Effects on BMV agricultural land' on page 35 and 36 of this SoCG)..	the Scheme as shown on the Land Plans [APP-007/2.2] would be lost and therefore presents a worst case. A technical note on agricultural soils has been produced to show the areas of each agricultural land classification (ALC) within the Scheme boundary and its end use (e.g. hardstanding, species-rich grassland, woodland planting). The end use of the land has then been used to determine whether or not it is likely the soils could be maintained or restored to their current agricultural land classification post construction. The technical note considers the Scheme design submitted to the Planning Inspectorate in January 2020 as well as the amended Scheme design. Table 3.1, PW-GEO4 of the OEMP (Version 3) has been amended to reflect this: **"Soil Management Strategy:** The preliminary works contractor (all) shall produce a detailed Soil Management Strategy in line with (PW-GEO5). The management strategy would identify the nature and types of soil that would be affected, including the methods that would be employed for stripping soil and the restoration of agricultural land to its existing agricultural land classification where the end use of the land allows (e.g. returned to agricultural use or used for			

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
			woodland planting) ~~it is being returned to agricultural use~~." It is Highways England's opinion that this update would address this query if accepted by the Planning Inspectorate.			
Mitigation measures Soil storage	Section 9.8	Soil storage areas need to be large enough to store soils separately. To reduce mixing, soil bunds should be of a single soil type including different topsoils, subsoils and other soil forming material. The words 'soils of different quality' is ambiguous. Noting Highways England's response and updated to the OEMP. Natural England are content that mitigation measures relating to soil storage are appropriate.	The OEMP [TR010054/APP/6.11] PW-GEO5 and MW-GEO5 includes text which states. "Soil mounds should be of a single soil type and soils of different quality should not be mixed." This has been amended in Version 3 of the OEMP as follows: "*Soil mounds should be of a single soil type and soils of different ~~quality~~ type should not be mixed e.g. topsoil will be removed to store subsoil and topsoil will be stored on similar topsoil*". It is Highways England's opinion that this update would address this query if accepted by the Planning Inspectorate.	Agreed	Agreed	Agreed
Effects on BMV agricultural land **RR-037al** **IR: NE-02**	Section 9.9	Can you confirm that the amount of land permanently taken by the footprint of the new road is only 8.5 ha? This seems rather low given the total area of the scheme boundary (80.5ha)? The permanent loss of BMV is greater than this if the areas of permanent mitigation (principally	The area of land permanently sealed under hard standing is 8.5 ha (7.7 ha of which would be best and most versatile (BMV) agricultural land. The section of new road is 2.5 km in length and utilises two existing motorway junctions. The Scheme boundary is much larger than this to allow for ancillary development such as drainage, utility diversions, footpath diversions and permanent mitigation measures (including but not limited to	Agreed	Agreed	Agreed

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
		woodland planting) are not returned to a BMV standard. Noting Highways England's response, Natural England are content that the loss of BMV has been accurately reported. The issue relating to the methodology used for the creation of species rich grassland is still under discussion and is set out elsewhere in this SoCG (see issue 'Effects on BMV agricultural land' on page 35 and 36 of this SoCG).	woodland, hedgerow and grassland planting and pond creation) and temporary land take required to construct the Scheme. Chapter 9: Geology and Soils [APP-048/6.1] of the ES assumes that all areas of agricultural land taken permanently by the Scheme as shown on the Land Plans [APP-007/2.2] would be lost and therefore the impacts and effects reported in the ES are not based on the area of ALC sealed under hardstanding, this area is provided for information only. A number of amendments to the Scheme design are being proposed, which broadly align with those set out in the supplementary consultation documents published on 24 August 2020. These changes have been considered in an ES Addendum which was submitted to the Planning Inspectorate on 9 October 2020. These changes reduce the total loss of best and most versatile agricultural land. A technical note has been produced to show the areas of each agricultural land classification (ALC) within the Scheme boundary and its end use (e.g. hardstanding, species-rich grassland, woodland planting). The end use of the land has then been used to determine whether or not it is likely the soils could be maintained or restored to their current agricultural land classification post			

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
			construction. The technical note considers the Scheme design submitted to the Planning Inspectorate in January 2020 as well as the amended Scheme design as presented in documentation submitted to the Planning Inspectorate on 9 October 2020.			
Effects on BMV agricultural land **RR-037al** **IR: NE-02**	Section 9.9	The significance of the impacts should take account of the pattern of ALC grades affected by the scheme so that the highest value with respect to the impacts is used to characterise the scheme as a whole. Please confirm that a very large adverse effect is anticipated, given that the amount of BMV land said to be permanently taken the footprint of the new road is only 8.5ha. Does this imply that the c 27 ha of proposed species rich grassland (or areas for woodland planting) would not be restored to the physical characteristics commensurate with BMV quality? Are these soils intended to be treated less favourably than those being returned to a (potentially) more intensive agricultural use? Natural England would welcome further discussion about the standards of soil restoration proposed in these areas.	The assessment of the loss of agricultural soils has followed the assessment methodology set out in the Design Manual for Roads and Bridges LA 109 Geology and Sols. A very large adverse effect is reported in relation to the loss of Grade 2 BMV land. It has been assumed that although the soils would not be permanently sealed due to the permanent acquisition of this land by Highways England, the soils would no longer be available for agricultural use and would instead in most cases be utilised to support habitat creation. Text has been added to para 9.9.6 to make this clearer. "This demonstrates that less than 8 ha of BMV would be sealed permanently by the Scheme, with the remaining area required to deliver environmental mitigation which would therefore no longer be available for agricultural use.". The assessment reported in Chapter 9: Geology and Soils of the ES [APP-048/6.1] presents a worst case. A technical note has been produced which takes into consideration the end use of	Under discussion	Medium	Medium

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
		The permanent loss of BMV is greater than c 8ha if the areas of permanent mitigation (principally woodland planting) are not returned to a BMV standard. The area which is sealed is only one element of the potential loss of BMV. Noting Highways England's response, Natural England maintain that topsoil should not be stripped for the creation of species-rich grassland in order to minimise the loss of BMV. Discussions remain ongoing.	the land (e.g. hardstanding, species-rich grassland, woodland planting) and whether it's likely based on this land use that the soils functions could be maintained or restored post construction. The mitigation measures set out in the OEMP have been amended to make it clear that soils would be maintained or restored to their current agricultural land classification post construction. It is not intended that those soils taken permanently by the Scheme would be treated less favourably than those taken temporarily and returned to agricultural use. As reported in the ALC technical note using this methodology the overall conclusions of the assessment as reported in Chapter 9: Geology and Soils remain unchanged. Highways England are open to further discussion on soil restoration to inform the production of the Soil Management Strategy. The requirement for Highways England to consult Natural England during the production of the Soil Management Strategy has been included in Version 3 of the OEMP submitted to the Planning Inspectorate on 9 October 2020, Table 3.1, PW-GEO4 and is secured under Requirement 4 of the draft DCO.			

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
			It is Highways England's opinion that this update would address this query if accepted by the Planning Inspectorate.			
Monitoring Soil resources **RR-037al** **IR: NE-02**	Section 9.10	Monitoring of soil condition in the proposed areas of species rich grassland and woodland creation would also be beneficial so that remedial actions can be undertaken if necessary to secure the success of the after use proposed. Further discussion needed about timing of monitoring and how this fit with ecological monitoring. Noting Highways England's response and updates to the OEMP. Natural England are content that the monitoring of soil condition is appropriately secured.	Paragraph 9.10.1 of the Environmental Statement was amended prior to submission of the ES in January 2020 to state: "The Scheme would have significant adverse residual effects upon agricultural land within the Scheme boundary, primarily due to the proportion of temporary and permanent land take required to construct the Scheme. Where agricultural land taken on a temporary basis is restored and returned to the landowner for continued agricultural use, post-construction monitoring would be required to determine whether pre-existing agricultural soil capability had been reinstated. Soil conditions would also be monitored in the proposed areas of species rich grassland and woodland creation to ensure the soil is of an appropriate condition to support the establishment of proposed habitats. Monitoring will be undertaken in Year 1 and Year 5. Such monitoring requirements would be detailed in a Soil Management Strategy, the requirement for which is detailed in the OEMP [TR010054/APP/6.11]." Further discussions on the timing of monitoring is welcome, this will be undertaken during the detailed design of	Agreed	Agreed	Agreed

Issue[1]	ES sub-section	Natural England comment	Highways England response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
			the Scheme. Version 3 of the OEMP has been amended, Table 3.2, PW-GEO4 to ensure that Natural England are consulted during the production of the Soil Management Strategy. It is Highways England's opinion that this update would address this query if accepted by the Planning Inspectorate.			

3.3 Issues relating to other documents

Table 3.2: Issues relating to other documents

Issue[3]	Document	Natural England comment	Highways England response	Status	Agreement likely[4](app)?	Agreement likely (IP)?
HRA **RR-037o** **IR: NE-07**	HRA [APP-216/6.9] Para. 3.1.12	NE are content satisfactory information has been submitted with regards to Cannock Chase SAC in relation to the HRA and confirms the scheme will have no likely significant effect upon this European Site.	Noted. The screening assessment is reported in Section 3 of the HRA [TR010054/APP/6.9].	Agreed	Agreed	Agreed
HRA Screening Assessment **RR-037ah** **IR: NE-07**	HRA [APP-216/6.9] Para 3.1.9 to 3.1.12	In discussions with the Applicant's consultant Natural England agreed that based on the information presented in the Habitats Regulations Assessment ('No Significant Effects Report'), we would agree no likely significant effects. With regard to indirect impacts upon air quality, having reviewed the ES documents we would now advise that we cannot yet agree no likely significant effects for Cannock Extension Canal SAC and that further discussions are required. Unit 1 of the Cannock Extension Canal is currently in unfavourable	The work to assist Natural England's understanding of possible nitrogen contributions associated with Chasewater and The Southern Staffordshire Coalfield Heaths SSSI to Cannock Extension Canal SAC has been completed by Highways England. This work is not a requirement of LA105 but has been undertaken in this sole instance to assist the ExA in their consideration for the Scheme. This work does not represent a change in assessment methodology under LA105. This information was provided to the ExA and NE at Deadline 2 on 17 November 2020 [REP2-009/8.14] and considered whether a change in nitrogen deposition over a small percentage of Unit 13 (The Chasewater)	Agreed	Agreed	Agreed

[3] RR= Relevant representation reference, IR = Issue Reference, as set out on Page 9 of this SoCG.
[4] Indication on likelihood that the matter will be agreed by the close of the Examination period as rated by the applicant and the Interested Party. Dark green = agreed, Light green = high likelihood of agreement, yellow = medium likelihood of agreement, red = low likelihood of agreement.

Issue[3]	Document	Natural England comment	Highways England response	Status	Agreement likely[4](app)?	Agreement likely (IP)?
		recovering condition. This unit is the northern half of the canal and terminates at the A5. Water levels in the canal are topped up several times a year through release of waters from Chasewater and The Southern Staffordshire Coalfield Heaths SSSI (unit 13 Chasewater), the effect of this water release is seen in both unit 1 and 2 of Cannock Extension Canal SAC. Therefore impacts on the Southern Staffordshire Coalfield Heaths SSSI could impact the canal. In addition, Cannock Extension Canal SAC is currently exceeding its nitrogen critical load (3-10 kg N/ha/yr) and its average critical load is 17.1 kg N /ha/yr. Noting Highways England's response Natural England [Please confirm] are content that the Scheme would not result in significant adverse effects on European sites.	could be transported to the SAC via an 8 km length of canal system. The Cannock Extension Canal has only a limited inflow of water from the Wryley and Essington Canal to offset leakage and evaporation. Air quality modelling undertaken for the Scheme also predicts an increase in nitrogen deposition of 0.1 kg N/ha/yr within Unit 14 (Wryley and Essington Canal). This is associated with an approximate 2,000 veh/day increase in traffic using the M6 Toll road with the operation of the scheme. Unit 14 is connected via Wryley and Essington Canal to the Cannock Extension Canal SAC by 7.5 km of canal and therefore due to dilution effects this would be nugatory. Overall, the assessment of nitrogen deposition to the Chasewater (Unit 13) and Wryley and Essington Canal (Unit 14) and its contribution to the Cannock Extension Canal SAC has been demonstrated to be nugatory. Therefore, in the absence of an identified effect pathway, the impact of the Scheme on Cannock Extension Canal SAC is not anticipated to result in a likely significant effect or to introduce uncertainty around such effects. On the basis of the information provided to the ExA at deadline 2 17 November 2020 [REP2-009/8.14] and further information above we consider the conclusions of the			

Issue[3]	Document	Natural England comment	Highways England response	Status	Agreement likely[4](app)?	Agreement likely (IP)?
			HRA No Significant Effects Report [APP-216/6.9] to be correct.			
HRA **RR-037am** **IR: NE-07**	HRA [APP-216/6.9] Para. 3.1.9 to 3.1.12	In 2018 Natural England published NEA001 'Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations' partly in response to case law known as the Wealden Judgement (Wealden –v- SSCLG 2017). A key element of this case law focuses upon the need for careful assessment of the in combination or cumulative effects of projects on European Sites. Although governed by different legislation the principles set out in NEA001 are likely to apply similarly to nationally designated sites (SSSI)[3]. Separate case law, known as the Dutch nitrogen case ('Co-operatie Mobilisation' – joined cases C293 & 294/17) raises questions regarding the approval of projects that would add further to pollution levels where the relevant European Site is already regarded as 'ecologically failing' due to existing ('background') levels of nitrogen related pollution. Noting Highways England's response Natural England are	As set out below (RR-037an) only receptors up to 200 m from the ARN are considered within the local operational air quality assessment. This is because the effect of the concentration of pollutants from road traffic reduces with distance from the point of release, and beyond 200 m these are likely to have reduced to a concentration equivalent to background concentrations, as set out in paragraph 5.3.5 of the ES [APP-044/6.1]. However, in some cases receptors beyond 200m from the ARN are considered where there is a hydrological link between the receptors, as is the case with the Cannock Extension Canal SAC and the Chasewater and The Southern Staffordshire Coalfield Heaths SSSI, between which there is a periodic hydrological connection. The local operational air quality assessment is inherently cumulative, considering forecasted future traffic flows as described in ES Chapter 15: Assessment of Cumulative Effects [APP-054/6.1]. As reported in the Habitats Regulation Assessment [AS-035/6.9] there are no European sites within 200 m of the ARN and all hydrological links have been investigated therefore no further assessment of impacts on European sites is required.	Agreed	Agreed	Agreed

Issue[3]	Document	Natural England comment	Highways England response	Status	Agreement likely[4](app)?	Agreement likely (IP)?
		content that the Scheme would not result in significant adverse effects on European sites. In this instance further assessment in line with the Wealden Judgement is not required.				
HRA Screening Assessment **RR-037an** **IR: NE-07**	HRA [APP-216/6.9] Para. 3.1.9 to 3.1.12	From the ES information provided we are not clear how the ARN was identified or the rationale for other roads being included in the model and associated air quality assessment (reference – ES Chapter 5 - Figure 5.1 Air Quality Study Area).	The local operational air quality assessment considers the impact on individual sensitive receptors at distances of up to 200 m from the ARN based on guidance presented in DMRB HA207/07. In this approach the receptors with the highest predicted concentration and biggest predicted change in pollutant concentration are considered. This is because the effect of pollutants from road traffic reduces with distance from the point of release. Beyond 200 m these pollutants are likely to have reduced to a concentration equivalent to background concentrations. This is set out in Paragraph 5.3.5 of the ES [APP-044/ 6.1]. The methodology for defining the ARN is set out in Section 5.5 'Study Area' of the ES [APP-044/6.1]. Paragraph 5.5.2 of the ES states "*Affected road links (individually modelled sections of road) have been identified by comparing traffic data with the Scheme (Do-Something) and without the Scheme (Do-Minimum) against the local air quality screening criteria presented in DMRB, which are as follows:*	Agreed	Agreed	Agreed

Issue[3]	Document	Natural England comment	Highways England response	Status	Agreement likely[4](app)?	Agreement likely (IP)?
			1) road alignment would change by 5 m or more; or 2) annual average daily traffic (AADT) flows would change by 1,000 or more; or 3) heavy duty vehicles (HDV) (vehicles greater than 3.5 tonnes, including buses and coaches) flows would change by 200 AADT or more; or 4) daily average speeds would change by 10 km/hr or more; or 5) peak hour speed would change by 20 km/hr or more." The 'Other Roads Modelled' illustrated on Figure 5.1: Air Quality Study Area [APP-068/ 6.2] are those major roads that lie outside the ARN but within 200 m of air quality receptors. This ensures that that all roads which have the potential to contribute to the total pollution concentrations predicted at receptors within 200 m of the ARN are considered. Not all receptors that are within 20 0m of the 'Other Roads' are considered to be receptors in the local operational air quality assessment as they may be more than 200 m from the ARN. A new DMRB methodology for air quality assessment was published on the 28 November 2019. Due to the complexity of these assessments and the timing of the published changes, it was not possible to update the air quality assessment to take			

Issue[3]	Document	Natural England comment	Highways England response	Status	Agreement likely[4](app)?	Agreement likely (IP)?
			into consideration the latest updated methodology prior to submission of the DCO application, without incurring a substantial delay to the Scheme. In order to test whether the results of the air quality assessment (as reported in the ES) would alter when assessed using the new DMRB methodology LA 105: Air quality, sensitivity testing has been undertaken. A new application document, "DMRB updates and the impact on the DCO application" [AS-059/8.2] has been produced to summarise the results of the air quality sensitivity testing work and report where changes to the assessment would result in alterations to other aspects of the ES and DCO application. Taking into consideration the screening criteria set out in LA 105, the sensitivity test of the operational study area demonstrated that the operational air quality study area would have been slightly larger, with two extra road links included in the ARN. This enlargement of the study area is not expected to result in any significant effects as emission concentrations at receptors modelled in the vicinity of these links suggest concentrations of NO_2 will be below the air quality objective, 40 µg/m^3.			
HRA	HRA	We would welcome further dialogue to clarify the approach taken to assessment and the results	As set out above (RR-037an) only receptors up to 200 m from the ARN are considered within the local operational air quality	Agreed	Agreed	Agreed

Issue[3]	Document	Natural England comment	Highways England response	Status	Agreement likely[4](app)?	Agreement likely (IP)?
Screening Assessment **RR-037ao** **IR: NE-07**	[APP-216/6.9] Para. 3.1.9 to 3.1.12	informing 'screening out' of the Cannock Extension Canal SAC. Examples of those locations subject to air quality assessment, which need further discussion, include: • Norton Canes Motorway service area westbound slip roads. • A5 immediately north of the SAC • B4154 adjacent to and bisecting the SAC Noting Highways England's response Natural England are content that Cannock Extension Canal SAC is not located within 200m of the ARN and can therefore be 'screened out' out of further assessment.	assessment. This is because the effect of pollutants from road traffic reduces with distance from the point of release, and beyond 200 m these are likely to have reduced to a concentration equivalent to background concentrations, as set out in paragraph 5.3.5 of the ES [APP-044/ 6.1]. At its closest point the Cannock Extension Canal SAC is approximately 280m from the ARN (the M6 Toll) and is therefore not considered to be potentially affected by changes in air quality. The A5 and B4154 are identified as 'Other Roads Modelled' on Figure 5.1: Air Quality Study Area [APP-068/ 6.2] these have only been included within the air quality modelling to ensure total concentrations predicted at receptors within 200m of the ARN include contributions from all relevant sources. Norton Canes Motorway service area westbound slip roads are located 197 m from Cannock Extension Canal SAC. However, the slip roads are not included in the traffic model for the Scheme as a service station is not considered to be an origin or destination of travel and therefore traffic flows are relatively low. Based on experience of other road schemes up to approximately 12% of traffic stop to use a service station. The slip roads therefore do not form part of the air quality model. The M6 Toll is anticipated to see an increase in two-way traffic flows as a result			

Issue[3]	Document	Natural England comment	Highways England response	Status	Agreement likely[4](app)?	Agreement likely (IP)?
			of the Scheme of +2,058, with an increase in +1,276 travelling westbound. For the slip roads to be included as part of the ARN, 78% of the additional traffic flows travelling westbound on the M6 Toll would need to stop at the services. It is therefore considered that if the slip road had been included in the traffic model it would not have met the criteria for inclusion in the ARN.			
HRA **RR-037ap** **IR: NE-07**	HRA [APP-216/6.9] Para 3.1.11	We have noticed typographical errors in paragraph 3.1.11 of Volume 6.9 Habitats Regulations Assessment - No Significant Effects Report [APP-216/6.9]. The current average nitrogen load for Cannock Chase SAC is 21.2kg/N/Ha/Year (Source) while that for Cannock Extension Canal is 17.1Kg/N/Ha/Year. These current average loads are above and therefore exceeding the upper nitrogen critical load thresholds for the SAC habitats. These averages are higher than those reported in the ES. Noting Highways England's response, Natural England is now satisfied that our query regarding the typographical error has been resolved.	This is not a typographical error, the APIS where the data for baseline deposition rates and critical loads was sourced from updated the baseline background deposition and concentration data sets on the 18th March 2020 after the submission of our DCO application and so was not included in the HRA submitted with the application. Since the submission of the application further work has been completed to consider the updates to DMRB air quality guidance to LA105. The air quality assessment reported in the ES [APP-044/6.1] was undertaken in line with now superseded air quality guidance. The updated APIS data has been utilised in the sensitivity testing undertaken to consider whether the changes to methodology could alter the conclusions of Chapter 5: Air Quality and Chapter 8: Biodiversity, refer to [AS-59/8.6], 'DMRB updates and impacts on the DCO	Agreed	Agreed	Agreed

Issue[3]	Document	Natural England comment	Highways England response	Status	Agreement likely[4](app)?	Agreement likely (IP)?
			application'. This document was submitted to the Inspectorate on 30 July 2020. Cannock Chase and Cannock Extension Canal SACs are not within 200m of the Affected Road Network and therefore the Scheme is not anticipated to result in a significant adverse effect on these sites.			
Requirement 4 of the draft DCO CEMP and HEMP	Draft DCO	Requirement 4 sub-section (d) (x), Soil Management Strategy (including a Soil Management Plan and a soil Handling Strategy), will be essential in order to ensure suitable application of the Defra code of practice for the sustainable use of soils on construction sites. Requirement 4 sub-section (viii) 'Landscape & Ecology Management Plan' (LEMP) will be essential to ensure that soils forming part of the proposal's landscaping provisions are suitably protected from damage during subsequent phases of work. Both are needed to safeguard soils resources and agricultural land quality as an integral part of the proposal.	Highways England notes this statement and has no comments to make.	Agreed	Agreed	Agreed
Requirement 5 of the draft DCO	Draft DCO	In respect of Natural England's concern regarding the relationship between BMV soils and species rich grassland creation requirement 4	The proposed design changes accepted by the ExA on 29 October 2020, as set out in the Formal Request for Scheme Changes [AS-117/8.5], reduce the overall footprint of	Under discussion	Medium	Medium

Issue[3]	Document	Natural England comment	Highways England response	Status	Agreement likely[4](app)?	Agreement likely (IP)?
BMV **RR-037au**		sub-sections (viii) (LEMP) and requirement 5 'Landscaping' may need to be amended and/or supplemented. This may be necessary to ensure all reasonable steps have been taken to reconcile the types of soils moved within a given phase with effective allocation to agricultural, landscaping and priority habitat end uses.	the Scheme, reduce permanent land acquisition and therefore minimise the impact on BMV agricultural land. Mitigation measures set out in the OEMP, PW-GEO4, PW-GEO5 and MW-GEO5, have been updated to address concerns raised by Natural England around soil storage practices and the restoration and maintenance of BMV in areas of habitat creation, these are provided in Version 3 of the OEMP.			
Requirement 5 of the draft DCO Landscaping **RR-037av**	Draft DCO	Due to the interrelationship between ecological resources, soils and landscaping on the proposal site proposed requirement 4 (CEMP & HEMP) will be essential to inform the effective implementation of proposed requirement 5.	Agreed	Agreed	Agreed	Agreed
Requirement 4 of the draft DCO Management Plans **RR-037aw** **RR-037ax**	Draft DCO	Requirement 4 sub-section (d) (viii) (LEMP) and sub section (4) (HEMP) will be essential to deliver, phase by phase, the package of measures to mitigate impacts on protected species and wider biodiversity and to deliver management of the proposal site's overall biodiversity resource during the construction and operation phases of the proposal. Due to the interrelationship between landscape resources and	Agreed	Agreed	Agreed	Agreed

Issue[3]	Document	Natural England comment	Highways England response	Status	Agreement likely[4](app)?	Agreement likely (IP)?
		biodiversity (both wildlife and their habitats) proposed requirement 4 Sub-sections (d) (vi) Arboricultural mitigation strategy and (viii) LEMP will be essential to deliver requirement 4 (CEMP & HEMP)				
Requirement 4 of the draft DCO Lighting / impacts on protected species RR-037ay	Draft DCO	Proposed requirement 4 (CEMP & HEMP) sub section (d) (viii) may need to be amended and/or supplemented. Information dealing with 'details of lighting' will be essential in order to address ecological considerations (including European Protected Species mitigation licence in respect of named bat species above) and thereby support delivery of requirement 4 (d) (viii) (LEMP).	The OEMP [AS-112/6.11] sets out the overarching requirements to mitigate the impacts of the Scheme. Requirement 4, Part 2a) of the draft DCO [AS-075/3.1] requires the CEMP to reflect the mitigation measures set out in the Register of Environmental Actions and Commitments (REAC) tables of the OEMP. The REAC table for the main construction works, Table 3.3 of OEMP [AS-112/6.11], MW-G26 and MW-BIO3 set out the requirements for lighting during the construction of the Scheme. MW-G26 states "Site lighting: The main works contractor shall define within the CEMP the proposed approach to site lighting around construction compounds and elsewhere along the route alignment, giving consideration to environmental constraints. Lighting should be at the minimum luminosity necessary and use low energy consumption fittings and should avoid light spillage. Lighting should also be designed, positioned and directed so as not to unnecessarily intrude on adjacent buildings, ecological receptors, structures used by	Under discussion	High	High

Issue[3]	Document	Natural England comment	Highways England response	Status	Agreement likely[4](app)?	Agreement likely (IP)?
			protected species and other land uses to prevent unnecessary disturbance, interference with local residents, or passing motorists. This provision would apply particularly to sites where night working would be required." and MW-BIO3 states "The main works contractor shall, if temporary site lighting is required near LWSs; Sites of Biological Importance, retained ancient woodlands and linear vegetated or water corridors, adjacent to the known bat roost use directional lamps/ hoods/ cowls, to ensure that light-spill to the watercourses and their banks is minimised. LED lights and automatic sensors will be used where appropriate. These features are identified on the Environmental Constraints Plans, at Annex A of this OEMP; the Environmental Masterplans (see Figures 2.1 to 2.7 [APP-057/6.2 to APP-063/6.2]); and Appendix 8.7 of the ES [APP-179/6.3], Figure 8.17: Bat Baseline - Confirmed Bat Roosts and Aerial Tree Inspection Survey Results (2018 and 2019) [APP-121/6.2]." The Scheme design REAC table, Table 3.4 of the OEMP [APP-218/ 6.11], D- BIO8 states that "The Scheme shall provide an appropriate lighting design to minimise impacts on bats. The length of the Scheme would be unlit with new lighting limited to the junctions with the M54 and M6, including the associated slip roads." highlighting that the			

Issue[3]	Document	Natural England comment	Highways England response	Status	Agreement likely[4](app)?	Agreement likely (IP)?
			assessment reported in the ES assumes an appropriate lighting design. This commitment has been amended to state "The detailed design of bat mitigation including consideration of the lighting design will be undertaken in consultation with Natural England.". Species and habitat specific management plans will form part of the LEMP produced at detailed design stage and will be based on the measures set out in the REAC tables. These documents would then inform and be referred to within the EPSL applications. It is therefore considered that this matter is already covered by the Requirement 4 of the draft DCO [AS-075/3.1] and the OEMP [APP-112/6.11]. In addition to this commitment MW-LAN1 securing the production of the LEMP has been amended to include: "The LEMP and the associated habitat and species specific management plans that form part of it, will be produced in consultation with Natural England, the SCC County Ecologist and Staffordshire Wildlife Trust." To ensure consultation on the OEMP is clearly secured.			
Requirement 8 of the draft DCO	Draft DCO	With regard to proposed requirement 8, due to the interrelationship between landscape resources, biodiversity (wildlife and	Highways England notes this statement and has no comments to make.	Agreed	Agreed	Agreed

Issue[3]	Document	Natural England comment	Highways England response	Status	Agreement likely[4](app)?	Agreement likely (IP)?
Water and flood risk – surface and foul water drainage RR-037az		habitats) and drainage features (including e.g. wetland habitats) proposed requirement 8 (Surface and foul water drainage) will be essential to ensure the successful implementation and delivery of the LEMP through proposed requirement 4 subsection (d) (viii).				
Articles and Requirements of the draft DCO	Draft DCO [AS-075/3.1]	Natural England do not have any further comments on the Articles and Requirements of the draft DCO.	Highways England notes this statement and has no comments to make.	Agreed	Agreed	Agreed

Appendix A Initials and details of individuals involved

Initials	Name	Role or Discipline	Organisation
AK	Andrew Kelly	Project Manager	Highways England
AL	Alison Leeder	DCO Lead	Aecom
AS	Amy Spencer	Environmental	Aecom
CG-S	Carly Goodman-Smith	Director	Tyler Grange
DL	David Last	Deputy Project Manager	Aecom
DT	Dyfan Thomas	Highways	Amey
EG	Emma Goldberg	Senior Forestry & Woodland	NE
ES	Eric.Steer		NE
FL	Fiona Lee	Archaeology	Aecom
GD	Gillian Driver	Case Officer	NE
GL	Graham Littlechild	Project Manager	Highways England
GM	Grady McLean		NE
HM	Hazel Murrells	Associate Ecologist	Tyler Grange
HW	Helen Woolley	Newts & Badgers	NE
JR	Joanna Redgwell	West Mids Team Manager	NE
KB	Katherine Bubb	Senior Ecologist	Tyler Grange
LB	Lesley Barton	Bats	NE
MW-H	Marcus Wainwright-Hicks	Ecologist	Aecom
MO	Matt Oakley	Ecology	Aecom
RR	Rob Ramshaw	Project Manager	Aecom
SG	Stuart Graham	Ecology	Amey
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Appendix B Agricultural Soils Assessment Technical Note

AGRICULTURAL SOILS ASSESSMENT

1 Introduction

1.1 Highways England are developing a link road between the M54 and M6 to provide a link between Junction 1 of the M54, M6 North and the A460 to Cannock. The M54 to M6 Link Road (herein referred to as 'the Scheme') aims to reduce congestion on local / regional routes, particularly the A449 and A460 and deliver improved transport links to encourage the development of the surrounding area.

1.2 The Environmental Statement (ES) submitted with the DCO Application for the Scheme considers the impact of the Scheme on soils. This technical note will focus on the assessment of impacts on agricultural soils and the assumptions made as part of the assessment and the mitigation measures proposed, following comments received from Natural England.

2 Agricultural soils

2.1 Agricultural land in England and Wales is graded between 1 and 5, depending on the extent to which physical or chemical characteristics impose long-term limitations on agricultural use. The principal physical factors influencing grading are climate, site and soil which, together with interactions between them, form the basis for classifying land into one of the five grades.

2.2 Grade 1 land is excellent quality agricultural land with very minor or no limitations to agricultural use, and Grade 5 is very poor quality land, with severe limitations due to adverse soil, relief, climate or a combination of these. Grade 3 land is subdivided into Subgrade 3a (good quality land) and Subgrade 3b (moderate quality land). Land which is classified as Grades 1, 2 and 3a in the Agricultural Land Classification (ALC) system is defined as best and most versatile agricultural land (BMV).

3 Assessment methodology and assumptions

3.1 As set out in Chapter 9: Geology and Soils of the Environmental Statement [APP-048/6.1] the methodology outlined in the Design Manual for Road and Bridges LA 109 Geology and Soils and LA 104 Environmental assessment and monitoring, has been used to undertake the assessment of impact on soil resources.

3.2 The assessment as reported in Chapter 9: Geology and Soils of the ES [APP-048/6.1] makes the assumption that all agricultural land required permanently for the construction and operation of the Scheme, as set out in the Land Plans [APP-007/2.2] would no longer be available for agricultural use and therefore is considered to be permanently lost. Those areas used temporarily during the construction period and returned to the landowner post construction are assumed to be temporarily lost or the soil function temporarily reduced, then returned to their existing state post construction. The assessment reported in Chapter 9: Geology and Soils of the Environmental Statement [APP-048/6.1] therefore presents a worst-case scenario for the loss of agricultural soils.

3.3 Discussions on the soils assessment have been ongoing with Natural England, with Natural England noting that where existing BMV land is being changed to other uses such as woodland areas, soils should be maintained at or restored to their current state post construction, in order to minimise the loss of BMV. It was

not the intention that these soils would be treated differently to those soils returned to agricultural use and the mitigation measures outlined in the OEMP (Version 3) have been updated to reflect this as set out in Section 4 of this technical note.

3.4 This technical note considers the impact on agricultural soils as a result of the temporary and permanent change in land use rather than whether the land is being acquired temporarily and permanently for the construction and operation of the Scheme.

4 Baseline conditions

4.1 In 2019 there were approximately 17.6 million hectares (ha) of agricultural land in the UK[1] with 9.06 million ha of utilised agricultural land in England[2]. Current estimates are that BMV makes up approximately 42% of agricultural land in England[3] (2.7% Grade 1, 18.1% Grade 2 and 20.7% Grade 3a), based on land use figures there is an estimated 3.8 million ha of BMV in England.

4.2 The Scheme boundary for the construction and operation of the Scheme is 199.2 ha. Approximately 40% of the area within the Scheme boundary (80.5 ha) is made up of agricultural land, Grades 2, 3a and 3b. Of those 80.5 ha, 90% (72.2 ha) is BMV land, Grades 2 and 3a. Therefore, the proportion of Grade 2 agricultural land within the Scheme boundary is much higher than the national proportion as well as a higher proportion of Grade 3a soils.

Table 1: Agricultural soils within the Scheme boundary

Soils classification	ALC Quality	Area within the Scheme boundary (ha)	% of agricultural land within Scheme boundary	% of area within Scheme boundary
ALC Grade 1	Excellent	-	-	-
ALC Grade 2	Very good	52.8	66	26
ALC Grade 3a	Good	19.3	24	10
BMV (Grades 1 to 3a)		72.2	90	36
ALC Grade 3b	Moderate	8.4	10	4
ALC Grade 4	Poor	-	-	-
ALC Grade 5	Very poor	-	-	-

[1] Savills (2019) Current Agricultural Land Use in the UK https://www.savills.co.uk/research_articles/229130/274017-0#:~:text=area%20of%20land-,The%20total%20agricultural%20area%20in%20the%20UK%20is%20around%2017.6,the%20total%20area%20of%20land.

[2] Defra (2019) Farming Statistics Land Use, Livestock Populations and Agricultural Workforce At 1 June 2019 - England https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/868945/structure-jun19-eng-28feb20.pdf

[3] Natural England (2009) Agricultural Land Classification: protecting the best and most versatile agricultural land (TIN049) http://publications.naturalengland.org.uk/publication/35012

Soils classification	ALC Quality	Area within the Scheme boundary (ha)	% of agricultural land within Scheme boundary	% of area within Scheme boundary
Total Agricultural land within Scheme boundary		80.5	100	40
Non-Agricultural land within the Scheme boundary[4]		118.8	-	60
Total area within the Scheme boundary		199.2	-	100

4.3 The majority of the Scheme and agricultural land impacted by the Scheme are located within National Character Area (NCA) 67: Cannock Chase and Cannock Wood however the Scheme boundary does cross into NCA: 66: Mid Severn Sandstone Plateau. Table 2 sets out the agricultural land classifications within NCA 67 and 66, to provide an overview of the total area of agricultural land and the area of each ALC. As set out in Natural England's National Character Area Profiles[5], NCA are areas that share similar landscape characteristics, and which follow natural lines in the landscape rather than administrative boundaries, making them a good decision-making framework for the natural environment. This allows a comparison against both national proportions of BMV and more localised proportions. Table 2 sets out the proportions of each ALC within the two NCAs that the Scheme is located within. Both NCA 66 (62%) and NCA 67 (54%) have a higher proportion of BMV than the national proportion of BMV (42%). However, the proportion of BMV within the Scheme boundary, particularly Grade 2 agricultural land is higher than the proportions within the NCAs.

Table 2: Agricultural soils within the NCA

Agricultural Land Classification	NCA 67: Cannock Chase and Cannock Wood		NCA: 66. Mid Severn Sandstone Plateau	
	Area (ha)	% of NCA	Area (ha)	% of NCA
Grade 1	0	0%	1,032	1%
Grade 2	6,695	9%	22,105	25%
Grade 3a[6]	12,128	16.5%	21,433	24%
Grade 3b	12,129	16.5%	21,432	24%
Total area of BMV within NCA	18,833	25.5%	44,569	50%
Area of agricultural land within the NCA which is BMV	35,158	53.6%	72,030	61.9^

[4] As shown in Figure 9.4: Soil resource [APP-142/6.2] this includes, existing hardstanding and non-statutory designated sites.
[5] Natural England: (2015) National Character Area Profile: 66. Mid Severn Sandstone Plateau and 67. Cannock Chase and Cannock Wood http://publications.naturalengland.org.uk/category/587130
[6] It is assumed that Grade 3 is split equally between Grade 3a and Grade 3b as this detail is not available.

Agricultural Land Classification	NCA 67: Cannock Chase and Cannock Wood		NCA: 66. Mid Severn Sandstone Plateau	
	Area (ha)	% of NCA	Area (ha)	% of NCA
Total area within NCA	88,804		72,790	

5 Mitigation measures

5.1 The OEMP has been revised to acknowledge the concerns raised by Natural England in relation to soil storage and the maintenance and restoration of soils. These updates will be reflected in Version 3 of the OEMP which was submitted to the Examining Authority on 9 October 2020 as part of a package of documents which have been updated in relation to a number of design changes proposed by the Applicant. These changes to the OEMP are as set out in Table 3.

Table 3 Amendments to the mitigation measures set out in the OEMP (Version 3)

Natural England comment	Amendment to the OEMP
It should be noted that BS3882:2015 British Standard for Topsoil is not applicable to topsoil that is to remain in-situ or be used to preclude the use of topsoil that is already on-site and is suitable for its intended use. It is primarily designed for traded topsoils. This should be made clearer in the ES. Noting Highways England's response further discussion needed; could be handled as a footnote to clarify. Concerned that some in-situ soils are regarded as not meeting BS standard.	Table 3.2, PW-GEO5 has been amended as follows: "*Excavated materials management:* *To form part of the Soil Management Strategy, the preliminary works contractor (all) shall develop a:* • *Soils handling strategy with reference to ~~BS3882: 2015 Specification for Topsoil (Ref 3.6) and~~ the Defra Construction Code of Practice for the Sustainable Use of Soils on Construction Site (Ref 3.5),* ***BS3882: 2015 Specification for Topsoil[1] (Ref 3.6) and MAFF, Good practice guide for handling soils (Ref 3.29).*** • *Soil Resource Plan which would confirm the soil types, the most appropriate re-use for the different types of soils and proposed methods for handling, storing and replacing soils on-site*." And a footnote added to the OEMP: **[1] It is noted that BS3882:2015 is only applicable to the classification and composition of natural or manufactured topsoils that are moved or traded for creating soil profiles intended to support plant growth.** It is Highways England's opinion that this update would address this query if accepted by the Planning Inspectorate.
Where BMV land would be returned to other uses, this soil should also be returned to a BMV standard in order to minimise loss of BMV potential e.g in areas of woodland planting.	It was not intended that BMV soils used in areas for woodland planting would be treated less favourably than those areas returned to agricultural use. Table 3.1, PW-GEO4 of the OEMP has been amended as follows: **"Soil Management Strategy:** The preliminary works contractor (all) shall produce a detailed Soil Management Strategy in line with (PW-GEO5). The management strategy would identify the nature and types of soil that would be affected, including the methods that would be employed for stripping soil and the restoration of agricultural land to its existing agricultural land classification where **the end use of the land allows (e.g. returned to agricultural use or used for woodland planting)** ~~it is being returned to agricultural use~~."

Natural England comment	Amendment to the OEMP
	It is Highways England's opinion that this update would address this query if accepted by the Planning Inspectorate.
Soil storage areas need to be large enough to store soils separately. To reduce mixing, soil bunds should be of a single soil type including different topsoils, subsoils and other soil forming material. Noting Highways England's response further discussion needed – the words 'soils of different quality' is ambiguous.	The OEMP [TR010054/APP/6.11] PW- GEO5 and MW-GEO5 has been amended as follows "Soil mounds should be of a single soil type and soils of different quality should not be mixed." This will be updated in a revised version of the OEMP to state: "Soil mounds should be of a single soil type and soils of different ~~quality~~ **type as characterised by the soil resource plan (part of the Soil Management Strategy)** should not be mixed. **Topsoil will be removed to store subsoil and topsoil will be stored on similar topsoil**". It is Highways England's opinion that this update would address this query if accepted by the Planning Inspectorate.
Monitoring of soil condition in the proposed areas of species rich grassland and woodland creation would also be beneficial so that remedial actions can be undertaken if necessary to secure the success of the after use proposed. Noting Highways England's response further discussion needed about timing of monitoring and how this fit with ecological monitoring.	Discussions on the timing of monitoring is welcome, this will be undertaken during the detailed design of the Scheme. The OEMP has been amended, Table 3.2, PW-GEO4 to state that Natural England are consulted during the production of the Soil Management Strategy. It is Highways England's opinion that this update would address this query if accepted by the Planning Inspectorate.

6 Assessment of impacts on agricultural soils

6.1 Natural England noted that where existing BMV land is being changed to other uses such as woodland areas it should be maintained at, or returned to, its existing condition in order to minimise loss of BMV potential. The ES assumed that any land used to deliver environmental mitigation would no longer be available for agricultural use and would therefore be counted as a loss of BMV land. The assessment reported in the ES therefore presents a worst-case scenario for the loss of BMV.

6.2 As set out in Table 9.14, Chapter 9: Geology and Soils [APP-048/6.1], Table 4 sets out the areas of agricultural land permanently acquired to construct and operate the Scheme. This includes those areas which will form part of the road alignment and ancillary development, including those areas used to provide environmental mitigation in the form of habitat creation, noise and visual screening and landscape integration, as well as provide access for the long-term maintenance of the Scheme. In addition to the information provided in the ES an additional row on temporary land acquisition and total areas of each grade of agricultural soils has been included in Table 4. Table 4 also provides the updated figures taking into account the recently proposed design changes (DC) as proposed in document AS-043/8.3 'Applicant's notification of proposed scheme changes' submitted to the Examining Authority in July 2020. These design

changes would reduce the area of BMV agricultural land which would be permanently acquired to construct and operate the Scheme.

Table 4: Area of ALC permanently impacted by the Scheme

Aspect of the Scheme	Area of ALC permanently impacted (ha)							
	Grade 2		Grade 3a		Total BMV (Grade 2 and 3a)		Grade 3b	
	ES*	DC**	ES	DC	ES	DC	ES	DC
Amenity grassland	1.4	1.5	0.2	0.2	1.6	1.7	0.2	0.2
Drainage ponds	0.6	0.6	0.5	0.5	1.1	1.1	-	-
Ecology ponds	1.1	0.9			1.1	0.9	-	-
Marsh and wetlands	0.7	-	0.3	-	1 -	-	-	-
Species rich grassland	15.5	16.1	7.3	6.0	22.8	22.1	4.6	4.7
Ancient woodland compensation planting	-	0.15	1.4	1.4	1.4	1.6	0.55	1
Woodland planting	15.3	12	1.1	1.1	16.4	13.1	0.09	0.3
Hardstanding (permanently sealed)	5.8	5.2	1.9	1.7	7.7	6.9	0.8	0.7
Returned to current state (permanently acquired)	1.4	2.5	1.8	-	3.2	3.2	1	0.4
Total area of agricultural land permanently acquired	41.8	39	14.5	10.7	56.3	49.7	7.3	7.3
Total area of agricultural land temporarily acquired for construction[7]	11	12.1	4.7	6.4	15.7	18.5	1.2	1.2
Total area of agricultural land within the Scheme boundary***	52.8		19.3		72.1		8.4	

*ES = The Scheme design submitted to the Planning Inspectorate in January 2020

**DC = The Scheme design with the design changes accepted by the Examining Authority in October 2020

*** Following the design changes there are a number of agricultural land parcels within the Scheme boundary for which no powers are being sought as part of the DCO Application and therefore these are not considered as temporary or permanent land acquisition.

[7] These areas are required for construction activities, satellite compounds and soils and material storage etc.

6.3 Following the completion of construction activities, agricultural land taken on a temporary basis would be restored and returned to the landowner for unrestricted agricultural use in the same agricultural condition that currently exists

6.4 As set out in Table 4 areas of agricultural land permanently acquired for the Scheme will be used for a number of purposes. With appropriate mitigation measures in place a number of the end uses would allow the soils to be maintained or be restored to their current agricultural land classification post construction. These include areas of woodland planting and those areas acquired permanently which would not be used for environmental mitigation or sealed under hardstanding. These would be considered to be temporarily impacted as construction works may require the temporary removal or compaction of soils. Physically removing the soil resource i.e. stripping soil, has an adverse effect on soil properties and reduces its function, which may affect its ability to perform one or more of its functions. Therefore, the physical removal of soil will always have an adverse effect. However, with the adoption of appropriate mitigation for the handling and restoration of soils, as part of a CEMP (see OEMP Section 4 Mitigation Measures), most soils will be able to continue their various ecosystem functions on or off site, principally as a medium for producing food and biomass; for storing and cycling water and carbon; and for supporting habitats, biodiversity and landscape planting.

6.5 There are a number of land uses which would result in the loss of function, removal or sealing of agricultural soils. It is assumed that those areas of agricultural land that would be required for the establishment of species rich grassland as set out in the Environmental Masterplan (Figure 2.1 to 2.7 of the ES [AS-086 to AS-92/ 6.2]) would experience a loss of soil function, if the topsoil was removed for use in other areas of the Scheme or removed from the Scheme area to be used to enhance land elsewhere (to be determined). Likewise, it is assumed that soil function would be lost for the use of land for drainage ponds, ecology mitigation ponds and the establishment of marsh and wetland habitat. Though amenity grassland would not require the stripping of nutrients from the soil to allow establishment the location of amenity grassland in a thin strip adjacent to the carriageway at the top and bottom of embankments would reduce soil function through the compaction of soils to provide a stable embankment.

6.6 Table 5 sets out the total area of Grade 2, Grade 3a and Grade 3b soils for which the Scheme is likely to permanently impact BMV by altering one or more of the functions of the soil as a result of the removal or permanent sealing of agricultural soils.

Table 5: Agricultural soils permanently impacted by the Scheme end use

Change in land use to:	Area of ALC in hectares (ha)								
	Grade 2 (Very high)			Grade 3a (High)			Grade 3b (Medium)		
	ES Ch9*	ES MP**	DC***	ES Ch9	ES MP	DC	ES Ch9	ES MP	DC
Lost to Scheme (hardstanding)	5.8	5.9	5.2	1.9	1.9	1.7	0.8	0.7	0.7
Species rich grassland	15.5	15.2	16.1	7.3	8.6	6.0	4.6	4.7	4.8
Amenity Grass	1.4	1.4	1.5	1.4	0.2	0.2	0.2	0.2	0.2
Drainage pond	0.6	0.6	0.6	0.5	0.5	0.5	0	0	0

Change in land use to:	Area of ALC in hectares (ha)								
	Grade 2 (Very high)			Grade 3a (High)			Grade 3b (Medium)		
	ES Ch9*	ES MP**	DC***	ES Ch9	ES MP	DC	ES Ch9	ES MP	DC
Ecology pond	1.1	1.1	0.9	0	0	0	0	0	0
Marsh and wetland	0.7	0.7	0	0.3	0.3	0	0	0	0
Total area lost	**25.1**	**25.0**	**24.3**	**11.4**	**11.5**	**8.4**	**5.6**	**5.7**	**5.7**
Total area within Scheme boundary	52.8			19.3			8.4		
% of ALC with the Scheme boundary lost	47.5	47.4	46.6	59.1	59.5	43.1	66.9	68.9	67.7

*ES Ch9 = The figures reported in Chapter 9: Geology and Soils of the ES, there is a slight discrepancy between the Figures in Chapter 9 and the Masterplan submitted in January 2020.

**ES MP = The Environmental Masterplan submitted to the Inspectorate in January 2020

***DC = The Scheme design with the design changes shown on the updated Environmental Masterplan accepted by the Examining Authority in October 2020

6.7 Table 6 presents the area of Grade 2, Grade 3a and Grade 3b for which soil function could be maintained or restored through mitigation during the construction of the Scheme.

Table 6 Agricultural soils temporarily impacted by the Scheme during construction

Change in land use to:	Area in hectares (ha)								
	Grade 2 (Very high)			Grade 3a (High)			Grade 3b (Medium)		
	ES Ch9	ES MP	DC	ES Ch9	ES MP	DC	ES Ch9	ES MP	DC
Woodland planting	15.3	15.8	12.1	2.5	2.5	2.5	0.6	1.4	1.3
Areas assumed disturbed but returned to existing condition (includes areas acquired temporarily and permanently by the Applicant)	1.4*	11.3	14.4	1.8*	3.3	5.0	1*	0.5	0.5
Total area disturbed temporarily		27.1	26.5		5.8	7.5		1.9	1.8

*in the ES this number didn't take into account temporary use, only permanent land take returned to existing condition

6.8 As reported in Table 5 the Scheme design as submitted to the Planning Inspectorate in January 2020 would result in the sealing or permanent removal of or reduction in soils function of 36.5 ha of BMV agricultural land (25.1 ha of Grade 2 and 11.4 ha of Grade 3a). With the design changes outlined in AS-043/8.3, 'Applicant's notification of proposed scheme changes' this has been reduced to 32.7 ha of BMV agricultural land (24.3 ha of Grade 2 and 8.4 ha of Grade 3a).

6.9 Table 1 indicates that a total of 80.5 ha of agricultural soils are within the Scheme boundary, 90% (72.2 ha) of which are BMV agricultural land Grades 2 and 3a. The proportions of BMV within the Scheme boundary are much higher than the national proportions of BMV (42%). As set out in Table 5, when considering the

land use post construction of the Scheme design as submitted to the Planning Inspectorate in January 2020 it is likely that 36.5 ha of BMV agricultural land within the Scheme boundary would have been permanently impacted by the Scheme, which is 46% of the area of agricultural land within the Scheme boundary. With the design changes this has reduced to 32.7 ha, which is 41% of the area of agricultural land within the Scheme boundary. This is slightly lower than the national proportion of BMV land (42%).

6.10 As reported in Table 6 the Scheme design as submitted to the Planning Inspectorate in January 2020 would have resulted in the temporary reduction in soils function of up to 32.9 ha of BMV agricultural land (27.1 ha of Grade 2 and 5.8 ha of Grade 3a). With the design changes outlined in AS-043/8.3, 'Applicant's notification of proposed scheme changes' this has been increased to 34 ha of BMV agricultural land (26.5 ha of Grade 2 and 7.5 ha of Grade 3a) which may be temporarily impacted by the Scheme but would be restored to its current state post construction. This increase is land that was previously permanently impacted but will now only be impacted temporarily.

6.11 Table 7 compares the loss of agricultural soils against those areas and proportions of ALC within the NCAs (67 and 66) that the Scheme is located within. The Scheme would result in the permanent loss of 0.09% of Grade 2 agricultural soils, 0.03% of Grade 3a soils and 0.06% of BMV within NCA 66 and 67.

Table 7: Comparison of permanent loss of BMV against areas within NCA covering the Scheme

ALC	ALC with NCA 67 + 66	Scheme permanent loss (ES)*	Scheme permanent loss (DC)**	Percentage of ALC lost within NCA 66 and 67
Grade 1	1032	0	0	0%
Grade 2	28,800	25.1	24.3	0.08 to 0.09%
Grade 3a	33,571	11.5	8.4	0.03%
BMV	63,402	36.6	32.7	0.05 to 0.06%
*ES = The Scheme design submitted to the planning inspectorate in January 2020 ** DC = The Scheme design with the design changes proposed by the Applicant				

7 Cumulative impact

7.1 BMV agricultural land is a finite resource and any loss of BMV reduces the national stock available for future use. The Magnitude of impact criteria for soils as set out in DMRB LA109 takes into consideration the area of soil loss; with more than 20 ha of agricultural soils resulting in a Major impact on soil resources and the loss of 1 to 20 ha of agricultural soils resulting in a Moderate impact. Based on the significance of effect matrix set out in DMRB LA104, these impacts combined with the Value (sensitivity) of the receptors (Grades 1 and 2 Very high importance, Grade 3a high importance) set out that the loss of >1 ha of best and most versatile (BMV) agricultural soils would result in a Moderate to Very Large adverse effect which is considered to be a significant effect.

7.2 In itself the loss of 1 ha of BMV against the total area of BMV soils across England (3.8 million ha) is a small proportion. However, in combination with other developments this impact could be considered significant, as is confirmed using the criteria in DMRB. It is therefore considered that the Value (sensitivity), Magnitude and Significance criteria set out with DMRB LA109 for the assessment of agricultural soils takes into consideration cumulative effects. There is no agreed methodology for assessing the cumulative impact on the loss of BMV at this time.

8 Conclusion

8.1 The area between the M54 and the M6 in this location is agricultural land and there are no potential routes that would have avoided affecting agricultural land. The Scheme has been designed, as far as possible, to avoid and minimise impacts and effects on the geology and soils environment through the process of options assessment and design-development (see Chapter 3: Assessment of Alternatives, Table 3.2, Table 3.4 and paragraph 3.3.56 of the ES [APP-042/6.1]) and considering good design principles. Construction of the Scheme would be subject to measures and procedures as defined within the OEMP [TR010054/APP/6.11] to mitigate impacts on soil resources.

8.2 As set out in Section 6 when taking into account land use rather than land acquisition when assessing the impact on agricultural soils, this would reduce the area of ALC reported to be permanently impacted by the Scheme and increase the area to be temporarily impacted by the Scheme. Despite these alterations to areas permanently and temporarily lost, this would not alter the magnitude of impact or significance of effect on agricultural soils as reported in Chapter 9: Geology and Soils of the ES [APP-048/6.1] when following the methodology set out in DMRB LA 109[8], refer to Table 8.

Table 8: Assessment of impacts on agricultural soils

Description of resource/ receptor and impact (ES*/DC**)	Sensitivity of receptor	Magnitude of impact	Significance of residual effects
Permanent loss of **25.1 ha (ES) or 24.3 ha (DC)** ~~41.8 ha~~ of soil resources BMV agricultural land Grade 2	Very high	Major adverse	Very large adverse (Significant)
Temporary loss of **27.1 ha (ES) or 26.5 ha (DC)** ~~11 ha~~ of soil resources BMV agricultural land Grade 2	Very high	Minor adverse	Moderate adverse (Significant).
Permanent loss of **11.5 ha (ES) or 8.4 ha (DC)** ~~14.5 ha~~ of soil resources BMV agricultural land Grade 3a	High	Moderate adverse	Moderate adverse (significant)
Temporary loss of **5.8 ha (ES) or 7.5 ha (DC)** ~~4.7~~ ha soil resources BMV agricultural land Grade 3a	High	Minor adverse	Slight adverse (not significant)
Permanent loss of **5.6 ha (ES) or 5.7 ha (DC)** ~~7.3 ha~~ of soil resources agricultural land Grade 3b	Medium	Moderate adverse	Moderate adverse (significant)

[8] Highways England (2019) Design Manual for Roads and Bridges, LA 109 Geology and Soils

Description of resource/ receptor and impact (ES*/DC**)	Sensitivity of receptor	Magnitude of impact	Significance of residual effects
Temporary loss of **1.9 ha (ES) or 1.8 ha (DC)** ~~1.2 ha~~ of soil resources agricultural land Grade 3b.	Medium	Minor adverse	Slight adverse (not significant)
*ES = The Scheme design submitted to the planning inspectorate in January 2020 ** DC = The Scheme design with the design changes proposed by the Applicant			

8.3 Though taking into consideration change in land use does reduce the reported impact on agricultural land it does not alter the overall significance of effect as reported in Chapter 9: Geology and Soils [APP-048/6.1], refer to Table 6.

8.4 As reported in Chapter 9: Geology and Soils [APP-48/6.1] no further loss of agricultural soils is anticipated during the operation of the Scheme.