M54 to M6 Link Road

TR010054

8.8 O(D) Draft Statement of Common Ground with Staffordshire Wildlife Trust

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 O(D) Draft Statement of Common Ground with Staffordshire Wildlife Trust

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

Version	Date	Status of Version
2 (P03)	3 November 2020	Issue to the ExA for Deadline 1

STATEMENT OF COMMON GROUND

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

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

Signed…….
[NAME]
[POSITION]
on behalf of Staffordshire Wildlife Trust
Date: [DATE]

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1 Introduction

1.1 Purpose of this document

1.1.1 This Statement of Common Ground ('SoCG') has been prepared in respect of an application for a Development Consent Order ('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 (ExA) 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 the Staffordshire Wildlife Trust and their relevant representations submitted to the Planning Inspectorate on 18 May 2020 and records the matters agreed and not agreed.**

1.1.5 **The first draft of this SoCG was provided to the Staffordshire Wildlife Trust on 27 October 2020 but has not yet been reviewed by the Staffordshire Wildlife Trust. 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) Staffordshire Wildlife Trust.

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 Staffordshire Wildlife Trust is a local wildlife charity, which was created in 1969 as the Staffordshire Nature Conservation Trust. Staffordshire Wildlife Trust carries out conservation projects across the county of Staffordshire, protecting wildlife and wild places. Additionally, they run educational programmes and community outreach events.

1.3 Terminology

1.3.1 In the tables in the Issues chapter of this SoCG, 'Not Agreed' indicates a final position. 'Under discussion' indicates where 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 Staffordshire Wildlife Trust, 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 Staffordshire Wildlife Trust.

2 Record of Engagement

2.1.1 A summary of the key meetings and correspondence that has taken place between Highways England and Staffordshire Wildlife Trust in relation to the Application is outlined in Table 2.1. A list of the initials, names, role and organisation of the people mentioned in the Table is included at Appendix A.

Table 2.1: Record of Engagement

Date	Form of correspondence	Key topics discussed and key outcomes
22/01/19	Email from SG (Amey) to KD (SWT)	Email to introduce the Scheme and request an initial meeting to discuss the Scheme.
22/01/19	Email from KD (SWT) to SG (Amey)	Agreement on date for a meeting. Request for an up to date route map and construction boundary. Informed that the survey information for the Local Wildlife Sites (LWS) in the areas around the Scheme is out of date, last assessed in 1996 and 1983, and therefore will need to be re-assessed to the current criteria. There is chance that small areas of ancient woodland may be present that have not yet been identified and registered <2 ha in size.
30/02/19	Email from SG (Amey) to KD (SWT)	Up to date details of the Scheme will be brought to the meeting, in the meantime please use information in the Preferred Route Announcement document online.
08/02/19	Meeting between KD and VB (SWT), SG and DC (Amey), TP and AS (AECOM)	Meeting to discuss the following points: • Scheme background and design • Key dates • Potential impacts on local wildlife sites Lower Pool Site of Biological Importance (SBI) and Brookfield Farm SBI. • Survey scope • Mitigation Measures • SWT main concerns (impacts on locally designated sites. These sites should be assessed against SWT criteria.) • Further works going forwards
04/04/19	Email from AS (AECOM) to KD (SWT)	Sent minutes from meeting and enquired about protected geological sites within Staffordshire.
24/04/19	Email from SG (Amey) to NM (SWT)	Request data held on white-clawed crayfish presence / records and the species status within this area of Staffordshire.

Date	Form of correspondence	Key topics discussed and key outcomes
07/05/19	Email from SG (Amey) to swtboag@staffs-wildlife.org.uk	Request data held on barn owl presence / records within this area of Staffordshire.
08/05/19	Email NM (SWT) to SG (Amey	Sent details of recent records of white-clawed crayfish in the Upper Penk catchment.
08/05/19	Email NM (SWT) to SG (Amey	Sent further details of recent records of white-clawed crayfish.
23/05/19	Letter from HE to SWT	Notification of Statutory Consultation.
26/05/19	Email HC (SWT) to AK (Highways England)	Do not recommend installing nest boxes for barn owls within 1km of a motorway. Most of our barn owl success is in the Staffordshire Moorlands where there is a large area of rich grassland habitat, quieter roads and less population. Recommend screening (such as a line of trees or wooden barriers) on a road scheme, that would cause the barn owl to fly up and over the highway.
21/08/20	Letter from HE to SWT	Supplementary consultation letter sent.
20/10/20	Email from AM (AECOM) to KD (SWT)	Inform SWT of the Rule 6 letter and the deadlines associated with the SoCG submission. Inform SWT that a SoCG has been drafted based on their relevant representations and will be with them for review and information prior to Deadline 1.
27/10/20	Email from TP (AECOM) to KD (SWT)	SoCG submitted for review and comment. We appreciate that there is very limited time to consider all the information provided and respond prior to Deadline 1. Please confirm if it is possible to provide any responses by 30 October 2020. Should this not be possible each point will be marked as under discussion and we can further develop the SoCG for Deadline 4.
27/10/20	Email from KD (SWT) to TP (AECOM)	Confirm receipt of SoCG. Where possible responses will be provided by 30 October 2020, however it may be a struggle to respond on all points by then.
27/10/20	Email from TP (AECOM) to KD (SWT)	Agree that it would be useful to mark any issues that can easily be approved as ‘Agreed’ prior to Deadline 1 and that any remaining issues will be marked as ‘under discussion’.
02/11/20	Email from TP (AECOM) to KD (SWT)	If SWT do wish to provide comments on the SWT today it would still be possible to incorporate these into the draft SoCG.

Date	Form of correspondence	Key topics discussed and key outcomes
03/11/20	Email from KD (SWT) to TP(AECOM)	Confirming comments will not be provided ahead of Deadline 1.
03/11/20	Email from TP (AECOM) to KD (SWT)	The version submitted to SWT on 27/10/20 will be submitted to the ExA with all issues marked as 'under discussion'.

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

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 Staffordshire Wildlife Trust and Highways England.

3.1.2 The progress note submitted by the Planning Inspectorate on the 20 July 2020 under Section 88 of the PA 2008 (as amended) and Rules 5 and 17 of the Infrastructure Planning (Examination Procedure) Rules 2010, sets out in Annex B the ExA 'Initial Assessment of Principle Issues'. In Annex C, the Planning Inspectorate sets out a list of SoCG that the ExA request the Applicant to enter into with a number of parties including the Staffordshire Wildlife Trust.

3.1.3 The ExA requested the SoCG between the Staffordshire Wildlife Trust and the Applicant to cover those issues raised in the Relevant Representation [RR-042].

3.2 Issues related to the Environmental Statement (ES)

Table 3.1: Issues Relating to the ES

Issue	Sub-section of the ES	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (App)?[1]	Agreement likely (IP)?
Chapter 8: Biodiversity [APP-025/6.1]						
Summary of effects **RR-042a**		There is no table summarising the value, impact significance and mitigation for each ecological receptor and the residual impacts from construction and operation. We request this is provided for clarity, and all residual impacts are mitigated to achieve overall net gain.	A summary table such as this is not a requirement of relevant guidance as defined in Chapter 8 [APP-047/6.1 and subsequent versions]. Highways England has prepared a table in response to this query, this is provided as Appendix B of this SoCG.	Under discussion	High	
Biodiversity metric calculation **RR-042b**	8.8.10	The results of the biodiversity metric calculations currently show a combined net loss of 61.89 biodiversity units. This is considered in the EIA to be no net loss. We do not agree- this is a large net loss which needs to be mitigated fully, to provide an overall net gain in line with	The biodiversity metric calculation undertaken for the Application submitted in January 2020 and reported in Appendix 8.2 of the ES (Version 1 [APP-176/6.3] and 2 [AS-031/6.3]) was 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. The original Scheme would result in a total of 1156.98 biodiversity units after works have been completed and new habitats have matured,	Under discussion	Medium	

[1] 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	Sub-section of the ES	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (App)?[1]	Agreement likely (IP)?
		the current NPPF and 25-year Environment Plan. The result is surprising given that significant areas of new diverse habitats are proposed.	compared to the 1218.79 biodiversity units before works have started. This is a difference of -61.81 units, or -4.99%. Version 2.0 of the Defra metric was not available at the time the landscape design was being developed and the impact assessment was being undertaken. There is very little guidance currently available on what “no net loss” or “net gain” of biodiversity constitutes in terms of losses or gains of biodiversity units or percentages. CIRIA guidance, 'Biodiversity net gain, Good practice principles for development' (CIRIA, 2019) provides an example in Table 11.9 of Technical Note T8 of how losses and gains of biodiversity are measured for BREEAM (Building Research Establishment Environmental Assessment Method) schemes. Table 11.9 states that developments that result in a post development biodiversity baseline within 95-104% of the original biodiversity baseline are considered to result in no net loss of biodiversity. This guidance, as well as the fact that the Scheme will result in gains of habitat suitable for rare and declining species such as great crested newts, was used to conclude that the Scheme would result in no net loss of biodiversity. Proposed changes to the Scheme formally submitted in October 2020 would alter the impacts of the Scheme on some existing habitats and allow for retention and restoration of			

Issue	Sub-section of the ES	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (App)?[1]	Agreement likely (IP)?
			selected areas, should the design changes be accepted by the ExA. A re-calculation using Defra Metric 2.0 has been undertaken by Highways England and submitted to the inspectorate as a revision of Appendix 8.2: Biodiversity Metric Calculations [AS-103/6.3]. The Biodiversity Metric Calculations Version 3 (Appendix 8.2 [AS-103/6.3]) show that following completion of the Scheme and if the Scheme changes are accepted, 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 gain of 2.23% (0.33 units) of river based units. Taking these three calculations together, the Scheme is still considered to deliver no net loss of biodiversity. For Nationally Significant Infrastructure Projects (NSIPs) there is no explicit requirement to demonstrate net gain using a Biodiversity Metric Assessment. The main policy driver for assessing NSIPs is the National Policy Statement (NPS). As required by the NPS, Chapter 8: Biodiversity of the Environmental Statement [AS-083/6.1] sets out any likely significant effects on internationally, nationally and locally designated sites of ecological conservation importance, on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity. The Scheme avoids significant			

Issue	Sub-section of the ES	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (App)?[1]	Agreement likely (IP)?
			harm to biodiversity conservation interests, through appropriate application of the mitigation hierarchy including consideration of reasonable alternatives. Where it isn't possible to avoid harm, appropriate compensation to address effects to biodiversity have been proposed. The NPS makes no reference to achieving net gain in biodiversity being a requirement of the determination process and use of biodiversity metrics to devise compensation proposals is optional. 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 include NSIPs 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 PA 2008). This			

Issue	Sub-section of the ES	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (App)?[1]	Agreement likely (IP)?
			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. Separate to the Application, 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.			
Biodiversity metric calculation **RR-042c and RR-042e**	Appendix 8.2: Biodiversity Metric Calculations [AS-032/6.3]	Defra Metric 2.0 has not been used to calculate the biodiversity impact. We consider this to be the most accurate method currently available, as it reflects more detailed impacts and includes connectivity. We recommend the Defra metric 2.0 is used to re-calculate the figures, restoration of retained	Defra Metric 2.0 was still being developed when the Scheme assessment was being undertaken and the landscape masterplan was being developed. The release of the Metric 2.0 was too late in the programme for delivery of the Environmental Statement to implement it on this Scheme. The CIRIA guide previously referred to does not specify exclusive use of the Defra metric when calculating potential losses and gains of biodiversity units. Proposed changes to the Scheme formally submitted in October 2020 would alter the	Under discussion	High	

Issue	Sub-section of the ES	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (App)?[1]	Agreement likely (IP)?
		habitats is included, and any deficit of units resulting is mitigated off-site via agreements with landowners.	impacts of the Scheme on some existing habitats and allow for retention and restoration of selected areas, should the design changes be accepted by the ExA. A re-calculation using Defra Metric 2.0 has been undertaken by Highways England and submitted to the Planning Inspectorate as a revision of Appendix 8.2: Biodiversity Metric Calculations [AS-103/6.3]. The Biodiversity Metric Calculations Version 3 (Appendix 8.2 [AS-103/APP/6.3]) 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 gain of 2.23% (0.33 units) of river based units. The Scheme is within the range -5 % to +5 % for 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, and can be classed as achieving a net gain in linear (hedgerow) habitats.			
Habitat restoration **RR-042d**	Section 8.8 'Design, mitigation and enhancement'	The assessment does not appear to include restoration of retained habitats. This could contribute a significant number of units in a shorter time than habitat creation from scratch. Avoiding the	As noted in the Environmental Statement, Chapter 3: Assessment of Alternatives [APP-042/6.1] the Scheme has been carefully designed to minimise the impact on areas of ancient woodland through the optioneering process, the design of the Scheme and consideration of construction methods. Since the Preferred Route Announcement, the ground-level	Under discussion	High	

Issue	Sub-section of the ES	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (App)?[1]	Agreement likely (IP)?
		small direct impact on ancient woodland would also mean more habitat creation could be counted.	free-flow arrangement has been adjusted to incorporate engineered retaining structures around M54 Junction 1 to avoid the direct loss of ancient woodland at Whitgreaves Wood (noted as Oxden Leasow Wood on the Ancient Woodland Inventory) (adjacent to the westbound carriageway, west of Junction 1). Measures have been incorporated into the Scheme to ensure that no land within Whitgreaves Wood is required for the construction of the Scheme and no trees within the wood would be directly affected by the construction of the road. Described in Paragraph 8.13.22 of the Case for the Scheme [APP-220/7.1 and subsequent revisions] the alignment of the link road between Brookfield Farm and M6 Junction 11 is governed by a number of constraints including Brookfield Farm business, residential property, fishing pools and the ancient woodland (part of Brookfield Farm SBI). In order to reduce land severance, the alignment has been designed to pass immediately to the east of Brookfield Farm on a long curve before heading north-east towards M6 Junction 11. The alignment has been designed to pass approximately halfway between the ancient woodland and the fishing pond at Brookfield Farm, this is in order to achieve a suitable alignment into M6 Junction 11. Due to the embankment height of the alignment in the vicinity of the fishing ponds and ancient woodland this does result in the direct loss of an			
Habitat restoration **RR-042n**	Section 8.8 'Design, mitigation and enhancement'	Ancient woodland and Veteran Trees Within Brookfields Farm SBI – 0.0015 ha direct loss; 0.04ha assumed loss due to incursion into the 15 m buffer zone and a further 0.078 ha assumed lost as a result of the change in air quality. Provision of 3.08 ha of broad-leaved plantation (7:1 ratio) has been agreed with Natural England. Direct losses should be avoided by amending the road embankment to a retaining wall adjacent the site.		Under discussion	High	

Issue	Sub-section of the ES	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (App)?[1]	Agreement likely (IP)?
			area of 15m^2 of the ancient woodland. Proposed changes to the Scheme formally submitted in October 2020 alter the impacts of the Scheme on some existing habitats and now avoid the direct loss of ancient woodland. These changes are reported in Version 3 Chapter 8: Biodiversity [AS-083/6.1]. Restoration of ancient woodland is proposed within Oxden Leasow (Whitgreaves wood) and Brookfield Farm SBI and LWS. The OEMP [APP-218/ 6.11 and subsequent revisions] Table 3.4, ref D-BIO11 states that 'In combination with the compensatory planting, conservation led management of both ancient woodlands (Oxden Leasow (Whitgreave's Wood) and the area within Brookfield Farm SBI and LWS) would seek to develop and improve upon the woodland structure, enhancement measures would include selective thinning'. These restoration measures are not captured within the metric as irreplaceable habitats such as ancient woodland are excluded from the calculations of losses and gain of biodiversity units (as recommended within TN3 of the CIRIA best practice guidance). Existing areas of ancient woodland for retention and enhancement, are shown on Figure 2.3 Draft Environmental Masterplan Sheet 1 of 5 [APP-059/ 6.2 and AS-088/6.2] for Brookfield Farm SBI and LWS; and Figure 2.6 Sheet 4 of 5 [APP-062/ 6.2 and AS-088/6.2] and Figure 2.7 Sheet 5 of 5			

Issue	Sub-section of the ES	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (App)?[1]	Agreement likely (IP)?
			[APP-063/6.2 and AS-088/6.2] for Oxden Leasow (Whitgreaves Wood). General enhancement measures for woodland are included within the OEMP [APP-218/ 6.11 and subsequent revisions]. Table 3.4 ref D-BIO10 states that 'Timber from felled trees shall be used for the creation of deadwood areas within selected areas of retained habitat for saproxylic (dead wood loving) species, with some placed in the understory of woodland blocks to enhance woodlands. Felled trees would be retained on site as whole boughs and trunks. These sorts of habitat enhancements are not shown within the biodiversity metric calculation as they may not necessarily lead to a favourable change in the condition (in terms of the metric) of the habitat being enhanced. Sections of retained watercourses (exact locations to be determined during the detailed design stage) will be enhanced, which would result in a 2.23% gain in biodiversity units using the river metric. In terms of the restoration of habitats, areas of existing habitats will be enhanced from their original "distinctiveness" and/or "condition" post development. However, as these habitats will be temporarily lost due to construction or the altering of habitat type e.g. changing improved grassland to species-rich grassland, the			

Issue	Sub-section of the ES	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (App)?[1]	Agreement likely (IP)?
			biodiversity metric calculation requires this to be recorded as "lost" and then "created" habitat.			
Mitigation and enhancement (Local Wildlife Sites) **RR-042g**	Section 8.8 'Design, mitigation and enhancement'	Local Wildlife Sites (LWS) Lower Pool SBI Has been assessed as no longer meeting LWS criteria, however, is stated as being of county value. The scheme would result in direct permanent loss of 1.83 ha of woodland and 0.55 ha of standing water which is 37.7 % of the SBI Mitigation of 25.13 ha of new woodland, 0.7 ha of standing water and 1.04 ha of wet and species rich grassland, with improved habitat connectivity. This appears adequate, although no restoration of the retained SBI areas is mentioned- this should be included.	Improvements to retained habitat at Lower Pool LWS and SBI are referenced in paragraph 8.9.13 and 8.9.14 of the ES Chapter 8 [APP-047/6.1 and subsequent versions]. Improvements would include the removal of invasive species and selective clearance. Further details are to be agreed at the detailed design stage through consultation with the appropriate statutory environmental bodies. The direct loss of woodland has been reduced by the proposed Scheme changes 1-6 as submitted to the ExA 9 October 2020. However, due to a need to increase the site clearance to allow suitable clearance around utilities diversions and a correction of the masterplan at the southern end of Lower Pool (woodland was previously shown planted over and in close proximity to a proposed watercourse diversion), the amended habitat loss figures included in Chapter 8: Biodiversity of the ES (Version 3) [AS-083/6.1] report an increase in woodland lost. Habitat loss within Lower Pool LWS and SBI, as set out in Version 3 of Chapter 8: Biodiversity, comprise the permanent loss of 2.04 ha (32.3%) of woodland and 0.46 ha (7.3%) of standing water comprising a total of 39.6% of the of the LWS and SBI boundary.	Under discussion	High	

Issue	Sub-section of the ES	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (App)?[1]	Agreement likely (IP)?
			These habitat losses would be compensated for by a total of 6.29 ha of habitat creation, in the form of 4.94 ha of woodland planting, and 0.57 ha of standing water surrounded by 0.78 ha of grassland. These habitats would be connected to the retained LWS and SBI habitats by species rich grassland proposed on the road embankments, tree and hedgerow planting at the base of the embankments and hedgerow planting along Hilton Lane. This ratio of habitat compensation to loss is considered appropriate given the importance of the LWS and the length of time it takes new woodland planting to establish.			
Mitigation and enhancement (Local Wildlife Sites) **RR-042h**	Section 8.8 'Design, mitigation and enhancement'	Brookfield Farm (north-east of), Shareshill SBI. The site was assessed as still meeting the SBI criteria, and part has been assessed as ancient. There would be a loss of 0.75 ha of woodland, 15% of the SBI, and temporary impacts to the Latherford Brook (Watercourse 5). Mitigation includes new woodland habitat around the SBI (see ancient woodland comments below) and 0.39 ha of new pools to the	Improvements to Brookfield Farm SBI are referenced in paragraph 8.9.19 of the Environmental Statement, Chapter 8: Biodiversity [APP-047/6.1 and subsequent revisions]. Improvements would include selective scrub clearance and tree clearance where necessary. Existing areas of ancient woodland for retention, in relation to Brookfield Farm SBI, is also shown on Figure 2.3 Draft Environmental Masterplan Sheet 1 of 5 (Version 1, Jan 2020 [APP-059/6.2] and Version 2, Proposed design changes Oct 2020 [AS-088/6.2]). The key on this figure has been updated to illustrate the areas which will be enhanced in Version 2 of the Environmental	Under discussion	High	

Issue	Sub-section of the ES	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (App)?[1]	Agreement likely (IP)?
		south, with habitat links along new embankments. This appears adequate, although no restoration of the retained SBI areas is mentioned- this should be included.	Masterplan submitted to the ExA on 9 October 2020 [AS-086 to 092/6.2]. Enhancement measures are also detailed in the Outline Environmental Management Plan (OEMP) [APP-218/ 6.11 and subsequent revisions]. Table 3.4 ref D-BIO11 states that 'In combination with the compensatory planting, conservation led management of both ancient woodlands (Oxden Leasow (Whitgreave's Wood) and the area within Brookfield Farm SBI and LWS) would seek to develop and improve upon the woodland structure, enhancement measures would include selective thinning'. Further details are to be agreed at the detailed design stage through consultation with the appropriate statutory environmental bodies. The direct loss of woodland which forms part of Brookfield Farm LWS and SBI would be reduced by the proposed Scheme changes, should the design changes be accepted by the ExA. This is reported in Version 3 of Chapter 8: Biodiversity of the ES [AS-083/6.1].			
Assessment Methodology (Survey timing) **RR-042i**	Appendix 8.4 Designated Site and Habitats [APP-178/ 6.3]	Potential Local Wildlife Sites We welcome use of the Staffordshire LWS criteria to assess some habitats such as hedgerows, however as assessments were undertaken in July 2019,	*The Hedgerow Survey Handbook. A standard procedure for local surveys in the UK* (Defra, 2007) states the field survey period for hedgerows extends from April to October approximately, depending on the part of the country. June and July are ideal months, particularly where surveys include assessments	Under discussion	High	

Issue	Sub-section of the ES	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (App)?[1]	Agreement likely (IP)?
		this is likely to have underestimated the value of hedgerow and woodland ground flora. Several woodlands and some important species-rich intact hedgerows would warrant re-assessment at the correct time of year.	of the ground flora. The hedgerow surveys undertaken in July 2019 to support the assessment are therefore considered to have been undertaken at the correct time to determine the importance of the hedgerows that may be affected by the Scheme. Whilst it is accepted that some of the spring flowering species are more difficult to identify in July, the surveys were not undertaken so late in the season that vegetation in the hedgerow base would obscure evidence of these species' presence. As stated in Appendix 8.4 Designated Sites and Habitats [APP-178/6.3], botanical surveys were undertaken in April and May 2018 as well as July 2019. The surveys undertaken in 2018 covered most of the woodland habitat within the Scheme boundary and areas that may be affected by the Scheme. As early spring is the best time to survey woodland flora these surveys are considered appropriate to assess the importance of the woodlands.			
Assessment methodology **RR-042j**	Appendix 8.4 Designated Site and Habitats [APP-178/ 6.3] Table 4.2	We are concerned that not all high value habitats as listed in Appendix 8.4 Designated Sites and Habitats appear to have been assessed adequately against the criteria; many	All woodlands have been assessed against the Staffordshire guidelines and hedgerows have been surveyed and assessed using the Hedgerow Evaluation and Grading Systems (HEGS) methodology. Ponds have also been assessed against the criteria. Most of the habitats within or adjacent to the Scheme	Under discussion	Medium	

Issue	Sub-section of the ES	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (App)?[1]	Agreement likely (IP)?
		are considered county or local value.	boundary are assessed as being of local or county importance.			
Baseline data **RR-042k**	Appendix 8.4 Designated Site and Habitats [APP-178/ 6.3]	No raw data for the Phase 2 / NVC surveys or LWS assessments is provided.	It is not necessary for an ES to provide the raw data on which the assessment is based. BS 42020:2013 Biodiversity — Code of practice for planning and development section 6.11 refers to the fact that it is not necessary to submit all original field and desk-top data with the main assessment, but it should be available upon request.	Under discussion	High	
Assessment methodology **RR-042l & RR-042s**	Appendix 8.4 Designated Site and Habitats [APP-178/ 6.3]	The swamp at TN49 has not been assessed, despite it supporting nine grassland scoring species. Although of small size it is adjacent other habitats that should be assessed together. Priority Habitats Swamp habitat- TN49 is a diverse swamp habitat supporting a diversity of wetland plants; there is no specific mitigation proposed. This habitat would translocate well and could be used to establish other wetlands on the site.	The 'swamp' is an area 30m² in size, set within a larger area of ruderal vegetation, as shown on Figure 8.3 [APP-113/6.2]. This swampy area is too small to map on a phase 1 habitat plan, hence why it was target noted. This area of swamp is too small to assess separately under the fen/swamp criteria of the Guidelines for the selection of Local Wildlife Sites in Staffordshire (2017), which requires a minimum area of 0.25ha and to be a minimum of 20m wide. As this habitat is situated within a larger area of ruderal habitat, and there are no selection criteria for such habitat, no assessment against the Staffordshire guidelines was undertaken, and we do not consider it to be required. The importance of the swamp in isolation of other habitats has not been assessed and no specific mitigation for this habitat loss is necessary. Rather, the Scheme aims to compensate for	Under discussion	High	

Issue	Sub-section of the ES	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (App)?[1]	Agreement likely (IP)?
			habitat loss by providing a mosaic of grassland, woodland and wetland habitats to compliment the habitats retained. Additionally, as this area of habitat is small and does not support any locally or nationally rare flora, translocation is not considered to be necessary nor cost effective as a mitigation strategy.			
Baseline data **RR-042m**	Figure 8.3 Phase I Baseline Habitat Survey [APP-113/6.2]	Figure 8.3 Phase I Baseline Habitat Survey does not show habitat survey data for the area.	Figure 8.3 of the ES [APP-113/6.2] shows the results of the phase 1 habitat survey undertaken in 2018 and 2019. The area surveyed included all land within the Scheme boundary and up to 50m beyond the Scheme boundary where access permitted. This is considered an appropriate distance to assess the potential impacts and subsequent effects of the Scheme. For certain features the survey area was extended to account for the specific ecology and potential impacts to protected or notable habitats or species such as bats or great crested newts. Where habitats are too small to be mapped on a phase 1 habitat plan these have been included as Target Notes, as is standard practice for phase 1 habitat surveys.	Under discussion	High	
Chapter 8: Biodiversity [APP-047/6.1] **RR-042o**	Design, mitigation and enhancement	Will any soil translocation occur? Woodland creation should include addition of dead wood and ground flora sowing from local sources.	No soil translocation will occur. The total area of ancient woodland subject to direct loss in the design submitted on 30 January 2020, which would enable soils to be made available for translocation, is very small at 0.0015 ha or 15m^2. Therefore, soil translocation was not specified as	Under discussion	High	

Issue	Sub-section of the ES	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (App)?[1]	Agreement likely (IP)?
			suitable mitigation. The direct loss of ancient woodland would be avoided should the design changes submitted to the ExA on 9 October 2020 be accepted. Therefore, translocation of ancient woodland soils is not considered necessary. General enhancement measures for woodland are included within the OEMP [APP-218/6.11 and subsequent revisions]. Table 3.4 ref D-BIO10 states that 'Timber from felled trees shall be used for the creation of deadwood areas within selected areas of retained habitat for saproxylic (dead wood loving) species, with some placed in the understory of woodland blocks to enhance woodlands. Felled trees would be retained on site as whole boughs and trunks'. Production of a Construction Environmental Management Plan (CEMP) substantially in line with the OEMP [APP-218/6.11 and subsequent revisions] is required by Requirement 4 of the draft DCO [APP-018/3.1 and subsequent revisions].			
Mitigation (Oxden Leasow) **RR-042p**	Section 8.8 'Design, mitigation and enhancement'	Oxden Leasow (Whitgreaves Wood) adjacent the M54 – This warrants SBI designation. No direct loss would occur and habitat improvement is proposed. Detailed	The OEMP [APP-218/6.11 and subsequent revisions] 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	Under discussion	High	

Issue	Sub-section of the ES	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (App)?[1]	Agreement likely (IP)?
		management should be agreed with stakeholders.	National Trust. Consideration of SBI designation will be discussed with the Local Authority.			
Baseline data (Ancient woodland) **RR042q**		We are concerned that areas of potential ancient woodland may have been missed. There is a remnant of Oxden Leasow/ Whitgreaves Wood on the north side of the M54 which has not been investigated. Areas of 'The Belt' woodland adjacent to the A460 could possibly be ancient, as they appear on old maps and support some indicator species such as bluebell, dog's mercury and wood melick. No veteran trees will be directly affected by the Scheme.	This woodland fragment was omitted from our reported investigation on potential ancient woodland sites. We will undertake historic map regression and assessment as appropriate and continue discussions with Natural England to agree the status of this small area of woodland.	Under discussion	High	
Effects on habitats **RR-042r**	Section 8.9 'Assessment of likely significant effects'	The EIA does not appear to have assessed whether any other habitats, such as important and species-rich hedgerows, may be ancient and meet the definition of irreplaceable habitats. This should be assessed, as any	The HEGS methodology was used at the request of the county ecologist for assessing the impact of the Scheme on hedgerows. A review has now been undertaken and is reported in Environmental Statement Appendix 8.16: Ancient Hedgerow Assessment [AS-105/6.3] and submitted to the Planning Inspectorate on 9 October 2020.	Under discussion	High	

Issue	Sub-section of the ES	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (App)?[1]	Agreement likely (IP)?
		such habitat will need bespoke mitigation.				
Mitigation (habitats) **RR-042t**	Section 8.8 'Design, mitigation and enhancement'	Grasslands- no species-rich grassland would be impacted. We request that new species-rich grassland is created with seed or hay from local diverse meadows, not a seed mix, so that these areas are able to reach LWS quality in future.	The seed mix and its source will be considered at the detailed design stage. The OEMP [APP-218/6.11 and subsequent revisions] Table 3.4 MW - G7 lists the detailed Management Plans that are to be produced and appended to the CEMP. The use of local donor sites relies on a number of factors: (1) those donor sites being present (2) having access to those sites (3) the seed being ready to harvest at a time compatible with the Scheme programme (4) being able to harvest sufficient amounts of seed. Currently Highways England cannot confirm whether any of these requirements can be met therefore it has not been proposed at this stage, as the mitigation scheme needs to be able to be delivered as proposed in the Environmental Statement.	Under discussion	High	
Mitigation (hedgerows) **RR-042u**	Section 8.8 'Design, mitigation and enhancement'	Hedgerows- There would be a net gain of 1.36km of hedgerow. However, there is no mention of translocating any important or species-rich hedges- this should be considered as translocation provides faster establishment, reducing temporal effects and gaining biodiversity units.	This will be considered further at the detailed design stage. The OEMP [APP-218/6.11 and subsequent revisions] Table 3.4 MW - G7 lists the detailed Management Plans that are to be produced and appended to the CEMP. Translocation of hedgerows may not be possible as in many instances the hedgerows would interfere with the working footprint required to build the Scheme. Hedgerows should only be translocated in the late autumn/winter period so	Under discussion	Medium	

Issue	Sub-section of the ES	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (App)?[1]	Agreement likely (IP)?
			timing may be a significant constraint to the Scheme programme. Production of a CEMP (and any associated management plans) substantially in line with the OEMP is required by Requirement 4 of the draft DCO [APP-018/3.1 and subsequent revisions].			
Mitigation (semi-natural woodland) **RR-042v**	Section 8.8 'Design, mitigation and enhancement'	Semi-natural woodland- There would be a loss of 1.18 ha, although overall a net gain of 4.59 ha of non-ancient woodland types. New planting should emulate existing LWS woodlands and include topsoil inversion and ground flora establishment.	This will be considered further at the detailed design stage. The OEMP [APP-218/6.11 and subsequent revisions] Table 3.4 MW - G7 lists the detailed Management Plans that are to be produced and appended to the CEMP. Production of a CEMP (and any associated management plans) substantially in line with the OEMP is required by Requirement 4 of the draft DCO [APP-018/3.1 and subsequent revisions].	Under discussion	High	
Mitigation (nitrogen deposition) **RR-042x**	Section 8.8 'Design, mitigation and enhancement'	Given that the scheme will increase local NOx deposition upon receptors that are already beyond their critical load, the scheme should contribute to the management of sensitive sites such as ancient woodlands nearby to off-set this impact.	Since the submission of the Application further work has been completed to consider the updates to DMRB air quality methodology reported in LA105: Air Quality. The air quality assessment reported in the ES [APP-044/6.1] was undertaken in line with now superseded air quality methodology. 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, 'DMRB updates and impacts on the DCO application' [AS-059/8.2].	Under discussion	High	

Issue	Sub-section of the ES	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (App)?[1]	Agreement likely (IP)?
			We consider the conclusions of the assessment and mitigation described in the ES and AS-059/8.2 to be correct. and that no further mitigation is required in this instance. As reported in AS-059, to compensate for the impact of increased nitrogen deposition in two areas of ancient woodland, woodland planting at a ratio of 1:1 within the immediate vicinity of the Brookfield Farm LWS and SBI woodland would be provided. A number of improvement measures for the management of retained ancient woodland are also proposed as part of the compensation measures for the loss of ancient woodland reported in Chapter 8: Biodiversity [APP-047/6.1 and subsequent revisions], these include selective scrub clearance and tree clearance where necessary. These improvement measures will be considered in more detail at the detailed design stage in consultation with Natural England.			
Baseline data **RR-042y**		We welcome the assessment of species populations against the Staffordshire LWS criteria. Where populations have been assessed to be of county importance, including Noctule, Myotis sp and Soprano pipistrelle bats, otter and water vole	Highways England does not consider it a requirement of the DCO process to determine whether ecological features present warrant selection for future designation. The DCO requires Highways England to assess the impacts of the Scheme on important ecological features, to propose suitable mitigation to avoid or reduce those impacts and to determine whether those impacts would result in a significant effect. Where significant effects occur	Under discussion	High	

Issue	Sub-section of the ES	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (App)?[1]	Agreement likely (IP)?
		and GCN metapopulations, we request that Highways England works with the Staffordshire Wildlife Sites partnership to further investigate the need for designation.	suitable compensation is to be provided. The 'Guidelines for the selection of Local Wildlife Sites in Staffordshire' has been used to aid in the determination of importance of ecological features present; it has not been used to highlight features that warrant designation under these guidelines.			
Impacts on breeding birds **RR-042z**	8.7 'Potential impacts'	There would be a direct loss of breeding territories of notable bird species during construction: one dunnock, five skylark, two song thrush and one lapwing. While new habitats would eventually mitigate for this, no short term mitigation is provided. A temporary off-site mitigation area should be provided particularly for ground nesting species. Hedgerow translocation and use of brash pile/ dead hedges as temporary nesting features would also reduce short-term impacts to nesting birds.	The habitats to be lost within the Scheme boundary are not unique; large areas of similar habitat exist outside the Scheme boundary that remain unaffected by the Scheme. Whilst the relatively small number of birds breeding within the Scheme boundary will be displaced in the short term, the unaffected habitats are of sufficient extent to support them. In the medium to long term, compensatory creation of grassland and planting of native hedgerows will provide suitable nesting habitat for the local bird population.	Under discussion	High	
Monitoring **RR-042aa**	8.10 'Monitoring'	Barn owl are at risk from vehicle collisions, although scheme design has sought to minimise this- monitoring	The risk to barn owl is considered to be low, with the existing road network acting as a barrier, and the small number of barn owl recorded. Monitoring of casualties is not considered to be	Under discussion	Medium	

Issue	Sub-section of the ES	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (App)?[1]	Agreement likely (IP)?
		of bird fatalities should be undertaken and if barn owl casualties are found, measures should be taken to compensate via provision of habitat and nest sites in safe areas away from the scheme.	proportionate mitigation to the scale of the effect and has therefore not been proposed. Monitoring of barn owl casualties on a motorway is very difficult given that it is both unsafe for the people undertaking the monitoring, and any barn owl casualties are unlikely to persist long on the carriageway given the volume of traffic and the speed of decomposition and are therefore unlikely to be recorded during monitoring.			
Baseline data (Otter and Water Vole) **RR-042ab**		Otter and water vole - Presence has been confirmed within the Latherford Brook. Water vole should not be considered common in Staffordshire- they are potentially facing extinction. Therefore, any watervole population may merit regional importance. Watervole evidence and otter resting sites are unaffected by the brook crossing, and adequate monitoring and habitat enhancement is proposed.	As reported in paragraph 8.6.73 of the Environmental Statement [APP-047/6.1 and subsequent revisions] the statement that water voles are common but declining in Staffordshire is based on information supplied by Staffordshire Ecological Records Centre. The fact that the population present along the Latherford Brook is isolated and small in size (based on the number of latrines recorded) warrants importance at a county scale rather than a regional scale, as this population is unlikely to be an important part of the wider water vole population in the county and beyond.	Under discussion	Medium	

3.3 Other Matters

Table 3.2: Issues Relating to Other Matters

Issue	Document	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
Mitigation and Management **RR-042f**	Outline Environmental Management Plan [APP-218/6.11]	The Outline Environmental Management Plan looks to cover most aspects- a detailed management plan will be needed.	Noted. The OEMP [APP-218/6.11 and subsequent revisions] Table 3.4 MW - G7 lists the detailed Management Plans that are to be produced and appended to the CEMP. Requirement 4 of the draft DCO [APP-018/3.1 and subsequent revisions] states that no part of the authorised development can commence until a CEMP is approved in writing by the Secretary of State following consultation with the relevant planning authority and relevant local highway authority.	Under discussion	High	
Design changes set out in ES Addendum	ES Addendum [TR010054/APP/8.3]	We appreciate that the design has changed due to further survey information and the need to reduce loss of BMV agricultural land. Many of the changes have benefits for wildlife and reduce habitat impacts. However, the scheme biodiversity metric shows a large deficit in biodiversity units, so it is not clear whether the changes overall will help move towards net gain.	Noted. Whilst Highways England agree that delivering biodiversity net gain is desirable, it is not at this time required by the PA 2008 consenting regime. 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	Under discussion	High	

[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	Document	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
		Consideration should be given to retaining as much of the mitigation areas as is feasible. A revised calculation should be undertaken using the most up to date adopted metric.	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 PA 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 solely for delivering biodiversity net gain. Highways England is nonetheless seeking to fully mitigate the impact of the Scheme on biodiversity by delivering no net loss in biodiversity. Proposed changes to the Scheme formally submitted on 9 October 2020, if accepted by the ExA, would alter the impacts of the Scheme on some existing habitats, and allow for retention and restoration of selected areas, therefore reducing the amount of mitigation measures required to mitigate the impacts of the Scheme. A re-calculation using Defra Metric 2.0 has been undertaken by the applicant and submitted to the Planning Inspectorate as a revision of Appendix 8.2: Biodiversity Metric Calculations [AS-0103/6.3]. The Biodiversity Metric			

Issue	Document	Staffordshire Wildlife Trust Comment	Highways England Response	Status	Agreement likely (app)[2]?	Agreement likely (IP)?
			Calculations Version 3 (Appendix 8.2 [AS-103/6.3]) 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 river based gain of 2.23% (0.33 Units). The Scheme is within the range -5 % to +5 % for area and river based habitats (woodland, grassland etc.) which may be classed as no net loss in accordance with Table 11.9 of CIRIA C776a Good practice principles for development and can be classed as achieving a net gain in linear (hedgerow) habitats.			
Articles and Requirements of the draft DCO	Draft DCO [AS-075/3.1]	[SWT to provide comments on the Articles and Requirements of the draft DCO or confirm that SWT have no comments.]	The Applicant has not received any comments on the Articles or Requirements of the draft DCO.	Under discussion	High	

Appendix A Initials and details of individuals involved

Initials	Name	Role or Discipline	Organisation
AK	Andrew Kelly	PM	Highways England
AM	Alex Maddox	Environmental Consultant	AECOM
AS	Amy Spencer	Deputy Environmental Lead	AECOM
DC	Dean Cordelle	Ecologist	Amey
KD	Kate Dewey	Senior Planning Officer	Staffordshire Wildlife Trust
HC	Helen Cottam		Staffordshire Wildlife Trust
MO	Matt Oakley	Ecology Lead	AECOM
NM	Nick Mott		Staffordshire Wildlife Trust
ST	Stuart Graham	Former Ecology Lead	Amey
TP	Tamara Percy	Environmental Lead	AECOM
VB	Victoria Bunter		Staffordshire Wildlife Trust

Appendix B – Summary of impacts and residual effects as reported in Chapter 8: Biodiversity Version 3 [TR010054/APP/6.3]

Table B1: A Summary of biodiversity effects during construction

Ecological Feature	Importance of ecological feature	Impact description	Design and mitigation measures	Characterisation of the mitigated impact on the ecological feature	Level of Impact	Significance of residual effect	Monitoring requirements
Construction phase							
Stowe Pool and Walk Mill Clay Pit SSSI Four Ashes Pit SSSI (designated for its geological features) Chasewater and the Southern Staffordshire Coalfield Heaths SSSI Belvide Reservoir SSSI	National	No impact	These four SSSI's are all at least 1.5 km from the Scheme boundary with no hydrological connectivity to the Scheme. Water pollution prevention control measures and standard best practice measures to control construction dust and noise would be implemented during the construction phase via the Construction Environmental Management Plan (CEMP).	Not applicable	No change	Neutral	None
Wryle and Essington Canal LNR	County	No impact	Located approximately 1.4 km east of the Scheme boundary. No hydrological connectivity. Water pollution prevention control measures and standard best practice measures to control construction dust and noise would be implemented during the construction phase via the CEMP.	Not applicable	No change	Neutral	None
Lower Pool SBI and LWS	County	Habitat loss	Habitat losses would be compensated for by a total of 6.29 ha of habitat creation, in the form of 4.94 ha of woodland planting, and 0.57 ha of standing water surrounded by 0.78 ha of grassland. These habitats would be connected to the retained LWS and SBI habitats by species-rich grassland proposed on the embankments of the Scheme, tree and hedgerow planting at the base on the embankments and hedgerow planting along Hilton Lane. Furthermore, a diversion of Watercourse 3 under the Scheme and an associated mammal tunnel will provide additional connectivity. Created woodland would be managed to have a variety in structure, as well as abundant standing and fallen deadwood. Hedgerows would be subject to relatively infrequent, rotational management to maximise biodiversity. The grassland would be managed by mowing and removal of arisings.	Direct, unavoidable and irreversible loss of 39.6% of the LWS, comprising 2.04 ha (32.3%) of woodland; 0.46 ha (7.3%) of standing water	Moderate Adverse	Slight significance in the medium term (10-30 years); reducing to neutral significance in the long term (beyond 30 years) once habitats are established.	As per CEMP
Brookfield Farm (north-east of), Shareshill, SBI and LWS	County (SBI/ LWS)	Habitat Loss	To mitigate for the loss of woodland habitat, 2.54 ha of woodland habitat is proposed surrounding the LWS and SBI to the east of the Scheme and connecting to the SBI to the west of the Scheme as well as 0.39 ha of standing water immediately to the south. Species-rich grassland and hedgerows are also proposed on the Scheme embankments. The clear span structure proposed would ensure that the channel of the Latherford Brook (Watercourse 5) is retained in the medium to long term. No permanent loss of brook habitat as a result of the Scheme is proposed and habitat connectivity would be retained.	Direct, unavoidable and irreversible loss of 14% of the LWS and SBI, comprising 0.71 ha of woodland. A total of 71 m, temporary habitat loss of existing channel along the Latherford Brook for the 10 m wide clear span structure. Incorporation of clear span structure would ensure	Moderate Adverse	Slight significance in the medium term (10-30 years); reducing to Neutral significance in the long term (beyond 30 years) once habitats are established.	As per CEMP

Ecological Feature		Importance of ecological feature	Impact description	Design and mitigation measures	Characterisation of the mitigated impact on the ecological feature	Level of Impact	Significance of residual effect	Monitoring requirements
			Disturbance through pollution / surface run-off	Water pollution prevention control measures and standard best practice measures to control construction dust and noise would be implemented during the construction phase via the CEMP. The LWS/SBI supports habitats that rely on the water supply. Method Statements would be prepared as part of the CEMP to protect watercourses during construction. These would include details of ecological supervision, timing of works and control of water levels. These would also incorporate requirements in relation to protected species present (refer also to otter and water vole).	habitat connectivity is retained between both sections of the LWS and SBI on either side of the Scheme.			
Ancient Woodland	Brookfield Farm Oxden Leasow (Whitgreaves Wood)	National[3]	Habitat loss	The assumed loss of 0.349 ha of ancient woodland, within 15 m of the construction works, would be compensated for by replacement planting on a ratio of 7:1 (2.44 ha of woodland) within the immediate vicinity of the Brookfield Farm LWS and SBI woodland. This level of compensation has been agreed with Natural England. In combination with the compensatory planting, conservation led management of both ancient woodlands (Brookfield Farm and Oxden Leasow) would seek to develop and improve upon the woodland structure.	Within Brookfield Farm LWS and SBI, work would be required within 15 m of 0.029 ha of the ancient woodland and is therefore considered to be lost At Oxden Leasow (Whitgraves Wood) work would be required within 15 m of 0.32 ha of the ancient woodland and is therefore considered to be lost.	Major Adverse	**Large significance**	As per CEMP, LEMP and HEMP
			Dust deposition	The risk of damage (direct and dust deposition impacts) to retained trees will be mitigated by implementation of protection measures included in BS5837: 2012, which will include fencing boundaries of working areas with appropriate standoffs where required to protect both above-ground vegetation and roots. The implementation of standard mitigation measures relating to the control and management of dust would reduce, as far as practicable impacts to the sensitive vegetation of retained habitats.				
Habitats (woodland, hedgerows, grassland, arable, ruderal, ponds and ditches)		Up to County	Habitat loss	Habitat losses would be compensated for by the creation of 38.2 ha of species rich grassland, 15.3 ha of broadleaved plantation woodland, 2.4 ha of standing water and 7.2 km of species rich hedgerow.	The Scheme would result in the loss of 31.65 ha of arable, 27.95 ha of grassland, 20.67 ha of woodland, 0.36 ha of ruderal, 1.2 ha of standing water and 3.4 km of hedgerows.	Negligible	Neutral	As per the CEMP, LEMP and HEMP
			Direct damage and dust deposition	The risk of damage (direct and dust deposition impacts) to retained woodland and hedgerows will be mitigated by implementation of protection measures included in BS5837: 2012, which include fencing boundaries of working areas with appropriate standoffs where required to protect both above-ground vegetation and roots. The implementation of standard mitigation measures relating to the control and management of dust would reduce, as far as practicable impacts to the sensitive vegetation of retained habitats. Habitats created would be managed in the long-term for the benefit of biodiversity.				
Badger Two main setts formed by two separate clans; one active outlier and several disused outlier setts		Local	Habitat loss; direct mortality; disturbance and habitat fragmentation	The Scheme avoids wherever possible the loss of badger setts; however, one outlier would be lost.	Permanent loss of one outlier sett. Temporary disturbance during construction.	Negligible	Neutral	As per CEMP

[3] National importance for Ancient Woodlands = meets a number of criteria for which an LWS would be designated due to the presence of ancient woodland, indicator species, ancient woodland is also a HPI. This is based on field surveys undertaken to support the assessment.

Ecological Feature	Importance of ecological feature	Impact description	Design and mitigation measures	Characterisation of the mitigated impact on the ecological feature	Level of Impact	Significance of residual effect	Monitoring requirements
			A Natural England licence would be obtained to legally shut down the outlier sett therefore mortality would be highly unlikely. A draft licence has been submitted and agreed to by Natural England. Standard best practice working methodologies as outlined in the OEMP would be implemented to minimise this risk of direct mortality. Measures provided in the Scheme design include three badger tunnels, fencing, strategic planting and habitat creation.				
Barn Owl Roost at T13 and small areas of optimal habitat for foraging and commuting	Local	Habitat loss	No known nest sites or roost sites lost. The loss of low value habitat that is isolated between the existing road network and offers little in the way of opportunity for barn owl foraging, would be replaced by habitats of higher value. During construction noise levels would be no higher than existing ambient levels. Mitigation for barn owl incorporated including planting of habitats.	None	Negligible	Neutral	As per CEMP
Birds Assemblage of breeding and wintering birds across the Scheme	Local	Habitat loss	The breeding and wintering habitat provided by the woodland, hedgerow and grassland lost during construction would be compensated through habitat creation (see above) as an integral part of the Scheme's green infrastructure. Once established, there will an increase in the length of species rich hedgerows and areas of species rich grassland.	The following breeding territories would be lost: One dunnock, five skylark, two song thrush and one lapwing. The direct loss of habitat used by wintering birds would result in the displacement of species into the surrounding area. Habitat loss for birds is detailed above under the Habitats summary.	Minor beneficial	Slight significance	As per CEMP
		Direct mortality	Direct mortality of breeding birds would be avoided through the working methods set out in the CEMP.				
Bats Roosting – low numbers of common and widespread species Foraging and commuting – low to moderate numbers of largely common species	Local	Habitat loss	Loss of confirmed (noctule and pipistrelle) and assumed day roosts (common species) and assumed hibernation roosts (common species) in trees will be compensated for through the erection of three bat boxes for every roost loss. Within the Scheme boundary, woodland, grassland, hedgerow and standing woodland habitat would be created. These would form a network with existing habitats of importance to bats within the wider landscape including those habitats that link to known roosts. Optimal woodland and woodland edge habitats which connect to the wider area are largely retained. Compensatory planting and habitat creation have been designed to offer optimal bat foraging opportunities.	Temporary impacts on bats during the construction phase as a result of habitat loss, due to time taken for habitats created.	Minor adverse	Neutral	As per CEMP, LEMP and HEMP
		Disturbance (from noise, vibration and light)	Standard construction working measures detailed in the OEMP would reduce disturbance impacts as a result of construction activity to levels that are acceptable for the nearby residential properties. Measures to avoid light-spill upon retained boundary habitats that may be used for foraging and commuting.				

Ecological Feature	Importance of ecological feature	Impact description	Design and mitigation measures	Characterisation of the mitigated impact on the ecological feature	Level of Impact	Significance of residual effect	Monitoring requirements
		Habitat fragmentation	Connectivity around the margins of the Scheme into the wider landscape would be maintained e.g. by the wider hedgerow network, watercourses and habitat creation. Linear habitat to encourage crossing of the Scheme across two bridge locations at Hilton Lane and the accommodation bridge. At Latherford Brook (Watercourse 5) the Scheme rises to 8.5 m above existing ground level on a clear span bridge located over the brook. Bats would continue to be able to move between retained and newly created foraging habitats to the west and east of the Scheme associated with the brook.				
Otter and Water Vole A population of otter and water vole in association with Latherford Brook (Watercourse 5)	County	Potential killing of protected species, Habitat loss/ fragmentation, impacts on commuting/ dispersing individuals and disturbance	Temporary loss of habitat during construction would be reinstated post-construction and habitat improvement measures such as new grassland and tree planting are proposed at Watercourse 5. No otter holts or water vole burrows were identified during 2019 however, preconstruction surveys will be required to confirm absence of otter holts and burrows within the works areas of Latherford Brook. If otter holts are identified within the footprint of the works area during preconstruction surveys, a European Protected Species Licence (EPSL) would be required. If water vole burrows are identified within the footprint of the works area during preconstruction surveys, a Natural England site-specific conservation licence would be required, with water vole capture and translocation. A new ecology pond situated on the western side of the Scheme boundary, would be used as a water vole receptor area if translocation was necessary. Passage for both species retained during construction, details of which would be included in the method statement for the clear span bridge construction across Latherford Brook. The culverting proposed within the Scheme would result in the loss of some foraging habitat; however, replacement habitat has been incorporated into the Scheme.	Temporary damage to habitat during construction.	Negligible	Neutral	As per the CEMP
Great Crested Newt (GCN) Metapopulations in association with the Scheme	County	Direct mortality; and loss of terrestrial habitat.	Preconstruction surveys to be undertaken in ponds that could not be accessed or where survey results are incomplete. High value GCN habitat, including species rich grassland, woodland, hedgerows and ecology ponds created as part of the Scheme would provide a higher proportion of optimal habitats, which would increase the carrying capacity for GCN and also for the expansion of existing metapopulations following construction of the Scheme. Retained habitat would be subject to improvement through appropriate infilling / planting and more favourable management. A Natural England EPSL would be sought to allow for the clearance of GCN terrestrial habitat.	Temporary damage to habitat from vegetation clearance.	Negligible	Neutral	As per CEMP, LEMP and HEMP

Ecological Feature	Importance of ecological feature	Impact description	Design and mitigation measures	Characterisation of the mitigated impact on the ecological feature	Level of Impact	Significance of residual effect	Monitoring requirements
Aquatic invertebrates, Fish and Macrophytes	Local	Habitat loss, direct mortality and disturbance	A box culvert on Watercourse 2 would allow connectivity and flow through the culverted reach. Introducing gravels to encourage pool-riffle-run sections. Aquatic habitat creation and replacement measures incorporated into the Scheme have focused on the creation of new ponds including five attenuation ponds, which will provide habitat for macroinvertebrates and aquatic macrophytes. A total of 408 m of watercourse habitat is to be created. A further eight ecology ponds and marginal wetland habitats to be created. Clear span bridge at Latherford Brook (Watercourse 5) will be a minimum of 10 m wide to allow the watercourse to flow naturally. Fish translocation would be undertaken on ponds being lost, where necessary including Chubb Ponds 1 (Pond 31) and 2 (Pond 32) or downstream of works within the same watercourse during watercourse diversions to remove fish from the works area. Standard working practices during construction, would ensure that pollution and siltation effects are controlled; particularly in association with direct in-channel works for the proposed culverts and partial removal of Lower Pool.	Temporary damage to habitat during construction.	Negligible	Neutral	As per CEMP, LEMP and HEMP.
Terrestrial invertebrates	Local	Habitat Loss	Proposed woodland, hedgerow and grassland creation would mitigation for habitat loss and fragmentation.	The loss of habitats will be mitigated by the creation of new marsh/marshy grassland, woodland and species-rich grassland, along with retaining and providing dead wood habitats.	Negligible	Neutral	As per CEMP
Brown hare and Hedgehog across the Scheme	Local	Risk of mortality or injury; and habitat fragmentation	Standard best practice working method as outlined in the OEMP would be implemented to minimise risk to brown hare and hedgehog. Proposed woodland, hedgerow and grassland creation would mitigation for habitat loss and fragmentation.	None	Negligible	Neutral	As per CEMP

Table B2: Summary of biodiversity effects during operation

Ecological Feature		Importance of ecological feature	Impact description	Design and mitigation measures	Characterisation of the mitigated impact on the ecological feature	Level of Impact	Significance of residual effect	Monitoring requirements
Operation phase								
Statutory designated sites	Stowe Pool and Walk Mill Clay Pit SSSI	National	Increase in nitrogen deposition	None	The implementation of the Scheme would result in an increase in Nitrogen deposition of up to 0.3 kg N ha^{-1} yr^{-1} within the SSSI.	No change	Neutral	None
	Four Ashes Pit SSSI (designated for its geological features)	National	No impact	None	Designated for its geological interest and does not have any receptors that are sensitive to air quality.	No change	Neutral	None
	Chasewater and the Southern Staffordshire Coalfield Heaths SSSI	National	Increase in nitrogen deposition	None	The implementation of the Scheme will result in an increase in Nitrogen deposition of up to 0.1 kg N ha^{-1} yr^{-1} within the SSSI.	Minor adverse	Slight	None
	Belvide Reservoir SSSI	National	Reduction in nitrogen deposition	None	The implementation of the Scheme would result in a reduction in Nitrogen deposition of up to 0.2 kg N ha^{-1} yr^{-1} within the SSSI.	No change	Neutral	None
	Wryle and Essington Canal LNR	County	No impact	None	None	No change	Neutral	None
Brookfield Farm (north-east of), Shareshill, SBI and LWS and ancient woodland		County (SBI/LWS) National (ancient woodland)	Increase in nitrogen deposition	The total area of ancient woodland affected by nitrogen deposition is 0.54 ha, which would be compensated for by replacement planting on a ratio of 1:1 (0.54 ha of woodland) within the immediate vicinity of the Brookfield Farm LWS	There would be an increase in nitrogen deposition of between 0.3 and 1.7 kg N ha^{-1} yr^{-1} across the site.	Minor adverse	Neutral	As per LEMP
Oxden Leasow (Whitgreaves Wood) ancient woodland		National	Increase in nitrogen deposition	The total area of ancient woodland affected by nitrogen deposition is 0.33 ha, which would be compensated for by replacement planting on a ratio of 1:1 (0.33 ha of woodland) within the immediate vicinity of the Brookfield Farm LWS	There would be an increase in nitrogen deposition of between 0.1 and 0.9 kg N ha^{-1} yr^{-1} across the site	Moderate adverse	Moderate	As per LEMP
Veteran Trees		National	Increase in nitrogen deposition	None	There would be an increase in nitrogen deposition of between 0.2 and 0.7 kg N ha^{-1} yr^{-1} across the veteran trees, which is greater than 1% of the critical load. However, with the exception of T137, nitrogen deposition increase is 0.4 kg N ha^{-1} yr^{-1} or less, therefore the effect is not considered to be significant.	Minor adverse	Slight	None
Badgers		Local	Risk of mortality through collision with motor vehicles	Mammal tunnels (and associated guide fencing) would be installed at three locations to aid the safe crossing of the road by badgers, and to mitigate the risks of increased mortality of wildlife once the road becomes operational and used by traffic.	The tunnels, open structure and fencing, would mitigate the risk of accidental mortality of badgers within the Scheme through their collision with vehicles and also offer the potential for increased connectivity to the wider	Negligible	Neutral	LEMP and HEMP

Ecological Feature	Importance of ecological feature	Impact description	Design and mitigation measures	Characterisation of the mitigated impact on the ecological feature	Level of Impact	Significance of residual effect	Monitoring requirements
			The southern badger clan would have two tunnels and the northern clan would have a tunnel and also the clear span structure at Latherford Brook which would incorporate a mammal ledge.	area representing an improvement on the existing situation.			
Barn Owl	Local	Risk of mortality through collision with motor vehicles	The incorporation of planting, fences and noise barriers alongside those sections of the Scheme which are adjacent to suitable barn owl foraging habitat, provides both a barrier preventing barn owl from accessing the highways verges, but also encourages barn owl flights up and over the carriageway.	Any individuals that cross the Scheme are encouraged to increase their flight height across the road and thus reduce the risk of road traffic collision.	Negligible	Neutral	LEMP and HEMP
		Disturbance from operational noise	Screening from visual stimuli.	The predicted traffic noise increase on the barn owl roost is predicted to be 2 dB. The barn owl roost is screened from visual stimuli (cars along the carriageway) that will accompany the increased noise disturbance and therefore, an increase in noise, to 57 dB, is unlikely to impact upon the roost site or displace barn owl from roosting or foraging.	Negligible	Neutral	LEMP and HEMP
Assemblage of breeding and wintering birds across the Scheme	Local	Risk of mortality through collision with motor vehicles	The Scheme sits largely in a cutting for most of its length and incorporates steep embankments and drainage areas along the verges (rather than vegetation), thereby reducing the risk of mortality. Significant additional woodland planting would provide additional habitats for the existing assemblages to use at a range of distances from the Scheme.	None	Negligible	Neutral	LEMP and HEMP
Bats	Local	Risk of mortality through collision with motor vehicles	Management and maintenance of linear features and other habitats of value to foraging and commuting bats included within the landscape design, implemented through the LEMP and HEMP. Careful design of landscaping at known bat activity hot spots and flyways has been undertaken including habitat connections where the Scheme is in cutting. The linear habitat guiding crossing at Hilton Lane will be around 7.7 m above the height of the road and 4 m above at the accommodation bridge to the north. The elevation of the Scheme to 8.5 m above the current ground level over Latherford brook will also avoid collision risk of those species most commonly recorded.	None	Negligible	Neutral	LEMP and HEMP
		Disturbance from operational lighting	The length of the Scheme would be unlit with new lighting limited to the junctions with the M54 and M6 only, where artificial lighting is already present on the existing road network.	Retained and created habitats encourage safe crossing at specific points, such as Hilton Lane Bridge and the accommodation bridge south-east of Brookfield Farm.	Negligible	Neutral	None
		Disturbance from noise to retained roosts	Careful design of landscaping at known bat activity hot spots and flyways.	Although the proximity of buildings with roosts to the Scheme is as low as 17 m given the transitional nature of such	Negligible	Neutral	None

Ecological Feature	Importance of ecological feature	Impact description	Design and mitigation measures	Characterisation of the mitigated impact on the ecological feature	Level of Impact	Significance of residual effect	Monitoring requirements
				roosts and as disturbance would be temporary.			
Otter and Water Vole	County	Risk of mortality through collision with motor vehicles	Mammal tunnels (and associated guide fencing) and otter ledges would be installed at three locations to aid the safe crossing of the road by otter, and to mitigate the risks of increased mortality of wildlife once the road becomes operational and used by traffic. In addition, the clear span structure at Latherford Brook would retain connectivity along the Latherford Brook corridor. No impacts anticipated on water vole.	None	Negligible	Neutral	LEMP and HEMP