

A38 Derby Junctions
TR010022

8.74 Applicant's Responses to Actions
Arising from ISH4 19 February 2020

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**A38 Derby Junctions
Development Consent Order 202[]**

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19 February 2020**

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Table of contents

Chapter	Pages
1 INTRODUCTION.....	4
1.1 Purpose of this Document.....	4

INTRODUCTION

Purpose of this Document

This document sets out Highways England's responses to action points raised at the fourth Issue Specific Hearing (ISH) for the A38 Derby Junctions Scheme. The ISH took place at 10:00 on 19 February 2020 at The Best Western - Stuart Hotel.

Actions arising from ISH4		Applicant's Comments
1	<p><u>Item 3 - Transport networks and Traffic</u></p> <p>(b) The consideration given to the range of likely impacts on the population arising from changes to congestion, route uncertainty, journey reliability and journey times on the local road network during construction. Consideration given to the inner ring road and major routes identified by DCiC</p> <ul style="list-style-type: none"> The ExA requested that HE provide a high-level summary of the degree to which the quantitative work from the modelling and transport assessment has been used in the considerations of congestion/ route uncertainty/ accidents etc. and explain the balance between quantitative and professional judgment. 	<p>(b) At PCF Stage 3, a stage in the DfT/HE agreed scheme development process [refer to REP4-026], Highways England prepared documents using the strategic (SATURN) traffic model. These considered the likely impacts of the various construction phases upon travel times. The routes to be examined were agreed with DCiC and DCC and were informed by their view of the key radial and orbital routes that were thought likely to be of public concern.</p> <p>These strategic traffic model assessments will be repeated at the end of PCF Stage 5 (the construction preparation stage) and the results will be shared with the two local highway authorities. This commitment is secured in the Outline TMP [REP5-004] at paragraph 3.1.10.</p> <p>The strategic traffic modelling software (SATURN) contains a module that emulates traffic signal operational assessments (i.e. in a similar manner to LINSIG software, which is commonly used to assess the operation of isolated traffic signalled junctions). At simple traffic signal junctions there is no difference between LINSIG and SATURN. At complex traffic signals with flared</p>

Actions arising from ISH4		Applicant's Comments
		<p>lanes, SATURN can emulate LINSIG provided that the traffic model coder inserts suitably adjusted parameters. However, because the strategic model simulates the whole highway network, the strategic model also has the ability to model the blocking-back effects of queued-up vehicles and how these reduce capacity at the upstream junctions.</p> <p>The TM strategy adopted, as recorded in the Traffic Management Plan [REP5-004] at paragraph 7.1.6, is to design the temporary junction layouts with sufficient capacity so as to maintain the existing journey times along the A38. This strategy will dissuade existing drivers from finding alternative routes and thereby causing additional congestion on the local highway network. This TM strategy has been discussed with the Local highway Authorities.</p> <p>The strategic model outputs prepared at PCF Stage 3 have shown that the TM strategy is achievable. As a result the likely impacts on the population (arising from changes to congestion, route uncertainty and journey times on the local road network) are not considered to be significant because the changes to traffic flows on the local road network will be minimal.</p>

Actions arising from ISH4		Applicant's Comments
		<p>In ES Chapter 12: People and Communities, the impacts of Scheme construction on the population were assessed qualitatively using professional judgement given the absence of defined DMRB impact assessment methodologies. The assessment took into account the mitigation approach as detailed in the TM strategy (as detailed in the Traffic Management Plan) as discussed above, as well as the use of quantitative information as available from the strategic traffic model for the Scheme construction phase. The impact assessments reported in the ES as related to population effects as associated with Scheme traffic during the construction phase considered driver stress, severance, impacts upon public transport users, impacts upon non-motorised users as well as impacts upon human health.</p>
	<p>(d) The updated Traffic Management Plan. The balance of prioritisation given to the A38 and to the local road network. Comments from the Local Highways Authorities, the A38 Behavioural Change Group and other stakeholders. Construction uncertainties, stakeholder engagement and resources. The Community Relations Manager and their liaison with DCiC and DCC. The ongoing role</p>	<p>As noted above, the A38 movements will be given priority because this approach will dissuade existing drivers from leaving the A38 and seeking alternative routes through the local road network. This TM strategy has been discussed with both Local Highway Authorities and presented to the A38 Behavioural Change Group. No adverse comments have been received with respect to this TM strategy.</p>

Actions arising from ISH4		Applicant's Comments
	<p>of the A38 Behavioural Change Group and how that should be secured.</p> <ul style="list-style-type: none"> • HE to give more consideration as to how the role of Community Relations Manager will work with councils to manage complaint handling. • Summary note on the role of the Behavioural Change Group Include this detail in the OEMP and TMP. 	<p>The responsibilities of the Community Relations Manager are listed in the OEMP at Table 2.1. The role of the Stakeholder Manager is also described in the updated TMP [REP5-004] in Table 3.1 and paragraphs 4.3.3 and 6.3.8. The two roles are the same and the TMP will be updated to reflect the role described in the OEMP. Both documents will refer to the Customer and Stakeholder Manager which is now the agreed role title (see below).</p> <p>The "A38 Behavioural Change Group" was referenced in the TMP [REP5-004] at paragraphs 1.3.1, 1.3.3 and 5.2.3. Text regarding the Behavioural Change Working Group has been added to the amended OEMP being submitted at Deadline 6 (text added to MW-TRA2).</p> <p>Highways England has now engaged with the BCWG and a second monthly meeting is planned for 04 March 2020. It is the intention of HE/DCiC and key businesses and stakeholders that issues and concerns of the impact of the Construction Phase of the A38 Derby Junctions Scheme on the City of Derby are discussed and a strategy is in place to mitigate as practically as possible to minimise the disruption of the construction phase but</p>

Actions arising from ISH4	Applicant's Comments
	<p>also work together for long-term behavioural change post construction opening.</p> <p>From the initial meeting in January all stakeholders were asked to compile a list of concerns and issues and these were captured on a spreadsheet and Highways England confirmed these would be presented again in the next working group meeting. At the end of January Highways England and Derby City Council Leads met for a strategic meeting and discussed with the contractor LinkConnex was the DCO, impact during construction and how we would collaborate during detailed design and the construction / post-construction phases.</p> <p>At the Technical Working Group meeting held on 25 February 2020, the BCWG spreadsheet was presented to the group which was a high-level summary of key stakeholder concerns was well received, and from this there are more detailed Technical discussions being held with Highways England and DCiC on specific topics which are not only part of the BCWG but also the DCO. This will be fed back into the next BCWG meeting to confirm what progress is being made and what current issues and concerns can be closed-out. The expectation over the coming months is more issues and concerns may be raised and this will</p>

Actions arising from ISH4		Applicant's Comments
		<p>be fed up to the Technical Working Group to decide how they may be dealt with or not.</p> <p>There have been further discussions with DCiC at the Technical Working Group held on 25 February 2020 and the name of Community Relations Manager is now officially changed to the <i>'Customer and Stakeholder Manager'</i></p>
2	<p>(g) Agreement of mitigation measures for Ford Lane bridge (DCC and Network Rail concerns) and the Ford Lane / A6 junction (DCiC concerns) and how they are secured</p> <ul style="list-style-type: none"> • HE to provide an update to the ExA regarding measures to narrow the highway over the bridge. • HE to respond to issues raised by Network Rail regarding Ford Lane bridge. NR's comments: 	<p>The design of the measures to restrict the bridge to one HGV at a time will be developed during the detailed design stage in consultation with Derbyshire County Council. Early discussions with Derbyshire County Council indicate that measures such as repositioning the kerbs across the bridge would be an appropriate solution. This position has been agreed by Derbyshire County Council.</p>

Actions arising from ISH4		Applicant's Comments
	<p><i>1. Accommodating 40T vehicles and Network Rail requires reassurance that the route, including the River Derwent Bridge, will be capable of accommodating such vehicles;</i></p> <p><i>2. Accommodating articulated low loader vehicles that are capable of delivering 60 feet long lengths of rail to the Midland Mainline. Network Rail is particularly concerned that the access to Ford Lane from the A6 may not be capable of providing access for such vehicles and Network Rail has not received a swept path analysis that provides evidence of the suitability of the A6/Ford Lane junction for such vehicles. Accordingly, Network Rail objects to the closure of the access to Ford Lane from the A38.</i></p>	<p>1. An assessment of the Ford Lane/River Derwent bridge has been carried out and this determined that it is capable of carrying a 40T vehicle subject to a verification survey. This verification survey is needed to confirm an assessment assumption regarding continuity of reinforcement. The bridge will be restricted so that only one vehicle may be present on the bridge at a time.</p> <p>2. As a minimum, the kerbs will be repositioned at the A6/Ford Lane junction to accommodate the swept path of an articulated low-loader (that can carry 60ft lengths of rail). Discussions are continuing with Derby City Council to determine the final form of this junction, however, all options being considered will accommodate the swept path of an articulated low-loader.</p>

Actions arising from ISH4		Applicant's Comments
	<ul style="list-style-type: none"> HE to consider DCiC's suggestion for the localised widening of A6 junction to allow left and right turns out of the junction and the potential for a pedestrian crossing. Provide ExA with an update. 	Discussions are ongoing with DCiC in relation to the A6/ Ford Lane junction, but the detailed arrangements will be produced and agreed at the detailed design stage.
3	<p><u>Item 4 Land use, social and economic impact</u> (b) The effect of the proposed development on the McDonald's and Euro Garages sites, including the capacity and geometry of the proposed access arrangements, existing access rights and the case for providing advance signage.</p> <ul style="list-style-type: none"> HE to respond to submissions received on 18 February 2020 regarding advance warning signage in post hearing submissions. 	It is understood that Euro Garages has submitted a paper to justify the inclusion of advance direction signage for the combined service area with McDonald's. The contents of this is currently being considered by Highways England and its position will be updated at deadline 7.
4	<p>(c) Potential effects on open space and events in Mackworth Park and Markeaton Park due to temporary possession, their mitigation and how that would be secured.</p>	The updated version of the OEMP being submitted at Deadline 6 states that " <i>The detailed TMP will ensure that the Scheme construction phase traffic management proposals minimise effects of traffic accessing Markeaton Park – both associated with routine</i>

Actions arising from ISH4		Applicant's Comments
	<ul style="list-style-type: none"> HE to discuss in more detail with DCiC particularly regarding access during events and Markeaton Park. 	<p><i>park visits as well as park events. This will require the Highways England's Customer and Stakeholder Manager to regularly liaise with DCiC regarding routine park access arrangements, and arrangements for access to the park during organised events."</i></p> <p>Highways England discussed this position with DCiC on 27 February 2020 and the Council is content with this proposal.</p>
5	<p>(d) Whether the recent Supreme Court judgement [R (on the application of Samuel Smith Old Brewery (Tadcaster) and others) (Respondents) v North Yorkshire County Council (Appellant) [2020] UKSC 3 e] on the approach to Green Belt openness has implications for consideration of the proposed development</p> <ul style="list-style-type: none"> HE to submit a written response to the examiner on this point. 	<p>See separate Technical Note on Supreme Court Decision – Samuel Smith (Tadcaster) (Document Reference 8.78).</p>
	<p><u>Item 5 – air quality</u></p> <p>a) Consideration of LA 105 for the potential for significant air quality effects for an increase in NO₂ due to the proposed development of</p>	<p>a) Table 5.6 of the ES Chapter 6: Air Quality [APP-043] lists the receptors with the largest changes in NO₂ concentrations in the Scheme opening year of 2024. Table 1.13 in ES Appendix 5.3 [APP-172] lists the predicted NO₂ concentrations at receptors with the Scheme in operation in 2024.</p>

Actions arising from ISH4		Applicant's Comments
	>0.4 µg/m ³ . Reference to Table 5.6 of the Environmental Statement (ES) Chapter 5 [APP-043] and Table 1.13 of ES Appendix 5.3 [APP-172].	HE's response to Question 3.1 in the Second Written Questions [REP4-024] sets out the differences between the air quality assessment methodology in DMRB 11.3.1 which was followed for the ES and the recently published LA 105. The updated emission rates are the only aspect that could potentially affect the results presented in the Tables 5.6 and 1.13. The new guidance is not expected to affect significantly the results presented in those two tables (i.e. there would be no significant effects).
	b) Local Authority comments on the Applicant's consideration of LA 105. Whether its' application would be likely to give rise to any additional significant impacts or materially new or materially worse adverse impacts. Whether OEMP mitigation measures for dust should be amended.	Question for DCiC.
	c) DCiC's outstanding air quality concerns, including:	Question for DCiC.

Actions arising from ISH4		Applicant's Comments
	<p>a "method for reconciling infrastructure scheme contributions with national PCM compliance modelling outputs";</p> <p>b "modelling against EU Directive for some receptors"; and</p> <p>c "outstanding detail in CEMP".</p>	
	<p>d) Whether DCiC considers that the Applicant's assessment represents a reasonable worst-case scenario and whether on balance it agrees there are likely to be no significant effects during construction or operation.</p>	<p>Question for DCiC.</p>
	<p>e) Compliance with European Union Directives, the potential for a zone compliant with the Air Quality Directive to become noncompliant and the potential for delays for a non-compliant zone to achieve compliance. Balance of probability.</p>	<p>e) Detailed dispersion modelling has now been carried out for the compliance risk assessment for the construction scenarios and operation of the Scheme (refer to Technical Note submitted at Deadline 6). The conclusions of the assessment are that the Scheme is not expected to delay the East Midlands zone achieving compliance.</p> <p>Some sections of footpaths next to the A38 and near the A601 Inner Ring Road are predicted to exceed the NO₂ annual mean</p>

Actions arising from ISH4		Applicant's Comments
		<p>limit value in the Scheme construction year of 2021. However, these locations are predicted to have NO₂ concentrations above the limit value in 2021 both with and without construction of the Scheme. The Scheme will not delay compliance in these areas. In the longer term, the footpaths near the A38 are expected to have improved air quality due to the main carriageway being realigned away from the footpaths.</p>
	<p>The ExA asked that Highways England provide a written response to a question posed during ISH4 regarding Scheme effects on air quality near Kingsway junction and the Royal Derby Hospital.</p>	<p>The question relates to the A516 Uttoxeter New Road from Uttoxeter Old Road to the Royal Derby Hospital which is within an Air Quality Management Area (AQMA). DCiC has measured NO₂ concentrations and found concentrations to exceed the annual mean objective and limit value at site DT31 (431 Uttoxeter New Road) which is on the corner of Manor Road and Uttoxeter New Road. This site is shown in ES Figure 5.4 [APP-074]. Traffic flows on this road are expected to change during the Scheme construction phase. NO₂ concentrations have been predicted at a number of receptors in this area (e.g. R111, R112, R115, R116, R117, R247, R248, R249, H3, H4 and H5) as shown on ES Figure 5.2A [APP-072]. NO₂ concentrations at all of these receptors are predicted to be within the NO₂ objective and limit value in 2021 both with and without Scheme construction during all three of the construction scenarios</p>

Actions arising from ISH4		Applicant's Comments
		assessed and in 2024 both with and without the Scheme in operation. The lower NO ₂ concentrations predicted for future years compared with the measurements concentrations are due to a cleaner vehicle fleet in future years.
6	<p><u>Item 6 – noise and vibration</u> (c) The averaging time, T, used for daytime, evening and night-time construction noise SOAEL. Comparison of averaging times used with Table E.2 of BS5228-Part 1.</p> <ul style="list-style-type: none"> HE to provide a hypothetical series of figures to show the effect of introducing 'duration' to its assessment. 	<p>A Technical Note on this issue is provided in Document Reference 8.77 as submitted at Deadline 6.</p> <p>As discussed at ISH4, the approach adopted in ES Chapter 9: Noise and Vibration [APP-047] of identifying all exceedances of the SOAEL as potential significant effects is a conservative approach. The later application of the duration criteria cannot result in additional significant effects being identified, and thus it can only reduce the number of identified significant noise effects.</p> <p>The adoption of the averaging time (T) from the ABC method is considered to be the most appropriate approach and is not considered to be 'more favourable' than the shorter averaging periods in the Noise Insulation and Temporary-Rehousing guidance which are not considered appropriate to apply for assessment as opposed to mitigation purposes.</p>
7	<p>f) Whether all construction work outside core hours should be agreed in advance with the</p>	<p>The OEMP currently requires (clause PW-NOI2 and MW-NOI2) the submission of a Section 61 application to EBC for all works</p>

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	<p>Local Authorities. Whether “any other emergency work” shouldn’t need to be agreed in advance. Whether any further s61 provisions should be included in the OEMP.</p> <ul style="list-style-type: none"> • HE to discuss the points raised in further detail and come to an agreed position with each council. 	<p>outside of core hours i.e. including for those activities listed in the OEMP/DCO, and any other such works which are not listed. If EBC are in agreement with the proposed works, including the proposed working methods, plant, mitigation etc. they will grant the Section 61 prior consent. If EBC are not in agreement, then further discussion with Highways England will be required in order to reach an agreement and enable the granting of the prior consent. The Section 61 application will include details of the anticipated times and durations of the works, and therefore, will form an official notification of the works in advance to EBC.</p> <p>With regard to works within DCiC’s administrative area, the OEMP requires Highways England to consider submission of an application for prior consent under Section 61 of the CoPA. This wording is in accordance with the preference of DCiC who do not wish to use the formal Section 61 prior consent process. However, based on the discussions at ISH4 an amendment has been made to PW-G4 and MW-G12 of the OEMP (being submitted at Deadline 6) to include the text: “<i>Highways England will notify the applicable local authorities in advance of any works outside of core hours</i>”. This additional text will ensure DCiC are informed in advance of all works outside of core hours.</p>

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		Further additional text has also been added to the OEMP being submitted at Deadline 6 in PW-G4 and MW-G12 which states: <i>"Highways England will inform the applicable local authorities regarding any emergency works undertaken outside of core hours as soon as is practicable"</i> . This additional text will ensure the local authorities are informed of any emergency works soon after they have occurred.
8	<p>g) Noise levels and durations from the demolition of the Queensway buildings. Temporary noise barrier and permanent noise barrier options to mitigate impacts on the Royal School for the Deaf Derby</p> <ul style="list-style-type: none"> • HE to review suggested provisions of the temporary barrier. To review the permanent barrier and whether this can be delivered in stages. 	As discussed at ISH4, options for the installation of the permanent noise barrier at the Royal School for the Deaf (i.e. before the demolition of the Queensway houses) are as follows: i) installation of the complete permanent noise barrier; ii) if the permanent noise barrier cannot be installed due to site access restrictions or due to ground conditions a temporary barrier will be provided that will provide comparable noise protection to that of the permanent noise barrier i.e. it will achieve a comparable reduction in noise levels from the works to demolish the Queensway buildings; iii) if only sections of the permanent noise barrier can be installed prior to Queensway building demolition, sections of temporary barrier will be installed as required within the full extents of the complete permanent barrier in order to provide comparable protection.

Actions arising from ISH4		Applicant's Comments
		<p>Given the above, the amended paragraph MW-NOI7 of the OEMP being submitted at Deadline 6 states the following (new text is underlined):</p> <p><i>“Early installation of the noise barrier will reduce noise effects upon the Royal School for the Deaf and other receptors to the east of the works. Such works will be undertaken before the southbound diverge slip will be used for A38 mainline traffic. If feasible Highways England will install the noise barrier prior to the demolition of the houses on Queensway, although this is subject to confirmation as it depends upon site conditions and site possession. If early installation of the noise barrier is not possible, alternative methods of noise mitigation will be provided during the Queensway building demolition works e.g. temporary noise barriers capable of providing comparable noise mitigation as the permanent noise barrier. A further option includes the provision of sections of the permanent noise barrier and sections of temporary noise barrier. In addition, Highways England will discuss the timing of the works to demolish the Queensway properties with the school to investigate whether some demolition works can be timed to coincide with periods when the school is less sensitive (e.g. such as during school holidays).”</i></p>
9	<p><u>Item 7 - landscape screen planting at Little Eaton Junction</u></p>	<p>At ISH4 the ExA requested that HE provide written commentary as to why the veteran tree (T358) at Markeaton junction would be lost due to the Scheme. This analysis is still being undertaken</p>

Actions arising from ISH4		Applicant's Comments
	<p>d) The effect of the proposed development on protected trees including T358, the correct identification of such trees and the appropriate Root Protection Areas. Updates required to the OEMP.</p> <ul style="list-style-type: none"> HE to provide a submission regarding the potential relocation of the footbridge. The ExA requested that this include whether any other routes and designs had been considered and an explanation as to why they are not possible. 	<p>and will be submitted to the ExA at Deadline 7 (10th March for discussion at the ISH.</p>
10	<p><u>Item 8 – Biodiversity and ecological conservation</u> a) The effect of the proposal on the Alfreton Road Rough Grassland Local Wildlife Site.</p> <ul style="list-style-type: none"> HE to provide an update on how progress is being made with the Wildlife Trust and standalone fund for other enhancement works. 	<p>As detailed in HE's response at Deadline 4 [REP4-024], HE submitted a Technical Note (TN) to the ExA [REP4-023] that corrected an error regarding the percentage loss due to the Scheme at the Alfreton Road Rough Grassland Local Wildlife Site (LWS) as reported in ES Chapter 8: Biodiversity [APP-046]. The TN indicates that the Scheme would result in the permanent loss of approximately 16% (0.64ha) of the LWS rather than 30% as reported in the ES (at paragraph 8.10.15). However, this does not change the significance of effect (non-significant (neutral) effects), nor the defined mitigation approach as detailed in the</p>

Actions arising from ISH4		Applicant's Comments
		<p>OEMP [REP3-003], or the conclusion that the Scheme would not have an adverse effect on the functional integrity of the LWS.</p> <p>HE is discussing the findings of this TN with EBC and Derbyshire Wildlife Trust (DWT) with the aim of reaching an agreed position on the Scheme effect upon the LWS. In addition, outside of the DCO process, HE is preparing a further TN regarding opportunities for the LWS to be considered as part of the HE Designated Funds (DF) commission which is investigating opportunities for biodiversity enhancement works within areas of open space located adjacent to the Scheme. This TN will be submitted to EBC and DWT in early March. As this TN is associated with the DF commission it will not be submitted to the ExA and does not need to be considered as part of the DCO examination. The opportunity for the LWS to be considered by the DF commission is subject to further discussions with EBC and DWT which are being undertaken outside of the DCO process.</p>
11	<p>b) The approach to biodiversity enhancement and the use of Biodiversity Metric Assessment.</p> <ul style="list-style-type: none"> Provide a note for the ExA regarding application of Biodiversity Metric 	<p>Reference should be made to HE's response to ExA question 37 ISH2 [REP3-026]. This indicates that the primary basis for decisions on NSIP projects is the National Policy Statement for National Networks (NPSNN), but that the NPS itself acknowledges (paragraph 1.18) that '<i>the NPPF is also likely to be</i></p>

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	<p>Assessment considerations of the NPS and NPPF.</p>	<p><i>an important and relevant consideration in decisions on nationally significant infrastructure projects, but only to the extent relevant to that project.</i> The extent of the relevance in this case is reflected in the level of consideration that has been afforded to compliance with the NPPF within ES Chapter 8: Biodiversity [APP-046].</p> <p>In the case of the A38 Derby Junctions Scheme, HE considers that limited weight should be afforded to the NPPF in respect of the aspiration for net gain as summarised within para 170d and 175d of the NPPF. In respect of the proposed legal requirement for biodiversity net gain to be included in the Environment Bill, NSIPs will be excluded from the requirement for development to deliver net gain. Therefore, HE considers that moderate weight should be attributed to enhancing the natural environment, to the extent that it can be reasonably achieved in delivering a nationally significant infrastructure project for which there is a recognised need expressed in the NNNPS.</p> <p>With regard to Biodiversity Metric Assessments, whilst the NPPF makes reference to “<i>measurable net gains for biodiversity</i>” (174.b), it does not specifically mention the need for a metric assessment. In addition, the NPS does not mention metric assessments, nor is there an explicit requirement to demonstrate</p>

Actions arising from ISH4	Applicant's Comments
	<p>net gain using a Biodiversity Metric Assessment. Use of the metric is thus considered to be optional for NSIPs.</p> <p>Given the above, (and as it was not requested by any party during EIA scoping or consultation) a biodiversity metric calculation did not feed into the ecological impact assessment as reported in ES Chapter 8: Biodiversity [APP-046]. The biodiversity scope of works undertaken is consistent with that as detailed in the EIA Scoping Report.</p> <p>The Scheme has, however, assessed impacts of the Scheme on biodiversity qualitatively as per CIEEM and DMRB guidance at that time, based on the significance of effects on flora and fauna and provided appropriate mitigation to avoid significant harm to biodiversity. All measures to mitigate potentially significant adverse effects as a result of the Scheme are to be delivered within the DCO boundary and are detailed in Section 8.9 of the ES Chapter 8: Biodiversity [APP-046]. The Scheme has sought to maximise opportunities for enhancement in biodiversity associated with defined mitigation measures where possible. These measures are detailed, together with mitigation measures, within Section 8.9 of ES Chapter 8: Biodiversity [APP-046] and a summary of residual biodiversity effects (adverse and beneficial)</p>

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	<p>is provided in ES Appendix 8.20a [APP-217]. Opportunities to maximise enhancement include:</p> <ul style="list-style-type: none"> • Maximising ecological and Water Framework Directive opportunities during the Dam Brook realignment. The new Dam Brook alignment would create a more sinuous channel with a net gain of 197m of open channel habitat, of benefit to riparian mammals, foraging and commuting bats, aquatic invertebrates and fish. • New water features and biodiversity enhancement opportunities associated with the drainage design. No ponds would be lost as a result of the Scheme; however, there would be the creation of six new water features including four attenuation ponds (which would develop into ecological habitats over time) and two ecology ponds. • Management of invasive plant species which would potentially have a positive effect where locally eradicated, particularly at the Little Eaton junction construction compound. • Habitat creation of benefit to terrestrial invertebrates including planting of disease resistant elms at Markeaton Park and Mackworth Park to assist continued survival of white-letter haired streak.

Actions arising from ISH4		Applicant's Comments
		As discussed at ISH4, whilst a biodiversity metric has not fed into the ecological impact assessment as reported in ES Chapter 8: Biodiversity [APP-046], HE has committed to using such a metric during the Scheme detailed design and construction phase. As such, the revised version of the OEMP being submitted at Deadline 6 commits to the <i>“Use of a biodiversity metric to assist with the detailed design of the Scheme landscaping proposals, and thereafter provide an evidence base for monitoring habitat management during the Scheme construction phase”</i> .
12	<p><u>Item 9 – Other policy and factual issues</u></p> <p>a) Whether it is likely that potential discharges or emissions (which would affect air quality, water quality, land quality or which include noise and vibration) would be adequately regulated under the pollution control framework.</p> <p>c) Mitigation required to ensure that the carbon footprint would not be unnecessarily high. Benchmarking of construction emissions and embodied energy. The relative weight to be given to reduction in carbon and £ spent. Consideration of loss of mature trees and planting of new trees.</p>	<p>a) Yes. DCiC at Deadline 4 [REP4-029] stated: <i>“Assuming that the pollution control framework is merely a reference to existing pollution control legislation, then yes one would hope and assume that it is adequate.”</i> The EA at Deadline 4 [REP4-027] stated <i>“Standard pollution prevention control and best practice measures should be sufficient”</i> Highways England consider that with the implementation of the measures as detailed in the OEMP [REP3-003] complimented by the controls inherent via the various consents and agreement that will be needed for the construction of the project as detailed in the Consents and Agreements Position Statement [REP5-002], that discharges and emissions will be adequately managed and regulated. There are no known impediments that Highways England are aware of and</p>

Actions arising from ISH4		Applicant's Comments
	<ul style="list-style-type: none"> • HE to provide clarification regarding the role of benchmarking through the development of the detailed design stage and later stages of the project and how judgement will be made on the carbon reduction and money spent. Linking in with the PCF. <p>d) The potential for impacts on civil aviation assets. Civil Aviation Authority response.</p> <p>f) Whether enough information has been provided to establish future maintenance responsibilities for each element of the proposal. Is the Maintenance and Repair Strategy Statement available to the Examination?</p>	<p>it is noted that none of the regulatory authorities have indicated this in the discussions that have taken place, or has been reported through the examination process.</p> <p>c) As set out in the Design Manual for Roads and Bridges (DRMB), Highways England requires that carbon emissions from all proposed strategic network road schemes are measured and reported using the Highways England Carbon Reporting Tool. At the DCO application stage (PCF Stage 3) the DMRB also requires that bench marking of project performance is undertaken by comparing GHG emissions to other similar highway projects using consistent metrics.</p> <p>To demonstrate that the carbon footprint of the Scheme is not unnecessarily high, construction emissions from the Scheme have been benchmarked against construction emissions from a number of other highway schemes being proposed by Highways England. To allow for a transparent and meaningful comparison, carbon emissions for each scheme have been normalised based on tonnes of construction emissions per km of road built (tCO₂e/km). Carbon intensity per km has been calculated for a number of other highway schemes being proposed by Highways England, including the A46, the M54 and the A303. Carbon intensity of these highway schemes ranges from 19,054</p>

Actions arising from ISH4	Applicant's Comments
	<p>tCO₂e/km to 35,915 tCO₂e/km. The carbon intensity of the A38 Scheme is 23,793 tCO₂e per km which falls within the range of benchmarks calculated. On this evidence, it is concluded that the Scheme does not have unnecessarily high carbon emissions.</p> <p>Once a scheme is approved, the appointed Highway England's contractor has a contractual requirement to report on cost and carbon performance to Highways England until the road is open to traffic. The contractor must aim to deliver a scheme that is below the emissions presented in the DCO.</p> <p>The Highways England contractor must be able to demonstrate an annual reduction in emissions of 10% based on 100tCO₂e per £ spent. The contractor will report on carbon emissions from the Scheme on a quarterly basis using the Highways England Carbon Tool. Through the Collaborative Performance Framework (CPF) the Highways England contractor will be scored on their carbon performance based on 'tonnes of carbon per £'. The CPF is used to measure contractor performance and has commercial implications if the performance is poor. The Highways England contractor will also evaluate the use of low emission carbon products and methods against more traditional higher emissions methods to demonstrate the reduction in carbon per every</p>

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	<p>additional £ spent. This will inform decision making as well as taking into account any reduction or increase in risk.</p> <p>Following opening of the road to traffic, carbon will continue to be reported at an area/ regional level by collating carbon tool returns from suppliers, who report to areas, who then report to Highways England their aggregated carbon data for maintenance of the road. Highways England requires all service providers to report the carbon dioxide equivalents (CO₂e) generated through construction and maintenance of road assets. To enable this, quantities of materials, transport, energy and water use need to be recorded in the Highways England Carbon Calculation Tool.</p> <p>d) The Civil Aviation Authority have previously been consulted by Highways England under Section 42 and Section 56 of the PA 2008, but no response has been received by Highways England. As a related matter, the Ministry of Defence did provide a response in respect of military aviation confirming that: <i>"This application relates to a site outside of Ministry of Defence (MOD) statutory safeguarding areas. We can therefore confirm that the MOD has no safeguarding objections to this proposal."</i> A copy of this letter was included within the deadline 4 submission.</p>

Actions arising from ISH4		Applicant's Comments
		<p>In addition to the Civil Aviation Authority, NATS (in their role as a provider of Air Traffic Control Services) were similarly consulted and responded in writing on the 15th October 2018 stating that:</p> <p><i>'NATS anticipates no impact from the proposed changes to the A38 and has no comments to make on the DCO.'</i></p> <p>Highways England acknowledge that the NPSNN (paragraph 5.55) seeks to give consideration to effects on Civil Aviation and assets, but has concluded there are no material impacts, as no abnormally tall structures are proposed and the Scheme is some distance from the nearest licensed aerodrome, with East Midlands Airport being approximately 20 miles away.</p> <p>f) The LHAs to advise whether enough information has been provided to establish future maintenance responsibilities for each element of the proposal.</p> <p>The Maintenance and Repair Strategy Statement, PCF Stage 3 version prepared in March 2019 has been submitted at deadline 6 (Document Reference 8.81). This will be updated during the detailed design stage to capture all of the agreements that are currently being made with the maintaining authorities.</p>

Actions arising from ISH4		Applicant's Comments
13	<p><u>Item 10 – Water and the environment</u></p> <p>a. Hydraulic modelling at the Markeaton junction.</p> <ul style="list-style-type: none"> • The ExA asked for a brief explanatory clarification note on potential overtopping at Markeaton junction. • The ExA asked Highways England to comment on whether the latest Climate Change projections 2018 data have any implications on the flood risk assessments. 	<ul style="list-style-type: none"> • Hydraulic modelling at the Markeaton junction: At ISH4 the ExA considered the issue of surface water flooding and the risks associated with overtopping at Markeaton junction. To give some context, it is worth noting that the Markeaton Junction Flood Risk Assessment (FRA) [APP-230] submitted with the DCO application reviewed both the fluvial flood risk map (confirmed by the EA at ISH4 to be the latest hydraulic modelling) and the surface water (pluvial) flood risk map and considered the overtopping risks to be low. <p>Following DCiC's review of the Markeaton junction FRA, they expressed concern regarding the lack of hydraulic modelling at Markeaton junction. To clarify the particulars of these concerns, a meeting was held between Highways England and DCiC on the 15th October 2019 during which DCiC acknowledged that the risk from fluvial and surface water sources of flooding to the junction was low, but they sought a more detailed assessment of the surface water risk as presented in the FRA. In particular, whilst DCiC acknowledged that the road is currently at risk from surface water flowing from the north-west, they wanted the FRA to demonstrate that the proposed road elevation profile would not lead to lateral overtopping of the high point, resulting in surface water being diverted south towards the new underpass at the junction itself. DCiC suggested that this could be robustly undertaken</p>

Actions arising from ISH4		Applicant's Comments
		<p>using the detailed version of the surface water (pluvial) flood risk map, which provides depth banded information in respect of the associated flood extents, and this approach was agreed with Highways England. Furthermore, it was agreed that the low risk depth banded mapping, which shows all areas at risk up to the 0.1% AEP event (present day scenario), could be used as a proxy for the 1% AEP event with a 40% allowance for climate change (since the surface water flood risk map does not account for climate change), since it represents a 'worst-case' scenario. DCiC confirmed their agreement to this approach during ISH4. The outcome of the assessment (as reported in the amended Markeaton junction FRA [REP4-010]) demonstrated that the highest surface water elevation at the point at which it crosses the road was, at most, at the same elevation as the lateral high point along the road. DCiC has reviewed the amended FRA and confirmed at the ISH4 that the modelling undertaken as being highly robust such that they no longer have such overtopping concerns.</p> <ul style="list-style-type: none"> • Climate Change projections 2018: The ExA asked whether the publication of UK Climate Projections 2018 (UKCP18) had any implications with regard to the flood risk assessments undertaken for the Scheme. The government website detailing when and how to use climate change allowances in FRAs (https://www.gov.uk/guidance/flood-risk-assessments-climate-

Actions arising from ISH4		Applicant's Comments
		change-allowances) has been updated following the release of UKCP18, but only in respect of sea level rise allowances. Flow and rainfall intensity allowances remain based on the UKCP09 outputs at present. As such, the flood risk assessments undertaken for the Scheme remain based upon current government advice as related to climate change allowances for use in FRA.
14	<p>b) Little Eaton construction compound in relation to Source Protection Zones 2 and 1. Whether the Preliminary Works CEMP should include details of the drainage solution for the construction compound and relevant pollution prevention measures to mitigate the risks of pollution to controlled waters from activities in this location.</p> <ul style="list-style-type: none"> The ExA asked that HE consult with Erewash BC regarding the wording and approach to the preliminary works compound in the OEMP. 	<p>The ExA asked that Highways England agree appropriate wording of provisions to be included in the OEMP regarding the protection of watercourses and the SPZs at Little Eaton junction as associated with the use of the main construction compound.</p> <p>PW-WAT1 in the OEMP being submitted at Deadline 6 has been amended as follows (new text is underlined):</p> <p><i>"Pollution control:</i></p> <p><i>Highways England will develop and implement appropriate measures within the preliminary works CEMP for the preliminary works to control the risk of pollution due to construction works, materials and extreme weather events, including change to flow, flood storage volume, water levels and quality. This will be completed having regard to industry guidance. Such measures will be defined in consultation with the applicable local authorities and the Environment Agency. <u>The preliminary works CEMP will include details of pollution risk management measures at the</u></i></p>

Actions arising from ISH4	Applicant's Comments
	<p><u>main construction compound at Little Eaton junction (including measures to be implemented during the site establishment phase), taking particular regard to the protection of the nearby groundwater Source Protection Zones and surface watercourses. The preliminary works CEMP will also include details of surface water drainage solutions at the main construction compound at Little Eaton junction to appropriately control and manage surface water runoff."</u></p> <p>This proposed OEMP text has been sent to EBC for comment.</p>