A38 Derby Junctions

TR010022

8.5 Responses to Examining Authority's First Written Questions

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The Infrastructure Planning (Examination Procedure) Rules 2010

A38 Derby Junctions

Development Consent Order 202[]

Response to ExA's First Written Questions

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1.1 Responses to the Examining Authority's First Written Questions

1.1.1 This document has been prepared by the Applicant to set out its responses to the Examining Authority's first written questions.

1.1.2 These can be found in Table 1.1 below.

Table 1-1 Applicant's Response to the Examining Authority's First Written Questions

No	Question to	Reference (in bold) and Question	Applicant's Response
1	**General Matters**		
1.1	Applicant	**ExA's issues and questions for Issue Specific Hearing 1** **https://infrastructure.planninginspectorate.gov.uk/document/TR010022-000747** Please provided a written response to the ExA's written issues and questions that were tabled at the Issue Specific Hearing 1 dealing with matters relating to the draft Development Consent Order that was held on 8 October 2019.	Highways England has provided a detailed response to the ExA's issues and questions in respect of the first DCO ISH. This document is provided at ref **[TR010022/APP/8.4]**.

No	Question to	Reference (in bold) and Question	Applicant's Response
1.2	Applicant	**No materially new or materially worse adverse environmental effects.** Several references are made to provisions to ensure "*no materially new or materially worse adverse environmental effects in comparison with those reported in the ES*". a) In each case, how and when would such an assessment be made, who would make it, who would be consulted, whose agreement would be required and who would approve it? b) Can the tailpieces to this phrase in Requirements 15(2), 16(2) be removed? c) Should the similar wording in dDCO [APP-016] Requirement 3, in OEMP [APP-249] paragraph 3.2.14 and in OEMP provisions PW-G4 and MW-G12 be made consistent with the above phrase?	a) The term is used on five occasions in the DCO, see@ article 8 (Limits deviation), requirement 12 (Detailed design), requirement 15 (Noise mitigation), requirement 16 (Highway lighting) and requirement 18 (Applications made under requirements). In Article 8 the term is used in respect of the vertical deviation limits. Article 8(b) sets out a number of occasions where the levels for the authorised development may deviate vertically, as shown on the engineering section drawings. A number of works numbers where this is permissible is listed in article 8(b)(i) to (iv) and specific maximum deviation limits are quantified between 0.5m and 2m for these specified activities. However, these vertical deviation limits can be increased subject to the Secretary of State being satisfied (following consultation with the relevant planning authority and local highway authority) that a deviation in excess of these specified limits would not give rise to any materially new or materially works adverse environmental effect in comparison with those reported in the environmental statement. As such, the assessment would be made by the Secretary of State when requested by Highways England where it is expected that these limits will be exceeded. Any decision on this materiality in environmental terms would be determined by the Secretary of State. The Secretary of State would, as noted, consult with the relevant planning authority and local highway authority. No third-party agreement would be required given that the relevant planning authority and local highway authority would be consulted as part of the Secretary of State's approval process. In requirement 12, the term is used to permit Highways England to deviate from the approved preliminary design when it comes to design the scheme in detail. Requirement 12 requires the authorised development to be based on and compatible with the preliminary scheme design which is demonstrated on the works plans and engineering drawings. However, should the authorised development need to deviate from the preliminary design, Highways England may ask the Secretary of State to approve an alternative design or design

No	Question to	Reference (in bold) and Question	Applicant's Response
			features. The Secretary of State may indeed approve such a deviation provided that he has consulted with the relevant planning authority and local highway authority and it satisfied that any departures from the preliminary design would not give rise to any materially new or materially worse adverse environmental effects in comparison with those reported in the environmental statement. Requirement 15 requires that the proposed noise mitigation in respect of the use and operation of the Scheme has to reflect what is included in the environmental statement and that noise barriers should be in the locations shown on the environmental mitigation plans. However, where the proposed noise mitigation materially differs from that outlined in the environmental statement, Highways England has to provide evidence with the written details submitted to the Secretary of State in respect of noise mitigation detailing that the proposed noise mitigation would not give rise to any materially new or materially worse adverse environmental effects in comparison with those reported in the environmental statement taking into account the mitigation identified. As such, any deviation would be approved by the Secretary of State in consultation with the relevant planning authority. Requirement 16 requires that the proposed highway lighting for the development has to reflect what is included in the environmental statement. However, where the proposed highway lighting materially differs from that outlined in the environmental statement, Highways England has to provide evidence with the written details submitted to the Secretary of State in respect of highway lighting detailing that the standard of the proposed highway lighting would not give rise to any materially new or materially worse adverse environmental effects in comparison with those reported in the environmental statement taking into account the lighting identified. As such, any deviation from the position reported in the environmental statement and which is materially different from that detail would need to be approved by the Secretary of State in consultation with the relevant planning authority

No	Question to	Reference (in bold) and Question	Applicant's Response
			and (where responsibility for such lighting is to fall to the local highway authority) the local highway authority. Requirement 18 details the process to be followed when Highways England seeks to discharge any requirement in the DCO. The requirement provides that where the Secretary of State does not approve the application (for any consent, agreement or approval) under the DCO within 8 weeks then that application is taken to have been granted subject to a number of conditions. One of these conditions is that if an application is accompanied by a report which states that, in the view of a body to consulted as part of the application (as specified in the relevant requirement) that body has confirmed that the subject matter of the application is likely to give rise to any materially new or materially worse environmental effects compared to those reported in the environmental statement then the application will be taken to have been refused by the Secretary of State where no decision has been taken within the 8 week specified period. b) In respect of the tailpiece in requirements 15(2) and 16(2), on the basis of the explanation provided in a) above, it is not clear what advantage there would be to delete them. Highways England would be grateful if the ExA could please clarify this point. c) Agreed, the wording in the OEMP **[APP-249]** paragraph 3.2.14 and in OEMP provisions PW-G4 and MW-G12 should be made consistent with the wording used in dDCO **[APP-016]** Requirement 3, namely "*no materially new or materially worse adverse environmental effects in comparison with those reported in the ES".*
	Part 1: Preliminary		

No	Question to	Reference (in bold) and Question	Applicant's Response
1.3	Environment Agency (EA)	**Article 3 – Disapplication of legislative provisions** **Relevant Representation (RR) by the EA [RR-05]** Please provide an update on the EA's position and on the progress in having its' concerns addressed by the Applicant.	N/A
	Schedule 1 – Authorised Development		
1.4	Applicant	**Works No. descriptions** Please review and correct the descriptions of the Works Plans, including: • Works Nos. 9(e) and (f) descriptions do not appear to reflect the lengths of these on the Works Plan? • Works Nos. 10(d) and (e) - should reference be made to Work No. 17 rather than Work No. 11? • Work No. 21 - points (a) to (l) are not identified on the Works Plan, which is inconsistent with the other works listed under Schedule 1? • Work No. 23 - bullet points lettering does not appear to correspondence with the Works Plan? • Work No. 25 – appears to incorrectly refer to Little Eaton Roundabout as Work No. 21(a)? • Work No. 26 (c) and (d) – is the annotation correct?	• The following corrections are to be made to Schedule 1 of the dDCO **[APP-016]**: Work No 9(e)= 45m (not 72m) and Work No 9(f) = 72m (not 45m). • The following corrections are to be made to Schedule 1 of the dDCO **[APP-016]** to correct the references in Works Nos 10(d) and (e) to refer correctly to Work No 17. • Work No 21 identifies the location of the Utility Corridor. The items listed are the utilities and the lengths over which they expected to be diverted to pass along the Corridor and make connections at the ends of the diversions. • The following corrections are to be made to Schedule 1 of the dDCO **[APP-016]** to match the Works Plans **[APP-009]**. Work No 23 should read (a) to (d). • The following corrections are to be made to Schedule 1 of the dDCO **[APP-016]** to match the Works Plans **[APP-009]**. Work No 25 should refer to Work No 30a. • 26c is correct, 26d - The footpath is not shown on the Works Plans **[APP-009]**. The arrow currently points to where the footpath will be diverted from, this will be amended accordingly on the Works Plans **[APP-009]** for clarity. This will be submitted to the ExA for Deadline 2 (19th November 2019).
	Schedule 2 - Requirements		

No	Question to	Reference (in bold) and Question	Applicant's Response
1.5	Derbyshire County Council (DCC) Derby City Council (DCiC) Erewash Borough Council (EBC) EA Natural England (NE)	**Requirements 1-21** **Provisions for consultation and agreement** a) Please identify where it would be helpful, for example to bring clarity or to help avoid any later misunderstandings, for specific provisions to be included in any Requirements for consultation or agreement to be required with relevant bodies. b) In each case, please clarify why the provisions should be included.	N/A
	Schedule 3 – Classification of Roads, etc.		

No	Question to	Reference (in bold) and Question	Applicant's Response
1.6	DCiC DCC	**Classification of roads, etc..** **dDCO [APP-016] Schedule 3 Parts 1-7** **dDCO [APP-016] Part 3 Article 14** Do DCiC or DCC have any comments in addition to those provided in their RRs on the provisions to be secured in the dDCO in their area for: • trunk roads; • classified roads; • unclassified roads; • speed limits; • traffic regulation measures; • revocation and variations of existing traffic regulation orders; or • public rights of way?	Highways England is considering an issue raised by Derbyshire County Council in respect of the need to de-trunk part of the network which is intended to be returned to the local highway authority. Highways England will seek to secure any agreement in this regard in the SoCG and will provide the ExA with an update on this point as the Examination progresses.
	Schedule 4 – Permanent Stopping Up of Highways, etc.		
1.7	DCiC DCC	**Highways to be stopped up** **dDCO [APP-016] Schedule 4 Parts 1-2** **dDCO [APP-016] Part 3 Article 16** Do DCiC or DCC have any comments in addition to those provided in their RRs on the provisions in their area for: • highways to be stopped up for which no substitute is to be provided; or	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
		• highways to be stopped up for which a substitute is to be provided and new highways which are otherwise to be provided?	
1.8	Affected Persons DCiC DCC	**Private means of access to be stopped up** **dDCO [APP-016] Schedule 4 Parts 3-4** **dDCO [APP-016] Part 3 Article 16** Do relevant Affected Persons, DCiC or DCC or have any comments in addition to those provided in their RRs on the provisions in the dDCO for: • private means of access to be stopped up for which no substitute is to be provided; or • private means of access to be stopped up for which a substitute is to be provided and new private means of access which are otherwise to be provided?	N/A
	Schedule 5 – Land in Which New Rights, etc. May be Acquired		
1.9	Applicant	**Book of Reference (BoR) [APP-022]** **Statement of Reasons (SoR) [APP-020]** **Land Plans [APP-006]** **Works Plans [APP-009]**	a) Highways England confirms that this Schedule has been cross-checked with and is consistent with Schedule 1, the BoR, the SoR, the Land Plans and the Works Plans. As noted in the responses to the DCO ISH questions, Highways England will undertake a rolling audit of these documents to ensure that consistency between these documents is maintained.

No	Question to	Reference (in bold) and Question	Applicant's Response
		a) Please confirm that this Schedule has been cross-checked with and is consistent with Schedule 1, and with the BoR, SoR, Land Plans and Works Plans. b) Please provide any updates at Examination deadlines.	b) Highways England confirms that it will update the ExA at each deadline in respect of any updates to be made to this schedule.
	Schedule 7 – Land for Which Temporary Possession Might be Taken		
1.10	Applicant	**Book of Reference (BoR) [APP-022]** **Statement of Reasons (SoR) [APP-020]** **Land Plans [APP-006]** **Works Plans [APP-009]** a) Please confirm that this Schedule has been cross-checked with and is consistent with Schedule 1, and with the BoR, SoR, Land Plans and Works Plans. b) Please provide any updates at Examination deadlines.	a) Highways England confirms that this Schedule has been cross-checked with and is consistent with Schedule 1, the BoR, the SoR, the Land Plans and the Works Plans. As noted in the responses to the DCO ISH questions, Highways England will undertake a rolling audit of these documents to ensure that consistency between these documents is maintained. b) Highways England confirms that it will update the ExA at each deadline in respect of any updates to be made to this schedule.
	Schedule 9 – Protective Provisions		
1.11	Applicant EA	**Part 3 – for the protection of the Environment Agency** **Relevant Representation (RR) by the EA [RR-05]** Please respond to the EA's comment that the current version of their protective provisions has not been included.	Highways England has included its own version of protective provisions for the benefit of the EA in the dDCO. However, Highways England has been provided with a copy of the EA's preferred protective provisions and these will be progressed with the EA. Highways England will provide the ExA with updates on the progress of these discussions as the Examination progresses.
	Other consents, permits and licenses		
1.12	Applicant EA NE	**Consents, licenses and agreements** **Consents and Agreements Position Statement [APP-019] Appendix A**	a) Highways England have not identified any additional consents, licences and agreements that need to be added to Appendix A of the submission version of the Consents and Agreements Position Statement **[APP-019]** but would be happy to consider any comments from Derby City Council, Derbyshire County Council, Erewash

No	Question to	Reference (in bold) and Question	Applicant's Response
	Severn Trent Water DCiC DCC EBC	a) Should any other consents, licenses or agreements be added to Appendix A? b) Please provide an up to date position in respect of obtaining the necessary consents, licenses and agreements. c) Is there any reason to believe that any relevant necessary consents, licenses and agreements will not subsequently be granted? d) Where appropriate, can letters of no impediment be provided by the EA and Natural England? e) Please could further updates be provided at each Examination deadline?	Borough Council, the Environment Agency, Natural England or Severn Trent in respect of any others that may be needed. b) The position as presented in Appendix A of the submission version of the Consents and Agreements Position Statement **[APP-019]** remains broadly the same. Some additional comments are provided below in respect of the timing and progression of these different consents and agreements. Protected species licensing (Natural England). The Environmental Statement Appendix 8.19 **[APP-216]** provided copies of Letters of No Impediment (LONI) issued to Highways England by Natural England (NE). In providing a LONI in relation to draft licence applications for badgers and bats, NE have confirmed that the applications are acceptable in principle and they would be minded to grant a licence. As such, the final licence applications would be submitted, following a decision being made on the DCO. Protected Species licensing (Environment Agency). Permit applications to 'catch' and 'move' fish from Dam Brook would also be made following a decision on the DCO application. In discussions with the Environment Agency, they have confirmed this to be an acceptable approach. Water Abstraction Licence (Environment Agency) – The requirement for consent would be concluded following the detailed design stage for the Scheme and the plan remains that further detailed discussions would be undertaken during the preliminary works stage and a licence sought at that time should it be necessary. Highways England would welcome any further comments from the Environment Agency should they have any, although attention is drawn to the various discussions that have taken place and that no concerns have been expressed so far, with the intended approach as set out in the Consents and Agreements Position Statement. Environmental Permit for the Disposal of Waste (Environment Agency) – In respect of the re-use of the materials following

No	Question to	Reference (in bold) and Question	Applicant's Response
			construction excavations the CL:AIRE (2011) Definition of Waste: Development Industry Code of Practice (v.2) (DoWCoP) would be followed. As such, no specific discussions have taken place on this issue with the Environment Agency, but further engagement will be undertaken to confirm that they agree with the intended approach. Any permit required would be secured post-DCO consent when the construction details are known. Permit to discharge to controlled water (Environment Agency) – In respect of excavations that require dewatering and subsequent discharge, discussions will be undertaken with the Environment Agency, but this permit would be sought post a decision being made on the DCO and is also contingent on the progression of the detailed design work. Control of Asbestos (Health and Safety Executive) In respect of the potential need to remove asbestos from the former landfill at Kingsway, there has been no engagement with HSE thus far. Again, this work would be informed by the detailed design work, the production of a remediation strategy and further ground investigation work. Accordingly, engagement with the HSE will be undertaken at the appropriate stage post-DCO consent. Trade Effluent Discharge Consent (Severn Trent Water) The position remains the same in respect of trade effluent discharge consent, in that it is considered unlikely to be needed and is dependent on how the construction programme is approached. To date this has not been discussed with Severn Trent, but the Scheme contractor will discuss further as needed at the appropriate stage. Environmental Permit for Flood Risk Activity (Environment Agency) Further specific discussions have not taken place with the Environment Agency on this permit application, beyond the various discussions that have taken place up to the point of the DCO submission being made. The progression of this work is contingent on the detailed design work being advanced. An open dialogue will be

No	Question to	Reference (in bold) and Question	Applicant's Response
			maintained with the Environment Agency in this respect. It is anticipated that the preparations for these permit applications will be progressed in parallel to the examination of the Scheme, with the permit application being made following a decision on the Development Consent Order. Control of Pollution Act 1974 (Noise from Construction Sites (Derby City Council and Erewash Borough Council) There have been no direct discussions between the local authorities and the contractor at this stage. A decision will be made on whether to seek this consent (which is not mandatory) at a later stage. c) Highways England do not foresee any significant risk that the consents, licences and agreements that are needed (beyond the powers set out within the draft DCO) for the Scheme will not be forthcoming. As mentioned in response to part (b) LONI have been provided by Natural England in response to draft licence applications for bats and badgers. Significant engagement has also been undertaken with the Environment Agency, with a variety of technical flood risk work that has been undertaken to date, which would inform a permit application for works within a flood plain. Highways England considers that the consents and agreements that are more essential to inform the decision making of the ExA during the examination phase have been and will continue to be progressed. Some of the remaining consents and agreements identified are typically only advanced in the post primary consent phase (in this case the DCO application) often because they are informed by detailed design and the specifics of the planned construction activities, which have not been determined at this stage. Notwithstanding this, Highways England will continue to engage with all relevant regulatory bodies, advancing discussions and where

No	Question to	Reference (in bold) and Question	Applicant's Response
			appropriate the submission of permit and/or other applications, so that the ExA can be suitably informed during the examination stage. d) Highways England note that the EA and Natural England may wish to respond directly to this point, but offer the following comments. The Environmental Statement Appendix 8.19 **[APP-216]** provided copies of Letters of No Impediment (LONI) issued to Highways England by Natural England (NE). In providing a LONI in relation to draft licence applications for badgers and bats, NE have confirmed that the applications are acceptable in principle and they would be minded to grant a licence. Highways England has thus far not sought a LONI from the Environment Agency as this approach is not endorsed within Advice Note Eleven (Working with public bodies in the infrastructure planning process) Annex D – Environment Agency. However, it would be happy to discuss the merits of this option further with the Environment Agency, should they be minded to support this approach. e) Highways England acknowledge and confirm acceptance of this request to provide updates at each subsequent examination deadline. Where more significant changes need to be reported, an updated version of the Consents and Agreements Position Statement will be provided.
1.13	Applicant EA NE Severn Trent Water DCiC DCC EBC	**Pollution control permits and licenses** **ES Chapter 5 – Air Quality [APP-043]** **ES Chapter 9 – Noise and Vibration [APP-047]** **ES Chapter 11 – Material Assets and Waste [APP-049]** **ES Chapter 13 – Drainage and Water [APP-051]** **NPSNN paragraphs 4.48 and 4.55-6**	a) It is presumed that this is a question principally to the various named pollution control authorities. However, the pollution control measures are detailed in the ES have been translated into the Outline Environmental Management Plan (OEMP) **[APP-249]** and are appropriate for controlling potential pollution during both Scheme construction and operation and would be subject to appropriate regulation by the applicable pollution control authorities. b) The ES has established baseline conditions in the vicinity of the Scheme, including baseline air quality, noise, waste, ground conditions, and the water environment. Mitigation measures have

No	Question to	Reference (in bold) and Question	Applicant's Response
		a) With reference to the NPSNN, are the relevant pollution control authorities satisfied that potential releases can be adequately regulated under the pollution control framework? b) Is it considered that the effects of existing sources of pollution in and around the project are not such that the cumulative effects of pollution when the Proposed Development is added would make that development unacceptable? c) Is there any good reason to believe that any relevant necessary operational pollution control permits, or licences or other consents will not subsequently be granted?	been defined for identified potential impacts and effects taking account of these existing baseline conditions. Thus, existing sources of pollution in the vicinity of the Scheme have been taken into account as part of the assessment and defined mitigation strategy. For example, the Scheme includes a highway runoff system that will appropriately collect and treat highway runoff. All highway runoff discharges from new sections of carriageway would be attenuated, treated and discharged as detailed in the Road Drainage Strategy **[APP-234]** – the system includes attenuation ponds to reduce suspended solids and soluble metals in road drainage prior to their discharge at appropriate rates. The effects of such highway runoff discharge are assessed in ES Chapter 13: Road Drainage and the Water Environment **[APP-051]** as being of neutral (not significant), although it is noted that whilst the overall effect may be neutral, there would be some localised benefits given that the proposed system can accommodate more highway runoff than the current drainage system. Thus, rather than an adverse cumulative effect, the Scheme has the potential to deliver an overall benefit. c) It is presumed that this is a question for the various named pollution control authorities. However, Highways England is not aware of any impediments to the granting of pollution control permits, or licences or other consents as identified in the Consents and Agreements Position Statement **[APP-019]**.
2	**Legislation and policy, the need for development and alternatives**		
	Legislation and policy		
2.1	Applicant	**Net zero greenhouse gases** The Government has recently announced a target of achieving net zero greenhouse gases by 2050. How does this target affect the Proposed Development?	The Environmental Statement (ES) Chapter 14: Climate **[APP-052]** was written prior to the publication of the new Government carbon reduction targets set within the Climate Change Act 2008 (2050 Target Amendment) Order 2019 (i.e. the net zero target). As such, Chapter 14: Climate **[APP-052]** does not take the revised carbon reduction target into account.

No	Question to	Reference (in bold) and Question	Applicant's Response
			However, the Applicant does not consider that the latest carbon reduction target will affect the assessment of annual CO_2e impacts as presented in Chapter 14: Climate of the ES **[APP-052]**, which, in brief, identified no likely significant effects on climate change at either construction or operational stage as a result of the Scheme. The reasons for the Applicant's position are set out below. The trajectory of delivery for the UK's 2050 carbon reduction target is set out through a series of five-year carbon reduction budgets published by the Government. To understand the CO_2e impact of the Scheme, estimated CO_2e emissions from the Scheme have been compared against the five-year carbon budget period in which they would arise to determine if the Scheme will have an impact on the UK meeting the 2050 target. The carbon assessment in Chapter 14: Climate of the ES **[APP-052]** was undertaken using the set of carbon budgets available at the time of the assessment, which were calculated to meet the previous (80% reduction) target. The Committee on Climate Change, the body responsible for setting the carbon budgets, has announced it will revise its assessment of the appropriate path for emissions over the period to 2050 to meet the net zero carbon target as part of its advice next year (2020) on the sixth carbon budget. It will therefore not be possible to update the assessment of the CO_2 impact of the Scheme against the new net zero carbon target until the revised carbon budgets are published. However, in any event we note that the assessment as set out in Chapter 14: Climate of the ES **[APP-052]** demonstrates that the Scheme's greenhouse gas (GHG) impact as a proportion of total UK carbon emissions is negligible such that it can be considered to be immaterial. In such circumstances, the Applicant does not consider that the new net zero target gives cause to alter the assessment set out in Chapter 14: Climate of the ES **[APP-052]**.
2.2	Derbyshire County	**Environmental Statement (ES) Chapter 1 [APP-039]**	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
	Council (DCC) Derby City Council (DCiC) Erewash Borough Council (EBC)	ES paragraph 1.3.17 sets out the Applicant's list of relevant adopted plans. a) Does this constitute the full list of development plans relevant to the Proposed Development? b) Are there any policies in emerging development plans which may be relevant? If so, please supply copies. c) Are there any non-statutory local policies which may be relevant? If so, please supply copies.	
2.3	Applicant	**Consultation Report [APP-023] paragraph 4.1.148** Respondent 43 believes that Highways England should seek advice from sight experts in the future to allow everyone opportunity to review drawings. **Please respond having regard to Highways England's Human Rights and Equality duties.**	It is assumed that in this response a "sight expert" refers to someone who can advise on the adaption of drawings to be more accessible to the visually impaired and colour blind. Highways England welcomes this suggestion as it endeavours to ensure that the application and all consultation materials are as accessible as possible to members of the public and those with Protected Characteristics under the Equality Act 2010. If requested, adapted plans can be produced to cater to specific needs.
	The need for development		

No	Question to	Reference (in bold) and Question	Applicant's Response
2.4	Applicant	**Planning Statement [APP-252]** Table 2 - One of the objectives is to assist in bringing forward development and regeneration opportunities in the surrounding area and immediately adjacent to the Proposed Development. a) Have any specific development or regeneration opportunities been identified? b) Have the benefits to the local economy of the Proposed Development been quantified? If so, could that information be provided?	a) The Derby City Local Plan - Part One (Adopted January 2017 (**Chapter 4 The Strategy for Derby – Paragraph 4.1 – 4.4**)) sets out that over the plan period (2011-2028), provision is made within the City for a minimum of 11,000 new homes and 199 hectares (gross) of new employment land. Of the planned housing, the biggest proportion planned is in the Littleover, Mackworth and Mickleover areas (2420 dwellings) which lies close to the A38 corridor to the west of Derby. The Plan also sets out a number of spatial priorities for regeneration (**Paragraph 4.7**), which include (amongst others) two areas adjacent to and/or close to the A38 corridor where there will be a focus for regeneration: The former Manor/Kingsway Hospitals; The Derwent Valley Corridor – including Darley Abbey Mills. The Local Plan also identifies at **Chapter 6 'Areas of Change'** which comprises some key strategic allocations for housing and employment land. Of these there are some key sites identified for development within the A38 corridor as summarised below: AC19 – Manor Kingsway (former Kingsway Hospital) An allocation for a minimum of 700 new homes that lies adjacent to the Kingsway Junction; AC20 – Rykneld – An allocation for a minimum of 900 new homes to the edge of Littleover and to the south of the A38 Markeaton Junction. In respect of the AC19 allocation, this site has been the subject of various planning application submissions. The most recent of which (Planning application reference 19/00677/VAR) sought to vary a condition on the original planning permission to allow for the occupation of a greater number of residential units, prior to the agreed offsite highway mitigation measures being carried out. The agreed mitigation measures in this case include signalisation of the A511/A38 Kingsway Junction and widening to three lanes on the A511.

No	Question to	Reference (in bold) and Question	Applicant's Response
			Other sites in the wider area around the A38 corridor include the AC21 (Hackwood Farm) and AC22 (Mickleover and Mackworth) sites. Highways England would also draw attention to the fact that Derby City Council as local planning authority may also be aware of other development schemes that are either in the pre-application stages (and therefore not within the public realm) or currently the subject of a planning application and may wish to advise the ExA of other specific development opportunities. **Please refer also to the response to question 10.7, which contains similar themes to this question.** b) The traffic forecasting process was informed by the Department of Transport's national trip end model (NTEM). These forecasts allow for population growth, growth in wealth and employment growth. In this regard, the traffic forecasts produced from the local Scheme's traffic model allowed for identified specific local developments, albeit constrained within the national growth forecast for the region. The traffic forecasts were subsequently used to assess the transport economic efficiency (TEE) benefits that would be delivered by the Scheme. Thus, the travel time savings attributed to users of these specific development sites were included within the Scheme's TEE analysis. Some Transport Interventions are transformational in terms of the social economic benefits that they may provide. In these cases, supplementary economic appraisal may be undertaken to identify additional wider economic benefits. For the A38 Derby Junctions, wider economic benefit assessments (i.e. supplementary appraisals) were not undertaken. The TEE appraisal results for the Scheme were sufficiently positive to demonstrate value for money without the need to undertake supplementary appraisals. No wider economic benefits were claimed for the Scheme for its business case. For some employment land uses, the reliability of their logistics operations is an important consideration. Local examples of these

No	Question to	Reference (in bold) and Question	Applicant's Response
			types of business are the Rolls-Royce site located at Sinfin in the southern part of Derby city and the Toyota Motor Manufacturing plant located at the A38/A50 junction and 5miles (7minutes) south of the Kingsway Junction. The Scheme would deliver a transport reliability benefit for all road users. This reliability benefit has not been claimed within the Analysis of Monetised Cost and Benefits (AMCB) table; which calculates the Net Present Value (NPV) and the unadjusted benefits-to-cost ratio (BCR) of the Scheme. The reliability benefit (in 2010 market prices and discounted to a 2010 present value year) was evaluated [*using the method for urban roads set out at section 6.3 in the DFT's TAG Unit A1.3 'User and Provider Impacts'*] at **£24 million**. It is noted that the Department for Transport's method of evaluating the transport economic efficiency (TEE) benefits of a highway scheme includes a monetisation of the social value of travel time savings. In this respect, the benefits to the local economy for existing road users and likely future users are included in the TEE evaluation. For the calculated NPV and unadjusted-BCR values, please refer to the response to Question 10.26.
	Alternatives and options		
2.5	Applicant	**Transport Assessment Report [APP-253] paragraph 1.6.1** Please justify why "the only solutions were clearly perceived to be road-based options".	In 2001, the Government commissioned a series of multi-modal studies and road-based studies to examine potential travel solution to transport problems along defined movement corridors across the UK. The studies in the East Midlands region were directed by a Project Management Group (PMG) and overseen by a Regional Steering Group (RSG), which groups included the Government Office for the East Midlands and various organisations with an interest in transport and travel. The study that the PMG commissioned to examine the A38 corridor through Derby was a 'road-based study' rather than a 'multi-modal study'. The timeline for the study and consultation is presented in the Transport Assessment [APP-253] at Figure 8.1.

No	Question to	Reference (in bold) and Question	Applicant's Response
			The solution to the problems on the A38 were clearly perceived by both the PMG and the RSG to be road-based options (i.e. otherwise they would have commissioned a 'multi-modal' study).
2.6	Applicant Breadsall Parish Council	**ES Chapter 3 [APP041]** **ES Appendices 3.2 [APP-163], 3.3 [APP-164] and 3.4 [APP-165]** **RR (Relevant Representation) by Breadsall Parish Council [RR-001]** Breadsall Parish Council has expressed concerns regarding the process used to select the preferred option for Little Eaton junction. Amongst other things it considers that the Applicant's conclusions on the 2004 consultation exercise were "*hugely distorted*" and precluded the subsequent consideration of other options. a) Applicant - Please respond to the concerns of Breadsall Parish Council. b) Breadsall Parish Council – ES Chapter 3 and Appendices 3.2, 3.3 and 3.4 set out the assessments of the original and subsequently suggested options for the Little Eaton junction. To what extent does this information satisfy your concerns? Please provide evidence to support any outstanding concerns.	a) Highways England acknowledges that, following the 2003 consultation Breadsall Parish Council raised a petition, signed by 329 people; principally Breadsall residents. This petition objected to Option 3 (which became the preferred route option) without stating any preference for any of the other options. The signatories did not complete the consultation questionnaire, so their views could not be included in the report (apart from recording that 329 people signed the petition to object to one of the options). It should be noted that the selection of the preferred option is not based solely on a popularity vote. It is also noted that Breadsall Parish Council has questioned why 'voters' from other locations have been counted when they 'suffer no detriment from any version of the scheme' - however, the consultation process must consider the views of everybody who expresses an interest. The popularity of the options was just one of the factors considered when determining the preferred option. The 2009 Technical Appraisal Report stated (noting option 3 (as modified) became the preferred route option; Option 2 was the route on the other side of the existing roundabout that went through the mobile home park): *"There was very little to differentiate between Options 3 and 2, both having advantages and disadvantages. However, it was felt on balance that Option 3 was preferable to Option 2, because, whilst the environmental impacts of Option 3 could be largely mitigated, the impacts of Option 2, particularly on the residents of the Mobile Home Park, could not."* Notwithstanding this, the 2015 consultation generated a lot of interest in this junction and many alternatives from the Breadsall Action Group (and others) were proposed, the more feasible options (including the option referred to as Option 2 above) were subject to a further assessment against the presented option and an Alternative Options

No	Question to	Reference (in bold) and Question	Applicant's Response
			Assessment Report was produced. This confirmed the conclusion of the 2003 consultation that the presented option should be progressed as the preferred route. b) Response required from Breadsall Parish Council.
3	**Impact assessment and mitigation methodology and "good design"**		
	Impact assessment and mitigation methodology		
3.1	Applicant	**Construction, preliminary works and main works** **Outline Environmental Management Plan (OEMP) [APP-249] paragraphs 1.2.11-1.2.14** **Draft Development Consent Order (dDCO) [APP016]** **BoR [APP-022] paragraph 1.1.2** Please clarify the relationship between activities: a) Considered as "*preliminary works*" and "*main works*" in the OEMP? b) Coming under and excluded from the definition of "*commence*" in the dDCO? c) Coming under the meaning of "*construction*" in the dDCO, in the ES and in other application documents?	a) As detailed in the OEMP **[APP-249]**, subject to securing the DCO, a series of preliminary works would be delivered which are planned to start in late 2020. The preliminary works are detailed in OEMP Table 1.1 and include potential utilities works, ecological survey and site clearance works, geotechnical investigations, demolition works, establishment of compounds and satellite compounds, installation of flood storage works at Kingsway hospital, diversion of Dam Brook, and creation of the floodplain compensation to the west of the River Derwent. These works are likely to be undertaken by the Principal Contractor, although some activities such as ecological surveys, geotechnical investigations, archaeological investigations may be undertaken by others contracted to Highways England. All other works associated with Scheme construction not listed in OEMP Table 1.1 are considered to be 'main works' and would be undertaken by the Principal Contractor. b) Activities described as being preliminary works are anticipated to be undertaken prior to "commence" as defined in the dDCO **[APP-016]**. All main works would be undertaken following "commencement" as defined in the dDCO. In respect of the manner in which Highways England proposes to address this point, please see Highways England's response to question 9 in the DCO ISH Questions (ref **[TR010022/APP/8.4])**. c) The meaning of "construction" is not a defined term in the dDCO, but in both the dDCO, the ES and in other application documents it covers both preliminary works and main works. As such, the impact

No	Question to	Reference (in bold) and Question	Applicant's Response
			assessment included within the ES covers all construction activities (be they preliminary works or main works).
3.2	Applicant	**OEMP and Traffic Management Plan (TMP)** **OEMP [APP-159] [APP-249]** **TMP [APP-161] [APP-254]** **Highways England Response to s51 Advice [AS-013]** Two versions of both the OEMP and TMP were included with the application documents. The Applicant has advised that document 2 [APP-249] should be relied upon as the OEMP. a) Should document 7.4 [APP-254] be relied on as the TMP for the purposes of the Examination? b) Can documents [APP-159] and [APP-161] be discounted?	The OEMP and TMP documents as included in the Environmental Statement (ES) as appendices [**APP-159]** and **[APP-161]** are the same as those submitted as the stand-alone documents in Volume 6.12 **[APP-249]** and Volume 7.4 **[APP-254]**, respectively. As such: a) Volume 7.4 **[APP-254]** should be relied upon as the TMP for the purposes of the Examination. b) [APP-159] and [APP-161] can both be discounted.
3.3	Applicant	**Rochdale Envelope** **ES Chapter 4 – Environmental Impact Assessment (EIA) Methodology [APP-042]** **Advice Note 9**[1] Please summarise: a) Where a Rochdale Envelope approach has been adopted in the ES and how? b) The maximum and minimum parameters used?	Planning Inspectorate Advice Note 9: Rochdale Envelope highlights that where some design details of a development are not fully known, the "Rochdale Envelope" approach can be used to address such design uncertainties and thus incorporate some flexibility into a development application. This approach effectively means undertaking an assessment on a reasonable and cautious worst case in order that the associated greatest possible environmental effects are assessed, and mitigation measures are defined that can deal with the assumed worst case. The Rochdale Envelope approach has been adopted by the environmental assessment as reported in the Environmental Statement for the Scheme and is implicit in the approach as detailed in ES Chapter 2: The Scheme **[APP-040]**, Section 2.7, paras. 2.5.37 to 2.5.43.

[1] Advice note 9: Rochdale Envelope, The Planning Inspectorate, July 2018

No	Question to	Reference (in bold) and Question	Applicant's Response
		c) How the parameters are secured by the dDCO?	Key details of where the environmental assessment has built in Scheme design flexibility in order to define a reasonable worst case are detailed below, together with details of the maximum/ minimum parameters used and how such parameters are secured by the dDCO (thus covering points a, b, and c in the ExA question): • The technical assessments included within the ES are based upon the Scheme design as described in ES Chapter 2: The Scheme **[APP-040]** and as presented in Figures 2.5 to 2.7 **[APP- 061** to **APP-063]**. This assumes that the various Scheme components are undertaken within the maximum extent of the highway work limit of deviation as illustrated in the Works Plans **[APP-009]**. The assessment assumes land clearance up to this maximum works limit of deviation extent (unless agreed otherwise with the design team) – this limit of deviation defines the maximum Scheme extents as assumed within the ES. This maximum works extent is secured in the dDCO **[APP-016]** and the Works Plans **[APP-009]** via Requirement 12 which details that the authorised development must be designed in detail and carried out so that it is compatible with the preliminary scheme design shown on the Works Plans and the engineering section drawings (unless otherwise agreed in writing by the Secretary of State following consultation with the relevant planning authority and local highway authority on matters related to their functions and provided that the Secretary of State is satisfied that any amendments to the works plans and the engineering section drawings showing departures from the preliminary design would not give rise to any materially new or materially worse adverse environmental effects in comparison with those reported in the ES). In addition, Article 8 (Limits of deviation) of the dDCO states that in carrying out the authorised development, the undertaker may deviate laterally from the lines or situations of the authorised development shown on the Works Plans to the extent of the limits of deviation shown on those plans. Vertical deviations will be permitted to the extent that they are shown on the engineering section drawings, save where specified distances are specified in the dDCO i.e. in article 8(b)(i) to (iv) or where approved by the Secretary of State.

No	Question to	Reference (in bold) and Question	Applicant's Response
			• The technical assessments included within the ES take into account the Works items limits of deviation as detailed in the Works Plans **[APP-009]**. This applies to the areas to be used for the flood storage areas at Kingsway junction (Works No 11), the underground highway runoff attenuation tank within Mackworth Park (Works No 2a), and the floodplain compensation area to the west of the River Derwent (Works No 31). The assessment assumes land clearance up to the illustrated works limit of deviation extent – this thus defines the maximum Scheme extents as assumed within the ES as associated with these works. The Works items limits of deviation as detailed in the Works Plans **[APP-009]** also cover up to seven areas that are to be used for the installation of highway gantries – the environmental assessment (including the landscape and visual impact assessment) took into account that the individual gantries could be located anywhere within the defined works limit of deviation. The maximum extent of Works items is secured by the dDCO **[APP-016]** via Requirement 12 and by Article 8. • ES para. 2.5.41 **[APP-040]** states that given the constrained nature of the Scheme corridor, the A38 mainline and highway edge would not deviate horizontally by more than 1m from those lines and situations shown on the Works Plans **[APP-009]**, noting that such deviations are contained within the highway work limit of deviation, again, as illustrated in the Works Plans. This thus defines the maximum A38 mainline and highway edge deviations as assumed within the ES. The air quality assessment, and the noise and vibration assessment as reported in the ES [APP-043 and APP-047] accommodate this potential highway horizontal alignment deviation. • The environmental assessment as reported in the ES took into account defined vertical limits of deviation as associated with applicable Scheme features. The vertical limits of deviation are referenced against the vertical profile levels indicated on the Engineering Section Drawings **[APP-014]** and allow deviation by a maximum of 0.5m upwards or downwards, other than the link road from Kingsway junction to Kingsway Park Close which is permitted to

No	Question to	Reference (in bold) and Question	Applicant's Response
			deviate by a maximum of 1m upwards or downwards. The dDCO also includes that the gantries as included in the Works Plans can deviate to a maximum of 2m downwards measured from the top of the relevant work. These details define the maximum and minimum vertical limits as assumed within the ES as associated with these works. The assessment as reported in the ES (including the noise and vibration assessment **[APP-047]**) accommodate this potential vertical alignment deviation. These vertical limits of deviation are secured by the dDCO **[APP-016]** via Article 8 in the dDCO. • In respect of the excavations within the flood storage areas at Kingsway junction and the floodplain compensation area at Little Eaton junction, these can deviate vertically to a maximum of 0.5m downwards, but to any distance upwards to ground level. With regard to the floodplain compensation area at Little Eaton junction, as detailed above this area could deviate horizontally within the confines of the area illustrated on the Works Plans **[APP-009]**. Such vertical limits of deviation are taken into account by the environmental assessment, although such variances are not considered to change any of the assessments as presented within the ES. These maximum and minimum vertical limits of deviation are secured by the dDCO **[APP-016]** via Article 8 in Part 2 Principal Powers.
3.4	DCiC DCC EBC EA NE	**Cumulative impact assessment** **ES Chapter 15 – Assessment of Cumulative Effects paragraphs 15.5.2-5** a) Are there any comments regarding the other planned developments selected for the cumulative impact assessment? b) Are there any comments on the allowances made for their timing, location and magnitude of impact?	N/A
3.5	Applicant	**Cumulative impact assessment**	a) As detailed in ES Chapter 15: Assessment of Cumulative Effects **[APP-053]**, development projects in the vicinity of the Scheme have

No	Question to	Reference (in bold) and Question	Applicant's Response
		ES Chapter 15 – Assessment of Cumulative Effects a) Are any other major strategic construction road schemes anticipated to be concurrent with the Proposed Development? b) If there are any, how have the cumulative impacts been assessed?	been identified through liaison with the various local authorities and engagement with Highways England regarding other major strategic construction road schemes. This search process indicated that neither Highways England nor the various local authorities have planned major strategic construction road schemes in the cumulative impact assessment study area which extends to a maximum distance of 5km from the Scheme boundary. However, Derby City Council (DCiC) and Highways England are proposing road schemes in areas outside of the cumulative impact study area – this includes the South Derby Link Road, the T12 Link Road and highway reconfigurations associated with the East Midlands Gateway (changes to M1 junction 24, A50 A453 link road, Kegworth Bypass) (refer to the Transport Assessment Report **[APP-253]**). b) The road schemes as detailed in the response to point a) above outside the defined assessment study area, and thus it is assessed that there is no potential for direct cumulative environment effects as associated with the Scheme. However, it is apparent that such road schemes have the potential to change traffic movements on the local and strategic highway network following their completion. As detailed in the Transport Assessment Report **[APP-253]**, a traffic model covering the strategic and local road network was developed to forecast future traffic flows, both with and without the Scheme – the traffic model developed include a wide of future development projects, including those major road schemes as detailed above. Traffic modelling outcomes have been used in order to determine the potential effect of Scheme operation on the environment surrounding the Scheme (e.g. noise, air quality, severance, driver stress, water quality effects). As detailed in ES Chapter 15: Assessment of Cumulative Effects **[APP-053]**, para. 15.3.27: "*As the influence of other development projects already forms an inherent part of the traffic forecasts upon which the assessments of the Scheme's effects within these topics have been based, by default cumulative effects are included and reported within their operational assessments. Thus, the operational effects as reported within Chapter 5: Air Quality and*

No	Question to	Reference (in bold) and Question	Applicant's Response
			Chapter 9: Noise and Vibration are effectively cumulative impact assessments in that they take account of all potential traffic generated by future development proposals. This also applies to the conclusions drawn where other topics have relied on the results of these assessments, for example biodiversity (see Chapter 8: Biodiversity)".
3.6	Applicant	**Significant effects** **ES Chapter 16 – Residual Effects [APP-054] Table 16.1** Some of the effects identified in this summary include the term "*significant*" and some do not. For the avoidance of doubt, please clarify whether all effects identified in Table 16.1 are "*significant*" in EIA terms and whether they are all consistent with the use of "*significant*" in respect of effects, impacts or benefits in the National Networks National Policy Statement (NPSNN)?	For the avoidance of doubt, all effects identified within Table 16.1: Summary of Significant Effects Associated with Scheme Construction and Operation (ES Chapter 16: Summary of Residual Effects **[APP-054]**) are deemed to be significant in EIA terms and in terms of the NPSNN (both adverse or beneficial). This table thus provides a summary of all significant effects as reported within ES Chapters 5 through 15.
3.7	Applicant	**Length of construction programme** **ES Chapter 2 – The Scheme [APP-040]** a) What confidence is there that the length of the construction programme will not be exceeded? b) What are the principal risks of delay and what contingencies have been included? c) What allowances for variations in the construction programme have been included in the assessments? Please provide references. d) What is the potential for a longer construction programme to occur and for that to give rise to any materially new or materially worse adverse environmental effects in comparison with those reported in the ES?	a) As indicated in the Environmental Statement (ES) (refer to para. 2.6.5) **[APP-040]** subject to securing the Development Consent Order (DCO), preliminary works are planned to start in late 2020, with the main construction works following in early 2021. The Scheme is due to fully open to traffic in 2024. The construction programme assumes that the works would occur at all three junctions simultaneously. On this basis, the main construction programme is anticipated to last for approximately three and a half years. This estimated Scheme construction phase duration has been defined taking into account advice from Highways England's appointed buildability advisors for the Scheme who have suitable relevant experience of construction programming for major highway infrastructure development projects and is therefore a realistic worst case based on the delivery of other major road projects. In addition, following the appointment of the actual construction contractor, Highway England will request a review of the defined construction programme and an assessment as to whether it can be shortened via smart working and programming efficiencies in order to reduce the duration of disruption for drivers

No	Question to	Reference (in bold) and Question	Applicant's Response
			and the local population. Highways England is thus confident that the defined construction programme is appropriate and will not be exceeded. b) As indicated in the response above, Highways England is confident that the defined construction programme will be delivered. However, as for any major highway scheme, there is a risk that the construction programme lasts longer due to unexpected ecological constraints. As detailed in ES Section 2.6.7 **[APP-040]**, the main risk of a programme delay relates to the potential occurrence of water vole in Dam Brook. As indicated in Chapter 8: Biodiversity **[APP-046]**, water voles are considered to be absent from Dam Brook. However, should water vole be found within Dam Brook during pre-construction surveys, the need to have in place suitable ecological mitigation features for water vole translocation have the potential to delay the start of the main construction works at Little Eaton junction, thus extending the construction works at this junction by several months. Potential contingency plans are being explored outside of the DCO process that have the potential to have such translocation provisions available for the start of the construction phase. c) Whilst the environmental assessment assumes that the construction programme will last for an approximated duration of three and a half years, allowances have been made in order to allow for programme variations. As indicated in ES Section 2.6 (refer to para. 2.6.7) **[APP-040]**, for the purposes of the environmental assessment, a shorter duration construction programme is considered to represent the worst case given that all construction activities would be undertaken over a shorter duration and thus there would be a greater intensity of construction activities (noting that the such works would continue to be undertaken in accordance with the core working hours as per ES Table 2.4 and paras. 2.6.62 to 2.6.64). It is also considered that the construction plant requirements and construction staffing levels assumed by the environmental assessment reported in the ES, together with the construction phase traffic figures, are suitably robust

No	Question to	Reference (in bold) and Question	Applicant's Response
			and conservative such that they are also representative of a shortened construction programme. Thus, the environmental effects reported in the ES are considered to be representative of effects associated with a construction programme that is shorter than approximately three and a half years by a few weeks or months. If the contractor proposes to use construction methods that can significantly shorten the construction programme, but have the potential to generate potentially new significant environmental effects, in accordance with the draft DCO, such an option would only proceed following assessment and confirmation that such activities would not be materially new or materially worse than the effects as detailed within the ES. d) As indicated in the response to point b) above, there is a risk that the Scheme construction programme could be extended due to the discovery of water vole in Dam Brook. An extended construction duration at Little Eaton junction is not anticipated to result in materially new or materially worse adverse environmental effects in comparison with those reported in the ES – this is the case given that the construction activities would be delayed rather than new construction activities being undertaken. Whilst any extension of the construction programme would extend the duration of potential effects, as indicated in the response to point c) above, for the purposes of the environmental assessment, a shorter duration construction programme is considered to represent the worst case given that all construction activities would be undertaken over a shorter duration and thus there would be a greater intensity of construction activities
3.8	Applicant DCiC DCC EBC	**Maintenance activities** **ES Chapter 2 – The Scheme [APP-040] Section 2.7; paragraph 2.7.3** a) Please could the Applicant:	a) ES Chapter 2: The Scheme (para. 2.7.4) **[APP-040]** states that "*Maintenance is defined as actions needed to inspect, repair, adjust, alter, remove, replace or reconstruct all aspects that relate to the Scheme. Typical maintenance activities include: the inspection and repair of safety barriers; signage; drainage infrastructure; lighting; environmental barriers; structures; repairs to the carriageway surface; renewal of road markings; maintenance of highway verges and*

No	Question to	Reference (in bold) and Question	Applicant's Response
		• clarify the worst-case parameters for the assessment of the proposed maintenance activities during operation, including removal, replacement or reconstruction works during the operation of the Proposed Development; and • demonstrate, with references, how these have been assessed in the ES? b) Would the Local Authorities find it useful for the Maintenance and Repair Strategy Statement to be submitted to the Examination?	*boundaries; management of the soft estate; and the inspection and clearance of road drains*." As detailed in ES para. 2.7.7, maintenance could include assets repairs, such as the replacement of lighting columns. The ES has taken this definition in order to assess the potential environmental effects during the routine operation of the Scheme. This definition covers the activities that are currently undertaken on a routine basis by the East Midlands Asset Delivery team (Highways England) along the existing A38 through Derby. This definition covers activities associated with the management and maintenance of Scheme soft estate, surface assets and associated infrastructure assets. This definition does not cover activities such as the reconfiguration of junction layouts, replacement of Scheme structures such as bridges, construction of new carriageway or actions that would change traffic movements or priorities, changes to the highway vertical or horizontal alignment, changes to the soft estate or embankment profiles, or removal of essential mitigation features (as detailed in the Outline Environmental Management Plan (OEMP) **[APP-249]**. As indicated in the ES para. 2.7.9 "*Given the appropriate management of environmental impacts during maintenance works (including dismantling and replacing Scheme elements in accordance with the HEMP), no likely significant effects are predicted*." This is the case given the benign nature of defined maintenance activities, as well as adherence to appropriate working methods as detailed in the HEMP. For activities that fall outside general maintenance, as detailed in para. 2.7.10: *"Should activities be required that do not form part of Scheme maintenance activities as authorised under the DCO, the East Midlands Asset Delivery team would consider the potential for such activities to impact upon the prevailing environment and define any associated consenting requirements (e.g. whether such activities require a statutory EIA). Such works would only be undertaken following the identification of environmental sensitive receptors,*

No	Question to	Reference (in bold) and Question	Applicant's Response
			potential significant environment effects, the definition of appropriate environmental mitigation requirements and following appropriate consenting approvals. All such works would be screened and assessed in accordance with the environmental procedures and protocols as detailed in DMRB Volume 11 (Highways Agency, 1993 to date) and associated Interim Advice Notes (IANs). Adherence to such established procedures would ensure that environmental effects are identified and appropriately managed." Given that maintenance activities are not anticipated to have the potential to generate significant adverse effects, such activities are not assessed in detail within the various technical assessment, however, the following comments are made**:** • ES Chapter 8: Biodiversity **[APP-046]** (Section 8.10) includes an assessment of routine winter maintenance activities such as salt spreading, and potential impacts upon roadside vegetation and habitats. • ES Chapter 10: Geology and Soils **[APP-048]** para. 10.3.17 identified that Scheme maintenance activities would be undertaken in a manner that appropriately protects the health and safety of workers (legal compliance requirement), and as such, impacts upon maintenance workers could be scoped out of the assessment. • ES Chapter 11: Material Assets and Waste **[APP-049]** para. 11.3.9 details that material use and waste generation is expected to be very small during the Scheme maintenance phase. Thus, impacts associated with materials and waste during Scheme maintenance was scoped out of the assessment. • ES Chapter 13: Road Drainage and the Water Environment **[APP-051]** para. 13.9.3 indicated that whilst routine operation and maintenance of the Scheme would not include any activities that are likely to generate contaminants that could pose significant risk to controlled waters, there would be potential for environmental

No	Question to	Reference (in bold) and Question	Applicant's Response
			risks associated with spillages due to road accidents or faulty vehicles. Any spillages following road accidents on the Strategic Road Network would be routinely managed by Highways England as the East Midlands Asset Delivery team, noting that the highway drainage design incorporates measures to minimise impacts associated with accidents and spillages. In addition to the above, the Outline Environmental Management Plan (OEMP) **[APP-249]** includes details regarding the preparation and implementation of the HEMP. MW-G11 in Table 3.2b details that the HEMP ensures that any relevant commitments and objectives defined during preceding project phases are clearly defined for the subsequent operation of the Scheme and to secure approval for these measures. The HEMP would provide relevant information on existing and future environmental commitments and objectives that would need to be honoured and define on-going actions and risks that need to be managed. The HEMP would, for example, include an action plan specific to the use of pesticides and herbicides to protect surface water resources. b) Response required from the defined local authorities.
3.9	Applicant	**Operation** a) Please summarise the mitigation measures to be provided during the operation of the Proposed Development and provide references to where they are addressed in the ES. b) Please summarise the monitoring and other measures required to: • ensure that mitigation measures will remain effective during the lifetime of the Proposed Development; and to	a) As detailed in the Environmental Statement (ES) Chapter 2: The Scheme **[APP-040]**, once the Scheme is opened, it would form part of the A38 Trunk Road and be part of the strategic road network. The Scheme would be subject to routine maintenance by the East Midlands Asset Delivery team (Highways England). Typical maintenance activities include: the inspection and repair of safety barriers; signage; drainage infrastructure; lighting; environmental barriers; structures; repairs to the carriageway surface; renewal of road markings; maintenance of highway verges and boundaries; management of the soft estate; and the inspection and clearance of road drains. Scheme maintenance activities would be as authorised under the DCO. As required by the Outline Environmental Management Plan (OEMP) **[APP-249]**, industry standard control

No	Question to	Reference (in bold) and Question	Applicant's Response
		• ensure that there are no materially new or materially worse adverse environmental effects in comparison with those reported in the ES? c) How are these measures secured through the dDCO?	measures would be applied during the Scheme operation phase, which would be encapsulated within a Handover Environmental Management Plan (HEMP). The HEMP would be implemented by the East Midlands Asset Delivery team for the duration of Scheme operation. A summary of the key mitigation features that would be provided for and maintained during Scheme operation, and where they are considered in the ES, are detailed below (also refer to the Environmental Masterplans – ES Figures 2.12A-H **[APP-068]**): • Landscape: Landscaping associated with the Scheme as indicated in ES Figure 7.8A-C would be subject to routine maintenance. As detailed in para. 7.9.6 "*The appointed contractor would be responsible for undertaking landscape management within the contract period (for up to five years after Scheme opening), after which the longer-term maintenance and management of the soft estate responsibilities would transfer to Highways England as the East Midlands Asset Delivery team*". Such maintenance practices would ensure that all landscaping establishes and achieves its intended environmental functions and objectives as detailed in the OEMP **[APP-249]**. • Ecology: A wide range of ecology mitigation features have been integrated into the Scheme landscape design which would be maintained as detailed in the bullet point above – these are detailed in ES Chapter 8: Biodiversity **[APP-046]** – refer to Section 8.9. In addition, numerous other mitigation ecology features would need to be maintained during Scheme operation – this includes the following: badger fencing, bat boxes and bat roost features, bird boxes, amphibian hibernacula and log piles. Such features would be subject to maintenance and monitoring as per the OEMP **[APP-249]**. • Noise and vibration: Noise barriers would be installed at various locations along the Scheme – details are provided in ES Chapter 9: Noise and Vibration **[APP-047]** – refer to Section 9.9 and

No	Question to	Reference (in bold) and Question	Applicant's Response
			illustrated on Environmental Masterplans ES Figures 2.12A-H **[APP-068]**. • Waste: any waste residues generated during the Scheme operation phase would be managed by the East Midlands Asset Delivery team. As indicated in ES Chapter 11: Material Assets and Waste **[APP-049]**, the volume of waste expected to be generation is predicted to be very small during Scheme operation (refer to para. 11.3.9, whilst such wastes would be appropriately managed by the East Midlands Asset Delivery team in accordance with the HEMP. • Drainage and the water environment: the Scheme design includes a highway runoff drainage collection, attenuation and treatment system as detailed in ES Chapter 13: Road Drainage and the Water Environment **[APP-051]** – refer to Section 13.9. This drainage system would be maintained for the duration of the Scheme operational phase (para. 8.9.11) by the East Midlands Asset Delivery team in accordance with the HEMP. In addition, the maintenance team would also be responsible for managing any spillages following road accidents on the Strategic Road Network (para. 13.9.3), whilst the HEMP will also ensure that activities such as using de-icing agents (para. 8.9.11) and use of any pesticides and herbicides is undertaken accordance with standard highway maintenance practices and thus protect local watercourses (refer to OEMP MW-G11 **[APP-249]**). b) A range of monitoring and inspection measures have been specified in the ES and translated into the OEMP **[APP-249]** to ensure that mitigation features perform as proposed, and that residual effects are as predicted in the ES. This includes monitoring to be undertaken during the construction phase to ensure that construction management measures are being effective (e.g. noise and dust monitoring) and monitoring post-mitigation installation to ensure that features being appropriately established and fulfilling their functions. A summary of the key monitoring and inspection measures detailed in

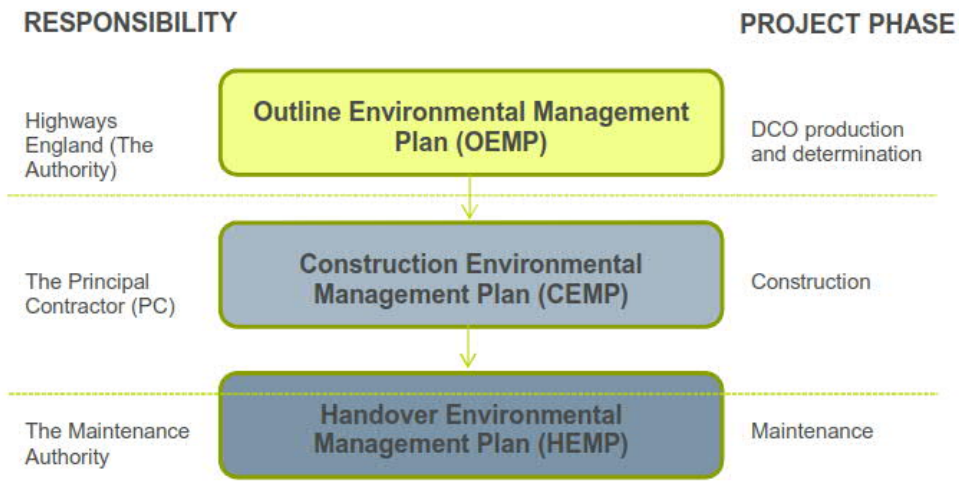
No	Question to	Reference (in bold) and Question	Applicant's Response
			the ES and OEMP are detailed below (covering Scheme construction and operation): • Air quality: construction phase dust monitoring and visual inspections to assess the effectiveness of measures to prevent dust and air pollutant emissions during the works. • Heritage: heritage monitoring in accordance with the Heritage Management Plan (HMP). This includes monitoring of heritage assets to ensure that resources are being appropriately protected. • Landscape: following planting, the Scheme landscaping would be subject to routine monitoring and maintenance to ensure that landscaping establishes and that it achieves its intended environmental functions and objectives during Scheme operation as detailed in the OEMP **[APP-249]**. The East Midlands Asset Delivery team will be responsible for the long term maintenance of landscape planting, to ensure that it continues to comply with objectives that will be detailed in the HEMP. • Ecology: As detailed in the OMEP, a range of ecology monitoring works will be undertaken to ensure that mitigation features are established and fulfilling their objectives. This includes monitoring of translocated and planted grassland; monitoring of bird barriers/ screening; monitoring to illustrate compliance with Natural England licences; monitoring vegetation establishment associated with watercourse diversions. The OEMP also details post-construction ecological monitoring requirements. • Noise and vibration: noise and vibration monitoring during the construction phase as per the Noise and Vibration Management Plan. Monitoring aims to demonstrate compliance with noise and vibration commitments. • Soils and geology: monitoring in accordance with the recommendations of applicable Remediation Strategies, plus inspection of reinstated agricultural land (plus an associated aftercare period).

No	Question to	Reference (in bold) and Question	Applicant's Response
			• Waste management: monitoring of defined waste management practices as per the Site Waste Management Plan (SWMP). • Drainage and the water environment: pollution incident monitoring and implementation of corrective actions and monitoring or water resources as set out in the Water Management Plan. Monitoring and inspections to be undertaken during the construction phase will be detailed in the construction contractor's CEMP, as based upon the requirements as specified in the OEMP. As per MW-G3 in Table 3.2b, the CEMP would include procedures to monitor compliance with the Scheme's environmental actions and requirements as set out in the OEMP together with provisions for any corrective actions. During the Scheme operation phase, the HEMP will define the environmental mitigation features includes in the Scheme design and their functions/ objectives, together with associated monitoring and maintenance requirements. c) The environmental mitigation features as detailed in the ES that have been integrated into the Scheme design to mitigate the effects of Scheme operation have been included in the OEMP – refer to Table 3.2c **[APP-249]**. The OEMP also requires the preparation of the HEMP (see Table 3.2b MW-G11) which is the main document containing essential environmental information to be passed to the team responsible for the future maintenance and operation of the Scheme. The OEMP is a certified document in the dDCO, whilst DCO Requirement 3 (3. (2)(a)) states that the contractor's Construction Environmental Management Plan (CEMP) must be substantially in accordance with the OEMP and that the authorised development must be constructed in accordance with the approved CEMP (3. (3)). Requirement 3 also states the upon completion of construction of the authorised development, the CEMP must be converted into the HEMP (3. (4)). It is thus considered that defined mitigation features and their monitoring and reporting are appropriately secured by the dDCO.

No	Question to	Reference (in bold) and Question	Applicant's Response
3.10	DCiC DCC EBC EA NE	**Impact assessment and mitigation strategy** **NPSNN paragraphs 4.3-4, 4.6, 4.9-10, 4.15, 4.18-20, 5.2** Do you have any comments on the Applicant's overall approach to assessment and mitigation, including in respect to: a) Consideration given to the potential environmental, safety, social and economic benefits and adverse impacts at national, regional and local levels? b) The detail in the local transport model for the assessment of impacts, whether the modelling is proportionate to the scale and consideration of the impact of uncertainty on project impacts? c) Whether the mitigation measures and provisions in and secured by the dDCO are necessary, relevant to planning, relevant to the development to be consented, enforceable, precise, necessary to make the development acceptable in planning terms, directly related to the proposed development, fairly and reasonably related in scale and	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
		kind to the development and reasonable in all other respects? d) The consideration given to the specifics of the Proposed Development? e) The assessment of significant effects, including cumulative effects with other projects, at all stages of the project? f) How any details of the project that are yet to be finalised are addressed? g) The Applicant's engagement with you in developing the mitigation proposals?	
	Management and mitigation plans, strategies and written schemes Construction Environmental Management Plan Handover Environmental Management Plan Traffic Management Plan Construction Workforce Travel Plan Site Access Plan Site Travel Plan Emergency Preparedness and Response Plan Landscape and Ecology Management Plan Arboricultural Mitigation Strategy		

No	Question to	Reference (in bold) and Question	Applicant's Response
	Outline Biosecurity Management Plan Heritage Management Plan Archaeological Mitigation Strategy Written Scheme of Investigation Site Specific Written Scheme of Investigation Noise and Vibration Management Plan Noise Insulation and Temporary Rehousing Policy Asbestos Management Plan Soils Management Plan Soils Management Strategy Materials Management Plan Site Waste Management Plan Asbestos Management Plan Remediation Strategy Pollution Incident Control Plan Water Management Plan Flood Risk Management Plan Groundwater Management Plan Other documents, including summary reports, written schemes, assessments, strategies, programmes, drawings or details referenced by the dDCO [APP-016] or referenced by the OEMP [APP-249].		
3.11	Applicant	**Management and mitigation plans, strategies and written schemes**	Highways England considers that the following response covers the ExA's questions in a) to d). Plate 1.1 in the Outline Environmental Management Plan (OEMP) **[APP-249]** details the relationship between the OEMP, the contractors Construction Environmental Management Plan (CEMP) and the Handover Environmental Management Plan (HEMP) as replicated below:

No	Question to	Reference (in bold) and Question	Applicant's Response
		a) Please identify the relationships between the different management and mitigation plans, strategies and written schemes. b) Please summarise the arrangements for consultation, agreement and authorisation of every version of these plans, strategies and written schemes post-DCO consent throughout the life of the Proposed Development. c) In each case, please set out the roles of any organisations involved. d) Please clarify how the arrangements are secured in the dDCO.	 **Plate 1.1: Relationship between the OEMP, CEMP and the HEMP** Many of the documents as referenced in the Examiners question would form part of the construction contractor's CEMP. However, for clarity, the table in Appendix A **[TR01022/APP/8.5.1]** sets out the relationship between the documents cited in the OEMP and the dDCO **[APP-016]**, as well as the arrangements for consultation, the roles of any organisations involved and how arrangements are secured in the dDCO. The table (Appendix A) thus covers items a), b), c) and d) as detailed in the question. In addition, it is worth noting that detail of the overarching consultation process required when submitting details to the Secretary of State for approval is set out in requirement 4 (Details of consultation) of the dDCO and any amendments to the schemes or plans are secured through requirement 17 (Approvals and amendments to approved details).

No	Question to	Reference (in bold) and Question	Applicant's Response
3.12	DCiC DCC EBC EA NE	**Management and mitigation plans, strategies and written schemes** a) Do you have any comments as to the degree of independent professional scrutiny that would be applied to signing off the Undertaker's mitigation proposals post-DCO consent, should that be granted? If so, why and how could this be remedied? b) Are there any concerns as to whether the management and mitigation plans, strategies and written schemes referenced by the dDCO and OEMP would ensure that there are no materially new or materially worse adverse environmental effects in comparison with those reported in the ES? c) Should any other plans, strategies or written schemes be identified? If so, why? d) Should any further draft plans, strategies or written schemes be submitted to the Examination? If so, why? e) Please identify the plans, strategies or written schemes on which you would like to be consulted.	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
		f) Please identify the plans, strategies or written schemes on which you feel that your agreement is required before it can be authorised.	
	"Good design"		
3.13	Applicant	**NPSNN** **ES Chapter 2 [APP-040]** **dDCO [APP-016]** **Works Plans [APP-009],** **Engineering Section Drawings [APP-014]** **National Planning Policy Framework Section 12** NPSNN paras 4.33-4.35 seek good design, require the contribution of the Proposed Development to the quality of the area to be considered and for it to be demonstrated how the design involved. Whilst the detailed design of the Proposed Development would be subject to dDCO Requirement 12, works and engineering drawings give indications of the general form, layout and siting of various components of the Proposed Development. a) How have the requirements for good design been incorporated into the Proposed Development?	a) As a Highways England development, the design of the Scheme has evolved and developed taking account of Highways England's Principles of Good Design – where good road design: makes roads safe and useful; is inclusive; makes roads understandable; fits in context; is restrained; is environmentally sustainable; is thorough; is innovative; is collaborative; and is long-lasting. It is not possible to detail all the good design measures that have been incorporated into the Scheme design, although the following key points are noted: • The Scheme satisfies DMRB standards and other relevant guidance, where possible, and considers the needs and impacts on stakeholders, the community and the surrounding environment. • The Scheme forms part of the Highways England strategy to improve connectivity and ease congestion and safety within the area and the wider road network. • The Scheme was designed using an inter-disciplinary approach and considers the needs and impacts on all users and the community. This includes pedestrian and cyclist users' groups, as well local communities that may be impacted by the Scheme. • Grade separation of the junctions would ease congestion, improve safety and retain good connectivity to the wider network. • The Scheme design has been developed such that it would integrate within the existing landscape. This has been a key objective given that the Scheme passes through an urban/ semi-urban environment with a significant number of local residents, several locally important public open spaces. • The Scheme design is functional in that it would grade separate three junctions. The Scheme would increase the number of lanes between Kingsway junction and Kedleston junction to three lanes in each direction, and be provided with lighting, signage, vehicle restraints and highway drainage features. However, these functional elements of the Scheme have been integrated within a landscape and environmental design that aims to blend the Scheme into its surrounding environment.

No	Question to	Reference (in bold) and Question	Applicant's Response
		b) How much reliance can be placed on the form, appearance and detailed siting of the components shown in the Engineering Section Drawings? c) What consideration has been given to the form, appearance and detailed siting of the components shown in the Engineering Section Drawings? d) How have those elements of the Proposed Development design involved? e) What consideration has been given to the form, appearance and detailed siting of the noise barriers? f) What consideration has been given to the design of the replacement footbridge to the north of the Markeaton footbridge and to the qualities of the existing footbridge, ramps and landscaping? g) How have the varying characters of the settings of the Kingsway Markeaton and Little Eaton junctions been considered? h) Why is it necessary to have 5 gantry signs at the Markeaton junction? i) How has the proximity of the Markeaton gantries to residential	• A key Scheme design objective has been to develop a design that mitigates potential effects and takes opportunities for enhancement. The Environmental Masterplans [APP-068 6.2] show the mitigation measures that have been embedded into the Scheme design. • The Scheme has progressed through Highway England's Project Control Framework (PCF) which is a process through which the characteristics of the prevailing environment are taken into account during the definition of an appropriate design solution to the identified traffic problems. This Scheme has a long history, and over the last 20 years a wide range of alternative designs have been developed, considered and assessed in order to define a solution that aims to balance environmental, engineering, cost, and traffic and economic considerations. The evolution of the Scheme design is detailed in ES Chapter 3: Scheme History and Assessment of Alternatives **[APP-041]** and this highlights how the integrated design approach identified a preferred solution that is responsive to the requirements of road users, and the impacts upon people and the surrounding environment. • The Scheme design process has sought to deliver opportunities for betterment and achieve good design through the use of innovative and resourceful processes. • The design of the Scheme considers the needs and impacts on all users and local communities. This includes pedestrians and cyclists, local residents and communities that may be impacted by the Scheme. • The Scheme has been designed to minimise the frequency of future interventions through the incorporation of low maintenance materials, equipment and features that reduce the number of repairs required. Examples include the appropriate location of equipment to facilitate access for routine inspections (e.g. drainage features). Accordingly, no significant maintenance activities are likely to be required within the first five years of the Scheme being operational. b) The Engineering Section Drawings detail the preliminary design of the Scheme, on which the detailed design of the Scheme will be based in accordance with dDCO requirement 12. Requirement 12 states that the Scheme must be designed in detail and carried out so that it is compatible with the preliminary Scheme design shown on the Works Plans and the Engineering Section drawings, unless otherwise agreed in writing by the Secretary of State (following consultation with the relevant planning authority and local highway authority on matters related to their functions) and provided that the Secretary of State is satisfied that any amendments to the Works Plans and the Engineering Section drawings showing departures from the preliminary design would not give rise to any materially new or materially worse adverse environmental effects in comparison with those reported in the

No	Question to	Reference (in bold) and Question	Applicant's Response
		areas informed their siting and design? j) The gantries, bridge abutments and railings appear to be standard and utilitarian in appearance. What consideration has been given to their form and layout? k) Has consideration been given to opportunities to improve the character of the areas around the Proposed Development?	Environmental Statement. Thus, whilst the detail within the drawings may be subject to change during detailed design, this will be within the confines of the dDCO requirements. c) The design of the Scheme, including the form, appearance and detailed siting of the Scheme components, has been developed through an iterative process in parallel with the environmental impact assessment (EIA). The development of the Scheme design has been informed by knowledge of constraints, the assessment of emerging design proposals and options, and engagement with stakeholders (including the responses received during statutory consultation). The specific components as shown in the Engineering Section Drawings (including the sign gantries) have generally been selected from the standard equipment available from the Highways England, whilst the form of the replacement Markeaton footbridge aims to replicate the existing structure (refer to response in part f) below). With specific regard to the gantries, if gantries were not used, signage requirements would need further land to be taken and with signage being placed significantly closer to nearby sensitive receptors. During the detailed design stage, options to improve the appearance of the features illustrated in the Engineering Section Drawings will be explored (such as lowering the mounting position of the signs or alternative gantry structures). However, gantries used on the motorway and trunk road network are standardised. d) As detailed in ES Chapter 3: Scheme History and Assessment of Alternative **[APP-041]**, collaborative planning of the Scheme design has been undertaken with the aim of avoiding and mitigating constraints, whilst also taking into account responses received during consultation. Thus, various components of the Scheme as detailed in the Engineering Section Drawings have undergone a process of evolution and refinement that has ultimately resulted in the Scheme design now being progressed. This includes changes to the design of the junction configurations and their associated bridges, changes to lighting proposals (such as removal of lighting columns from the A38 mainline at Little Eaton junction), changes to signage proposals (including the introduction of gantries), changes to the location of the replacement Markeaton footbridge, and development of proposals for noise barriers (refer to the response to e) below). The various features have been developed to provide solutions that provide ease of maintenance and efficient whole life costs. These conform to typical structures found across the wider motorway and trunk road network and are consistent with the existing structure types on the section of the A38 that the Scheme is part of. e) The requirement for noise barriers has been an iterative process that has evolved in tandem with the Scheme design. With regard to the requirement for noise barriers, following the generation of suitable traffic data and the availability of an outline Scheme design, the noise specialists undertook a preliminary assessment of the Scheme's potential noise and vibration effects – this was reported in

No	Question to	Reference (in bold) and Question	Applicant's Response
			the Preliminary Environmental Information Report (PEIR) published in September 2018. The noise and vibration assessment presented in the PEIR did not contain any recommendations for noise barriers. Following publication of the PEIR and during statutory consultation, the noise specialists defined outline proposals for noise barriers to be included in the Scheme design – these initial proposals were defined by taking account of potential operational noise effects, consultation with Highways England, consideration of public consultation responses, as well as engineering design and operational/ maintenance factors. ES Chapter 3: Scheme History and Assessment of Alternatives **[APP-041]** provides details of some of the various alternatives considered during the noise barrier selection process – this includes considerations regarding the need for noise barriers along both sides of the A38 mainline between Kingsway junction and Markeaton junction, noise barriers along Kingsway Park Close and visual/ noise barriers at Little Eaton junction. In addition, various barrier heights have been subject to investigation, including at the Royal School for the Deaf Derby. Consideration has also been given the form and appearance of the noise barriers (e.g. different barrier materials and colours), although such design details will be confirmed during the detailed design stage, noting that Highways England will be undertaking further consultation with affected stakeholders on the final details. Noise barriers included in the Scheme design are detailed in the ES Chapter 9: Noise and Vibration **[APP-047]** and illustrated on the Environmental Masterplans – ES Figures 2.12A-H **[APP-068]**. f) Given that the A38 mainline will need to be widened through Markeaton junction to accommodate the new A38 mainline carriageways, it is not possible to retain the existing Markeaton footbridge. Given that the existing footbridge forms part of the character of the area and Markeaton Park, it was decided that a like for like structure would be most appropriate, although the replacement footbridge would be designed to appropriate standards, noting that the replacement footbridge would be Equalities Act compliant. As indicated in ES Chapter 3: Scheme History and Assessment of Alternatives **[APP-041]**, the location of the replacement footbridge was altered in order to minimise tree losses, given that the original proposal was for the replacement footbridge to be located adjacent to the existing footbridge rather than using the existing footprint. g) As detailed in the ES Chapter 7: Landscape and Visual **[APP-045]**, prevailing environmental conditions and settings have been taken into account during the development of the Scheme design. The design has been developed such that it would integrate the Scheme within the existing landscape - this has been a key objective given that the Scheme passes through an urban/ semi-urban environment with a significant number of local residents, several locally important public open spaces (e.g. Mackworth Park, Markeaton Park, Mill Pond), whilst part of the Scheme at Little Eaton passes

No	Question to	Reference (in bold) and Question	Applicant's Response
			through the Derwent Valley Mills World Heritage Site. This iterative approach has led to a range of mitigation measures capable of reducing the magnitude of impacts being embedded within the Scheme design – such measures are illustrated on the Environmental Masterplans in Figures 2.12a to 2.12h **[APP-068]**. Section 7.9 in ES Chapter 7 highlights actions that have been taken to blend the Scheme into the prevailing settings at the three junctions - key actions taken are indicated below. With regard to Kingsway junction and Markeaton junction, these are located adjacent to areas of public open space which comprise key features in the local landscape – this includes Mackworth Park, open space adjacent to Greenwich Drive South, Markeaton Park and Mill Pond. In order to integrate the Scheme into the prevailing setting of these junctions, the Scheme has been designed to position the mainline carriageways within cuttings and thus below the level of the existing junctions. The objective here being to visually contain much of the new carriageway and associated infrastructure and screen traffic movements from existing views available from nearby open space and well as residential properties, footpaths and cycleways. In addition, the Scheme design includes appropriate landscape planting provisions, including planting of areas left vacant by the Scheme such as parts of the existing access from Brackensdale Avenue onto the A38 and sections of existing carriageway associated with the existing northbound A38 from Markeaton junction. Other features that aim to integrate these junctions into their surrounds includes the provision of replacement public open space at Queensway, plus the appropriate reconfiguration of the Markeaton Park access/ exit. With regard to Little Eaton junction, given that the Scheme would need to pass over the junction, a range of mitigation features have been included in the design that aim to minimise environmental effects and integrate the Scheme into its surrounds. This includes the appropriate planting of the Scheme embankments with trees and shrubs, planting of areas left vacant by the Scheme (namely planting of the existing access from Ford Lane onto the A38; and a section of existing A38 mainline carriageway located to the north of Little Eaton junction), as well as the provision of noise and screening barriers, and the removal of mainline lighting columns. h) The number of signs required on approaches to grade separated junctions is a minimum of two advanced direction signs (TD22/06 para 5.37 refers); one at the start of the diverge lane and the other ½ mile (or 1/3 mile in difficult circumstances) from the junction. Due to the limited verge space and to minimise the land take, the most appropriate signing arrangement would be for the signs to be mounted on gantries. Also, the complex nature of the Scheme and the closeness of the junctions between Kingsway junction and Kedleston junction also indicates that gantries are the most and safe way for signing the route.

No	Question to	Reference (in bold) and Question	Applicant's Response
			i) The siting of the gantries follows the requirements of the appropriate standards Traffic Signs Manual (TSM) and Traffic Signs Regulations and General Directions (TSRGD), whilst permissible tolerances have been applied where possible to minimise impacts on residential properties. As detailed in the response to c) above, if gantries were not used, signage requirements would need further land to be taken and with signage being placed significantly closer to nearby sensitive receptors. To further reduce their impact, signs could be positioned lower on the gantries - this will be subject to investigation during the detailed design stage. A review of the gantry types used and sign mounting positions will be undertaken at detail design stage, as will gantry positions within the defined limits of deviation detailed in the Works Plans, shown on the Engineering Section Drawings and as detailed in requirement 8 of the dDCO i.e. to a maximum of 2m downwards measured from the top of the relevant work. j) The specific components as shown in the Engineering Section Drawings (including the sign gantries) have generally been selected from the standard equipment available from Highways England. The specific appearance of the gantries, bridge abutments and railings will be further considered during the detailed design stage. k) Where feasible and practicable, the Scheme has taken opportunities to improve the character and facilities of the surrounding areas. Examples include: • The Scheme design includes provisions for footpaths and cycleways that aim to encourage more use of facilities due to improved amenity and convenience, and perception of safety – this includes a new footpath across Kingsway junction from Mackworth Park, linking Mackworth from Greenwich Drive South to the A5111 Kingsway. • Where sections of the existing A38 would become vacant as a result of the Scheme, landscape planting would be provided aimed at integrating the Scheme with the existing green wedges and existing areas of public open space. These areas include parts of the existing access from Brackensdale Avenue onto the A38; sections of existing carriageway associated with the existing northbound A38 from Markeaton junction; the existing access from Ford Lane onto the A38; and a section of existing A38 mainline carriageway located to the north of Little Eaton junction. • The flood storage areas adjacent to Bramble Brook at Kingsway junction (within the Kingsway hospital development site) would be developed into wetland habitats, whilst the area would be provided with a new footpath with occasional seating around the perimeter which would be available for use by local residents, connecting with the proposed green wedge within the Kingsway hospital site.

No	Question to	Reference (in bold) and Question	Applicant's Response
			• The existing access into Markeaton Park from Markeaton junction would be closed as a result of the Scheme – it is proposed that the existing park exit onto the A52 would be reconfigured to create a new signalised park access. The signalised junction would assist pedestrians and cyclists to access the park. • The Scheme would demolish the disused toilet block at the existing Markeaton Park entrance. The disused toilet block detracts from the setting and experience of Markeaton Park and the loss of the building and the restoration to parkland would be beneficial to the significance of the park and would improve the approach and experience of the park to users. • The Scheme would create a new area of replacement public open space at Queensway which would create a new area for public use, connecting the A52 with the replacement Markeaton footbridge (which would be Disability Discrimination Act compliant) via a shared footpath/ cycleway. The area would also be landscaped with native and ornamental shrub planting to promote biodiversity and provide visual screening and amenity. • The Scheme would entail ecological mitigation works within Mackworth Park, Markeaton Park and at Mill Pond. This includes the creation of a species rich grassland within Markeaton Park – such planting would not only aim to mitigate some the Scheme ecological effects but would also enhance the environments within this area of public open space. Opportunities have been taken to enhance Dam Brook as part of the required brook realignment works – this includes the provision of ecology ponds, complimentary landscape planting, as well as the creation of channel features of benefit to local ecology.
4	**Transport networks and traffic**		
	Baseline conditions and surveys		
4.1	Applicant DCiC	**DCiC traffic measures for Stafford Street** **ES Chapter 9 – Noise and Vibration [APP-047] paragraphs 9.3.9 and 9.5.1** The Applicant has considered that DCiC's clean air zone traffic management measures for Stafford	a) Most recent discussions with Derby City Council (DCiC) (10th October 2019) confirm that the traffic management measures associated with Stafford Street are planned to be in place during the Scheme construction phase. DCiC has also confirmed that given that the Scheme would support actions to improve air quality along Stafford Street, following Scheme opening the proposed DCiC traffic management measures would no longer be required. These assumptions are consistent with those as applied by the environmental impact assessment (refer to ES Chapter 6: Air Quality **[APP-043]**). b) DCiC's traffic management measures will reduce flows on A601 Stafford Street by imposing journey time delays (time penalties) upon the private-vehicle users of Stafford Street. In parallel, the

No	Question to	Reference (in bold) and Question	Applicant's Response
		Street will be in place during the construction of the Proposed Development, but not during operation. a) Please could DCiC provide an update on the intended timing of the removal of these measures in relation to the Proposed Development? b) Please could the Applicant clarify any potential implications for transport networks and traffic during construction and operation?	displaced users will be encouraged to use Uttoxeter Old Road instead by improving the capacity of the A52 Ashbourne Road / Uttoxeter Old Road traffic signalled junction. c) The magnitude of the time penalties imposed upon private-vehicle users may be increased by DCiC as needed to deter use of A601 Stafford Street. This provides DCiC with a means of reacting to unexpected changes in the traffic patterns.
4.2	Applicant DCiC	**Changes to local traffic management** **RR by DCiC [RR-003]** DCiC suggests potential changes to local traffic management in the Kedleston Road corridor and at Five Lamps junction in response to the Proposed Development. a) Please could DCiC advise on the status of those proposals and the anticipated timing of their implementation? b) Is DCiC able to provide any further clarification to the Applicant for their transport networks and traffic assessment?	a) Response required from DCiC. b) Response required from DCiC. See also ExA questions: • 4.41 (wrt. traffic assessment) • 5.3 (wrt. air quality) • 6.1 (wrt. noise & vibration) c) Highways England would be happy to provide comment on the potential implications of the changes suggested by DCiC during construction and operation when DCiC have provided their responses requested above.

No	Question to	Reference (in bold) and Question	Applicant's Response
		c) Please could the Applicant comment on the potential implications of the changes suggested by DCiC during construction and operation?	
4.3	Applicant	**Cumulative impact assessment** **ES Chapter 15 – Assessment of Cumulative Effects paragraphs 15.10.2** a) Please confirm the current status of the two potential designated fund projects at Markeaton junction/park that have been scoped out and the process and timetable for them being determined or secured. b) If those projects do go ahead, what are the potential implications for transport networks and traffic during the preliminary works, construction and operation?	a) As detailed in the ES Chapter 15: Assessment of Cumulative Effects **[APP-053]**, Highways England is considering the possibility for two Designated Fund projects in the vicinity of the Scheme – namely: i) the feasibility of a green bridge structure at Markeaton junction rather than the 'like-for-like' Markeaton footbridge replacement which would be provided by the Scheme; ii) biodiversity enhancement works within areas of open space located adjacent to the Scheme (i.e. Markeaton Park and Mill Ponds, Ford Lane Site of Interest, noting that these areas have been identified through stakeholder engagement). Potential designated fund projects are assessed by Highways England on their merits and alignment with Designated Fund policies and may be selected for funding and progression. Both of these projects remain at the feasibility stage and there is no defined programme for their determination and progression, and thus there remains no certainty that they will progress as they are both subject to separate Highways England funding being secured. b) It is noted that neither of the Designated Fund projects are included within the dDCO as they do not form part of the Scheme for which consent is being sought. If they come forward, they would be consented under the appropriate planning regime with the local authority (Derby City Council). As part of the planning application process, a key issue to consider would be any potential cumulative effects as associated with any concurrent works associated with the Scheme. It is thus considered that the routine planning application process would appropriately consider the potential for cumulative effects, including potential effects associated with construction traffic. Nevertheless, it is anticipated that the Designated Fund project investigating the potential for biodiversity enhancements within areas of open space located adjacent to the Scheme (i.e. Markeaton Park and Mill Ponds, Ford Lane Site of Interest) would not have any impacts upon local transport networks due to the unintrusive nature of the proposed works (which would predominantly entail landscape enhancement planting). Similarly, the works would not result in any operational phase traffic effects. With regard to the green bridge structure, this could entail additional traffic movements during the construction phase given that green bridge would likely need additional material imports. However, the volume of additional haulage traffic (above that associated with the Scheme) is anticipated to be minimal. Installation of

No	Question to	Reference (in bold) and Question	Applicant's Response
			the green bridge structure would have no implications for operational phase traffic on the local network.
4.4	DCiC DCC EBC	**Study areas and road sections** **ES Chapter 12 – People and Communities [APP-050] paragraph 12.6.3 and Table 12.14** **ES Figures 12.1A-D [APP-142, 143, 144 and 145]** a) Are the Local Authorities content with the study area used in relation to transport networks and traffic, including for the assessment of driver stress? b) Are the road sections identified in ES Table 12.14 appropriate and representative for the driver stress assessment?	N/A
4.5	DCiC DCC EBC	**Baseline conditions and surveys** Do the Local Authorities have any more comments regarding the Applicant's consideration of baseline conditions and surveys?	N/A
	Overall assessment methodology, growth assumptions and modelling techniques		
4.6	Applicant	**Driver stress sensitivity**	a) ES Chapter 12: People and Communities **[APP-050]** para. 12.3.7 introduces low sensitivity with regard to driver views, whilst para. 12.3.10 states that for the purposes of the driver stress assessment, no sensitivity value has been assigned to users as all drivers have a similar sensitivity

No	Question to	Reference (in bold) and Question	Applicant's Response
		ES Chapter 12 – People and Communities [APP-050] table 12.19; paragraph 12.3.7. Table 12.19 introduced a low sensitivity of receptor in relation to driver stress. a) Please justify why driver stress sensitivity (as opposed to sensitivity to changes in views) is low. b) What consideration is given to passengers in the assessment of impacts on motorised users? c) How does sensitivity contribute to the assessment of residual effect?	with regard to driver stress. The vehicle travellers' part of the Design Manual for Roads and Bridges (DMRB) guidance (Volume 11 Section 3 Part 9.2) does not contain specific assessment significance criteria for driver views or driver stress. As such, the driver stress sensitivity and significance assessment are based on professional judgement and best practice from other comparable assessments of Highways England transportation schemes (such as the A303 Stonehenge scheme). With regard to the low rating for driver stress as included in ES Table 12.19, this is an error. ES Table 12.19 should not assign a receptor sensitivity to rows dealing with driver stress, whilst the rows concerning driver views (views from the road) should be assigned a low sensitivity. A revised ES Table 12.19 is submitted in Appendix B **[TR01022/APP/8.5.1]**. b) In line with guidance set out in DMRB11, Section 3, Part 9 – Vehicle Travellers, the assessment of views from the road takes into account all vehicle passengers, as well as drivers. This is due to the fact that landscape character and quality along the route can be experienced by all vehicle travellers, and in areas of high-quality scenic landscape routes can be a particular attraction for motorised travellers. The assessment of driver stress, on the other hand, focuses on drivers specifically. As defined in DMRB and stated in ES para. 12.3.8 **[APP-050]**, driver stress can be defined as the adverse mental and physiological effects experienced by a driver traversing a road network. Such effects are primarily experienced by the driver, and the components of the assessment (including frustration and fear of potential accidents) focus on driver's experiences. c) With regard to the assessment of residual effects associated with views from the road, this takes into consideration the assigned low sensitivity of motorised users as well as the magnitude of the impact. Details are provided in ES para. 12.3.22 **[APP-050]**. With regard to residual effects upon driver stress, as no sensitivity value has been assigned to drivers, effects are determined based on the criteria as detailed in ES Table 12.6.
4.7	Applicant	**Driver stress significance of effect** **ES Chapter 12 – People and Communities [APP-050] tables 12.5 and 12.6**	a) The vehicle travellers' part of the Design Manual for Roads and Bridges (DMRB) (Volume 11, Section 3, Part 9.2) does not contain specific assessment significance criteria for driver stress. However, the three-point scale (low, moderate and high) provided in the guidance are presented in Table 12.5 which provides the initial basis for assessing the change in driver stress levels across the Scheme. However, as driver stress levels are influenced by more than just traffic flows and journey speed (as

No	Question to	Reference (in bold) and Question	Applicant's Response
		a) Please clarify the definitions of "*very major increase or reduction*", "*major increase or reduction*", "*moderate increase or reduction*" and "*minor increase or reduction*" used in the descriptions in table 12.6. b) How do those definitions typically relate to changes in driver stress level between the "*High*", "*Moderate*" and "*Low*" bands set out in table 12.5?	per Table 12.5), the assessment also takes into account other stress factors such as congestion, route uncertainty, journey reliability, journey times and fear of accidents. DMRB recommends that differences in driver stress levels, where applicable, should be identified at different sections of the route. As such, the baseline and the assessment establishes driver stress levels at five sections on the A38, and a further five sections on surrounding roads (in both directions of traffic flow). This creates a multitude of points at which the changes in driver stress levels are considered. In assigning the significance of effect, both the scale of change in driver stress level (i.e. between high and low) and the extent of change (i.e. across the number of sections of the route) are considered. For example, a very major reduction in driver stress resulting from a scheme could be identified where there is a reduction from high to low driver stress levels as experienced at the majority of assessed route sections. In addition, shorter journey times and reduced accident rates are expected from scheme improvement works. The overall significance of effect for driver stress has been developed by professional judgement by taking into account the scale and extent of effects (beneficial or adverse). This approach has been applied in the assessments of other Highways England infrastructure development projects. b) As set out above, the driver stress levels set out in ES Table 12.5 **[APP-050]** define the magnitude of impact which informs part of the driver stress assessment by allowing an assessment of the scale of change in driver stress at identified points along the route. In addition to the assigned driver stress levels, the assessment also considers the extent of the route at which the drive stress levels changes occur, as well as changes in journey times and accident rates – these factors combine in order to assign the overall level of effect and its associated significance.
4.8	DCiC DCC EBC	**Driver stress assessment and the use professional judgement** **ES Chapter 12 – People and Communities [APP-050] paragraphs 12.3.16, 12.10.21, 12.10.32 and 12.10.34**	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
		The Applicant refers to the application of professional judgement for the assessment of driver stress significance of effect. Do the Local Authorities have any comments on this approach and on the judgements made?	
4.9	Applicant	**Growth assumptions** **Transport Assessment Report [APP-253] table 4.2; paragraphs 3.1.5 and 5.3.1** The same number of total trips appear to have been used for both the "*Do-Minimum*" and "*Do-Something*" scenarios. However, it is stated that the Proposed Development would attract traffic onto the A38, both from local routes and from competing routes further afield. Please comment on the potential for additional trips to be attracted to the route in the "*Do-Something*" scenario compared with the "*Do-Minimum*" scenario and the implications for the assessment.	The Transport Assessment **[APP-253]** at paragraph 3.1.5 describes the geographic scope that was considered when the scope of the traffic model was being specified. It was important that, at the outset of the project, the geographical extent of the traffic model considered all roads where there might be an impact as a result of the Scheme. Once the traffic model had been completed and traffic forecast results were available, the geographic scope of the various appraisals was then determined more precisely by examining the traffic model's forecasting outputs. For example, the geographic scope of the road traffic accident model, which was used for the Scheme's appraisal, was determined by a consideration of where large changes in daily flows were forecast. These large changes were on the A38 itself and on local roads that feed into the A38 corridor. Some reduction in the flows on competing routes further afield, such as on the A42, M42 and M1, were predicted but these were small. By not including these small reductions on these further-afield roads, the accident model become more manageable, but the road safety appraisal did not claim some small additional accident savings and benefits for the Scheme. Other transport objectives, such as the appraisal of air quality emissions, noise effects and carbon impacts were each assessed using a geographic scope that was specifically tailored to each appraisal. In each case, the geographic scope of each appraisal was entirely contained within the geographic scope of the traffic modelled area. The Transport Assessment **[APP-253]** at Table 4.2 presents the number of trips in the 'Reference' trip matrices that were assigned to the whole traffic modelled area. The 'Reference' trip matrices are the same for each future year and time period; the same 'Reference' trip matrices are assigned to both the 'Do-Minimum' option network and to the 'Do-Something' option network. Additional flows were attracted onto the A38 corridor through Derby by three mechanisms in the traffic forecasting process:

No	Question to	Reference (in bold) and Question	Applicant's Response
			1. Suppression of trips on the competing corridors where journey times would become longer in future years with increasing traffic growth. 2. New trips, in response to faster journey times within the A38 corridor with the Scheme; i.e. new opportunities to travel. 3. Re-assignment of trips onto the A38 because road users change their choice of routes in favour of the A38 corridor. The Scheme's traffic forecasting model was able to represent mechanisms 1 and 2 because the forecasting process included a variable demand modelling (VDM) capability; the DfT's DIADEM software package was used. The number of trips in the matrices that were output by the VDM forecasting process were different for the 'Do-Minimum' and 'Do-Something' cases. These VDM output matrices were not presented in the Transport Assessment. Mechanism 3 was represented by a dynamic route-choice process that was applied during the assignment stage of traffic forecast modelling. All of the above traffic modelling processes followed the principals set out in the DfT's Transport Appraisal Guidance (TAG) documents. The traffic modelling and traffic forecasting was prepared by one of AECOM's transport planning teams with specific experience of modelling and appraising major highway projects. All stages in the model development, forecasting and appraisal process were reviewed and approved by one of Highways England's transport planning group business partners.
4.10	Applicant	**Growth assumptions** **Transport Assessment Report [APP-253] paragraphs 4.3.5-11.** **NPSNN Annex A** NPSNN considers low demand, central traffic and high demand forecasts, over which there is a large range of predicted changes in congestion.	The method of developing the 'Core scenario' (or 'Central case') forecast was as described in the DfT's Transport Analysis Guidance (TAG) unit M4 at section 3. Highways England's policy is to prepare and undertake the Scheme's appraisals using the 'Core scenario' traffic forecasts. This "should represent the best basis for decision-making given current evidence" [refer: TAG Unit M4 para 3.1.1]. The 'Core scenario' forecast includes development sites that are large enough to have a traffic flow impact and that are more than likely (P>50%) to be completed by the forecasting year.

No	Question to	Reference (in bold) and Question	Applicant's Response
		What range of forecasts have been considered by the Applicant and what is the justification for the chosen level?	To test the sensitivity of the Scheme's business case, traffic forecasts were also prepared for Low and High growth alternative scenarios. The Scheme's business case proved to be robust to this alternative growth scenario testing.
4.11	Applicant	**Changes to other parts of the Strategic Road Network** **Transport Assessment Report [APP-253] paragraphs 3.1.6 and 4.3.4** Reference is made to the extension of the detailed traffic model to cover other parts of Great Britain so that it can represent potential transfers into the A38 corridor from competing strategic routes. A list has been provided of planned changes to the highway network that have been included in the model, which seem to relate to the area covered by detailed traffic model rather than the extension to it. Have planned changes to the highway network in the extended area been included in the traffic model? If not, why not?	Yes; planned changes to the highway network in the extended area were included in the traffic forecasting models.
4.12	Applicant	**Access arrangements for the Derby Royal Hospital** **Outline TMP [APP-254] paragraph 7.4.1** a) It is stated that discussions over a solution to access arrangements	a) The Scheme will not affect the access into the Derby Royal Hospital site from the road network. Paragraph 7.4.1 of the TMP **[APP-254]** highlights the requirement for the construction contractor to liaise with all key stakeholders involved, including the emergency services, to ensure that any impacts on the routes to the hospital during the construction phase are kept to an acceptably low level. b) The arrangements will need to be developed by the Scheme contractor so, at this stage, have not been agreed with the hospital.

No	Question to	Reference (in bold) and Question	Applicant's Response
		for the Derby Royal Hospital are ongoing. Can the Applicant clarify how a suitable access arrangement to the hospital will be provided during the construction and operation of the Proposed Development? b) Please provide evidence that the arrangements have been agreed with the Derby Royal Hospital. c) Please clarify the extent to which the solutions applied to secure access to the hospital have been accounted for in relevant assessments to the ES. d) How are the arrangements during construction and operation, and any agreements made, secured through the dDCO?	c) Given that the Scheme will not affect the access into the Derby Royal Hospital site from the road network, the assessments presented in ES Chapter 5: Air Quality and ES Chapter 9: Noise and Vibration **[APP-043** and **APP-047]** appropriately assess the impacts of traffic movements in the vicinity of the hospital. d) Key elements of the Traffic Management Plan to secure the above arrangements during Scheme construction and operation will be included in the OEMP and CEMP. Articles 15 (Temporary stopping up and restriction of use of streets and highways) and 16 (Permanent stopping up and restriction of use of streets and private means of access) of the dDCO include the obligation to provide suitable alternative access routes if required.
4.13	Applicant	**Maintenance of access** **ES Chapter 2 – The Scheme [APP-040]** **ES Chapter 12 – People and Communities [APP-050]** **Outline TMP [APP-254]** **RR by Tim Hancock Associates on behalf of Euro Garages Limited [RR-013]** **RR by McDonald's Restaurants Limited [RR-016]**	a) It is anticipated there would be minimal impact to the businesses on Kingsway Park Close with no requirement to close the road for any periods (potential to have signal control and single lane working for some periods with potential overnight closures for surfacing works). Discussions would be held so that suitable timing could be agreed with all the businesses that might be impacted. For the work impacting the A5111, consideration would be given to the large traffic flows to Kingsway Retail Park which needs to be considered during the planning of temporary Traffic Management to maintain capacity both during weekdays and at weekends. Maintaining access to both residents and businesses are a key aspect to the temporary traffic management planning and both groups would be consulted in advance of any installation to ensure their perspective had been considered. b) The same approach outlined above for Kingsway would apply to all the groups listed. The starting point would be to maintain the current access arrangements for as long as possible during the

No	Question to	Reference (in bold) and Question	Applicant's Response
		RR by Hinson Parry & Company on behalf of Royal School for the Deaf Derby [RR-019] a) Please summarise how access and egress during construction and operation would be provided near the Kingsway junction, including to businesses on Kingsway Park Close. b) Please summarise how access and egress during construction and operation would be provided near the Markeaton junction, including to: • residential properties on Ashbourne Road and Sutton Close; • the Royal School for the Deaf Derby; • the filling station and fast food site; and • Markeaton Park. c) Please summarise how access and egress during construction and operation would be provided near the Little Eaton junction, including to: • residential properties and businesses accessed from the	construction of the works. This means accommodating the same capacity and provision of vehicle size. To allow the completion of the works the locations of accesses would need relocating to varying degrees; if this is the case the revised locations would be suitably signed, and the stakeholder liaison officer would work with the affected party regarding the arrangements being put in place. When planning the works key events at Markeaton Park would be taken into consideration to minimise any disruption. Additionally, the local businesses (McDonald's and Euro Garages) would be fully consulted to understand their peak business hours to factor them into the work plans to minimise disruption. These plans will be refined as the detailed design of the scheme is developed. c) For Little Eaton, the principle of providing access and egress during constructions and operation will be similar as for the other two junctions in taking stakeholders opinions into account when planning the delivery of the works. Details for individual businesses and residential properties will be developed during the detailed design stage. For Talbot Turf, access through the flood arch during the bridge extension works will be maintained. d) **Euro Garages –** As noted in the response to their Relevant Representation, the site will continue to enjoy entry and exit arrangements with the A52. The existing entry and exit arrangements with the A38 are to be modified to exit only (onto the proposed A38 slip road) for safety reasons. It is envisaged that fuel delivery will continue as it does at present, i.e. the tanker will enter the site from the A52 and will leave the site onto the A38 slip road. No comments were made in the RR regarding construction phase impacts on access and egress. **McDonald's –** No comments were made in the RR regarding construction phase impacts on access and egress. For operational stage, the RR response noted that exiting the site onto the A38 will continue to be an option after implementation of the Scheme. Entry to the site from the A52 will be via a new signal-controlled junction so will not cause queuing within the site. Also, the proposed exit onto the A38 slip road will perform better than the existing exit due to the greatly reduced flow passing the exit on the A38 slip road. The proposed exit on the A52 will also perform better than the existing exit due to the introduction of traffic signals **RSDD** – As noted in the response to their Relevant Representation, access to the school will be kept open during the construction of the Scheme. Any short-term closures that may be necessary will be timed to cause minimum disruption (night time or school holidays) and the alternative access to the school via Markeaton Street will not be impacted by the Scheme. Highways England will ensure there

No	Question to	Reference (in bold) and Question	Applicant's Response
		section of Ford Lane that connects directly to the existing roundabout; • Starbucks; • the turf production site; and • Severn Trent Water's facilities near the River Derwent. d) Please respond to the related concerns identified in RRs. e) Please provide evidence that the arrangements have been agreed with the property owners or others who may be affected. f) How are the arrangements during construction and operation, and any agreements made, secured through the dDCO?	is effective and timely communication with the school, this will be achieved through the contractor's stakeholder liaison officer. No comments were made in the RR regarding operational phase impacts on access and egress. e) Discussions are ongoing with the 3 concerned stakeholders and the progress of these discussions is being recorded in their respective Statement of Common Ground. f) The arrangements during construction and operation, and any agreements made, will be secured through the Traffic Management Plan. As the ExA is aware, requirement 11 of the dDCO provides that the TMP is to be submitted to the Secretary of State for his written approval and that TMP has to be in accordance with the OTMP considered by the ExA as part of the Examination. As such, there will not be a detailed TMP available during the Examination and this will be secured by the Secretary of State prior to commencement of the authorised development
4.14	Applicant	**Assessment of impacts on the local road network** **RR by DCiC [RR-003]** DCiC has stated that "*The Transport Assessment does not consider in detail any wider impacts on the local road network as a consequence of the scheme, other than the slip road closures …*". It has also asked "*Highways England to consider how it*	In operation, the forecast changes in the daily flows that would result from opening the Scheme to traffic are indicated in the Transport Assessment **[APP-253]** at Figure 4.6 to Figure 4.12 inclusive. Examining the traffic flows changes on the DCiC-maintained roads, most of the local roads would see flow reductions with the Scheme (i.e. negative values in the "Diff (DS-DM)" boxes). There would be eight local roads that would have two-way traffic flow increases. These are: • A5111 Kingsway • A5111 Manor Road • A52 Ashbourne Road (East) • A52 Ashbourne Road (West) • Kedleston Road • Kingsway Park Close • Prince Charles Avenue

No	Question to	Reference (in bold) and Question	Applicant's Response
		might manage changes on the local network as a result of the scheme". Please could the Applicant respond and, in so doing clarify for both construction and operation: • what assessment of impacts on the local road network have been undertaken; • what proposals have been made to manage changes to the local network: and • in each case, provide references to where details can be found?	• A6 Duffield Road The flow increases on the first five roads listed above would be a result of the Scheme providing additional highway capacity and thereby would be a result of new route-choice opportunities. These flow increases would be balanced by reductions in flows on less suitable local roads. As such, these forecast flow increases represent a benefit to all users of the local highway network. The flow increases on the last three roads are a result of the closure of the existing connections to the A38 at Brackensdale Avenue, Raleigh Street and Ford Lane. The Applicant has examined the available capacity of local road junctions associated with these three closures. The conclusion was that the A52 Ashbourne Road / Prince Charles Avenue priority junction would not require a capacity improvement. The Applicant is proposing to make junction improvements at the Brackensdale Avenue / Kingsway Park Close junction and also at the A6 Duffield Road / Ford Lane junction [Refer ExA Question 4.39]. In terms of travel times, the impacts on the local road network are presented in the Transport Assessment **[APP-253]** at Table 4.5 to Table 4.10 for six of the traffic modelled time periods. Overall, the Scheme would deliver travel time saving benefits to users of the local roads. The Scheme would also improve the resilience of the local highway, which would allow DCiC more scope to deal with both expected events and unexpected incidents. Overall, the local highway network within DCiC's remit would be simpler and cheaper to maintain with the Scheme. During construction, the Traffic Management Plan **[APP-254]** outlines the principles that would be applied to keep road users and the key stakeholders (including DCiC) informed of construction progress and minimise potential impacts.
4.15	DCiC DCC EBC	**Local plans, other transport modes and other networks** **NPSNN paragraphs 5.203, 5.205-6, 5.211-2, 5.215-7** Do the Local Authorities consider that:	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
		a) Impacts on local transport networks and policies set out in local plans, including local policies on demand management, have been addressed sufficiently? b) Enough account has been taken of local models? c) Reasonable opportunities have been taken to support other transport modes? d) There has been a proportionate assessment of the transport impacts on other networks?	
4.16	DCiC DCC EBC	**Overall assessment methodology** Do the Local Authorities have any more comments regarding the Applicant's overall assessment methodology, growth assumptions or modelling techniques?	N/A
	Construction traffic and temporary closures and diversions		
4.17	Applicant DCiC DCC EBC	**Travel patterns** **Transport Assessment Report [APP-253] Section 9** **Consultation Report [APP-023] paragraph 4.2.7**	a) The Traffic Management Plan **[APP-254]** describes the envisaged Construction Phases at each junction and how these are likely to be programmed with respect to each other. From this information, eight combinations of Construction Phases were identified (labelled TM Scenarios 0 to Scenario 7). All eight TM Scenarios were coded into the traffic model and temporary junction layouts were developed. The objective of the temporary junction designs was to maintain journey times along the A38 strategic route. b) Regular workshops were held with officers from the three local highway authorities (i.e. DCC, DCiC and HE). The local authorities requested further information about the modelled journey times on the

No	Question to	Reference (in bold) and Question	Applicant's Response
		a) Please could the Applicant summarise how travel patterns have been modelled during construction? b) What feedback from Local Authorities have been incorporated? c) Please could the Local Authorities comment?	key radial routes into and out of Derby city centre in in each of the eight TM Scenarios. This information was documented in a technical note. DCiC also requested information about the routes likely to see increases in flow. This was to enable a consideration of routes where maintenance works might be advanced. For the purpose of appraising the worst environmental impact during the construction period, three of the TM Scenarios were investigated further at a link-by-link level of analysis. These impacts are reported in the Environmental Statement. c) Response required from defined local authorities.
4.18	Applicant DCiC DCC EBC	**Driver stress assessment** **ES Chapter 12 – People and Communities [APP-050] paragraphs 12.3.15-18 and 12.10.18-21; Tables 12.5 and 12.16** a) Has the scale provided in Table 12.5 been used to quantify changes in driver stress during construction? If so, how? If not, why not? b) How have the results of the construction traffic model been used to quantify impacts on motorised users? c) Please provide detailed justification of the assessment of "*temporary minor adverse effect*" during construction in paragraph 12.10.21 and demonstrate how it is evidence-based.	a) There is no specific or defined methodology for assessing the degree of driver stress during construction and so the scales as presented in ES Table 12.5 **[APP-050]** have only been used for the initial assessment of potential operational Scheme effects. A descriptive assessment approach was used to assess how likely Scheme construction activities would affect driver stress during the Scheme construction phase. Consideration has been given to the proposals to restrict speed limits along sections of the A38 during the various construction phases (as detailed in the outline Traffic Management Plan (TMP) **[APP-254]**). Factors associated with accident rates and journey times have also been considered, noting that the TMP aims to maintain journey times and minimise disruption to travellers. It was assessed that the presence of Scheme-specific construction traffic and traffic management measures are likely to contribute to increased driver stress levels across the route for the duration of the Scheme construction phase. b) The assessment of driver stress during the Scheme construction phase considers the three key components of driver stress as detailed in ES Chapter 12: People and Communities **[APP-050]** para. 12.3.8, namely: increase in frustration, fear of accidents and uncertainty of route. The construction traffic management modelling results were used qualitatively to gauge the likely implications of Scheme construction traffic management activities across these key driver stress factors. As outlined in ES para. 12.10.19, traffic modelling indicated that with appropriate design of construction phase traffic management systems, existing journey times along the A38 could be maintained, although during the most active Scheme construction phases, traffic management has the potential to increase the A38 journey time through this section of the A38 by approximately two minutes. Journeys on some radial routes could be longer.

No	Question to	Reference (in bold) and Question	Applicant's Response
		d) How does the assessment derive from the application of the methodology, including the significance criteria set out in Table 12.6? e) An overall assessment of significance is provided. Should the significance be identified at different locations, as is typically the case with the assessments in other Chapters of the ES? f) Please could the Local Authorities comment on the Applicant's approach?	c) As set out in our responses to points a) and b) above, the assessment of driver stress during the Scheme construction phase qualitatively considered three key components of driver stress, namely: increase in frustration, fear of accidents and uncertainty of route. The assessment has taken into account the presence of Scheme-generated construction traffic on the road and the traffic management measures that are planned to be in place (as detailed in the outline Traffic Management Plan (TMP) **[APP-254]**). The impact on journey times has also been considered, taking account of the details as reported in ES Chapter 12: People and Communities **[APP-050]** para. 12.10.19 that existing journey times along the A38 could be maintained, although during the most active Scheme construction phases, traffic management has the potential to increase the A38 journey time through this section of the A38 by approximately two minutes. Journeys on some radial routes could be longer. During the Scheme construction phase, the effects on driver stress will be experienced temporarily, and the mitigation measures adopted through TMP would minimise the effects associated with route uncertainty and risk of accidents. The assessment, therefore, concludes that there would be a temporary minor adverse effect on driver stress during the Scheme construction phase (as detailed in ES para. 12.10.21). It is noted that the minor adverse effect on driver stress reported in para. 12.10.21 should have been reported as being a *slight* adverse effect (not significant) in order to comply with the terminology used elsewhere in the driver stress assessment (e.g. Table 12.6). d) As detailed in the points above, there is no set guidance on the methodology for assessing driver stress during Scheme construction. The assessment has therefore adopted a qualitative approach to the assessment as based upon a judgement over how Scheme construction would affect key driver stress factors. This approach is based on professional judgement and best practice which has been applied in assessments for other comparable Highways England schemes. As detailed in the response to point c) above, the construction phase minor adverse effect on driver stress as reported in para. 12.10.21 should have been reported as being a *slight* adverse effect (not significant) in order to comply with the terminology used elsewhere in driver stress assessment (e.g. Table 12.6). The definition of slight adverse thus conforms with the effect description as detailed in ES Table 12.6. e) As described in ES Chapter 12: People and Communities **[APP-050]** para. 12.6.3, the driver stress assessment focuses on users of the A38 and users on the surrounding roads within 500m of the

No	Question to	Reference (in bold) and Question	Applicant's Response
			Scheme. The significance of driver stress levels has therefore considered the A38 mainline carriageway users, users of surrounding roads, and users of B5111 Kingsway (where a distinction in operational effects was identified). These results are summarised in ES Table 12.19. In the assessment of driver stress effects during Scheme construction, the conclusion of minor (correction – *slight*) adverse temporary effects is considered representative for all drivers as described above given that the Scheme construction traffic management proposals are anticipated to affect all users. It was not considered proportionate to undertake a more detailed assessment for such temporary effects, noting that the traffic management mitigation measures as detailed in the outline Traffic Management Plan (TMP) **[APP-254]** aim to minimise effects upon all drivers during the Scheme construction phase. f) Response required from the defined local authorities.
4.19	Applicant	**Driver stress assessment** **ES Chapter 12 – People and Communities [APP-050] table 12.19.** Please justify the assessments of residual effects of "*minor adverse"* and how this relates to the significances set out in Table 12.6.	Minor adverse effects (Scheme construction phase: effects upon users of the A38 mainline, surrounding roads; and Scheme operational phase effects upon the B5111 Kingsway): Table 12.6 in ES Chapter 12: People and Communities **[APP-050]** provides details of driver stress levels of effect using the terminology neutral, slight, moderate, large and very large (beneficial and adverse). It is agreed that with regard to driver stress, where Table 12.19 refers to "*minor*" (both adverse and beneficial), it should refer to "*slight"* adverse (both adverse and beneficial) in order to conform with the terminology as detailed in the ES Table 12.6. There is no specific methodology for assessing the degree of driver stress during Scheme construction. Thus, a descriptive assessment approach was used to assess how Scheme construction activities would affect the three key components of driver stress, namely: increase in frustration, fear of accidents and uncertainty of route. The baseline levels of driver stress along the existing A38 (as presented in Table 12.14 – note that a new version of Table 12.14 is being resubmitted – refer to response to Question 4.30) indicate low to high driver stress levels, while the stress levels on the surrounding roads are predominantly moderate to high (with the exception of A61 southbound south of Little Eaton junction). The assessment has considered the stress level changes relative to baseline conditions by taking into account the presence of Scheme-specific construction traffic on the road and the traffic management measures which would be in place. The predicted impacts on journey times have also been considered, as well as impacts associated with route uncertainty and risk of accidents, taking account of the mitigation

No	Question to	Reference (in bold) and Question	Applicant's Response
			measures that would be adopted through adherence to the Traffic Management Plan (TMP) **[APP-254]**). Taking these factors into account, the assessment concludes that there would be minor changes to driver stress during the Scheme construction phase, resulting in a temporary minor (correction: *slight*) adverse effect. This definition of slight adverse aligns with the definition provided in Table 12.6. This approach is based on professional judgement and best practice which has been applied in assessments for other comparable Highways England schemes. During Scheme operation, a minor (correction: *slight*) adverse effect was identified for users of B5111 Kingsway. ES Chapter 12: People and Communities **[APP-050]** Table 12.17 reports that during Scheme operation for users of B5111 Kingsway there would be no change in driver stress levels eastbound, although there would be an increase in driver stress from moderate to high westbound. As detailed in para. 12.10.32, the westbound carriageway of the B5111 Kingsway is anticipated to experience an increase in traffic during peak hours of more than 800 vehicles per hour as a result of the Scheme. Though it is likely that these vehicles would travel through the junction more quickly, there is the potential for increased congestion on this route. As a result, it is anticipated that users of the B5111 Kingsway may experience an increase in driver stress, and thus the assessment has defined that there would be minor (correction: *slight*) adverse effect on stress levels for such users, which is not significant. This definition of slight adverse aligns with the definition provided in Table 12.6.
4.20	Applicant	**ES Chapter 2 – The Scheme [APP-040] Illustration 2.2** Details are provided of construction phase traffic flows for HGVs and light construction vehicles. This illustrates that construction vehicle flows would be at a maximum towards the end of the first year of construction works, mainly associated with material haulage.	Taking into account the Scheme design details, material balance and workforce, Illustration 2.2 ES in ES Chapter 2: The Scheme **[APP-040]** provides details of construction generated traffic flows (HGVs and light construction vehicles) for the duration of the Scheme construction phase. This illustrates that construction vehicle flows are predicted be at a maximum between months 6 to 14, mainly associated with material haulage to various locations within the length of the construction works. Illustration 2.1 in ES Chapter 2: The Scheme **[APP-040]** provides an indicative high-level summary of the main elements of the Scheme construction programme and indicates that the works are anticipated to be divided into eight main construction traffic management phases (i.e. traffic management scenarios 0 through 7). **6.1]** provides an indicative high-level summary of the main elements of the Scheme construction programme and indicates that the works are anticipated to be divided into eight main construction traffic management phases (i.e. traffic management scenarios 0 through 7). As detailed in ES Chapter 5: Air Quality **[APP-043]** and ES Chapter 9: Noise and Vibration **[APP-047]**, potential environmental effects associated with construction phase traffic flows have been assessed for a number selected construction traffic management scenarios that were chosen to represent the likely

No	Question to	Reference (in bold) and Question	Applicant's Response
		Please clarify how this aligns to the "*worst case*" scenarios assessed in the ES.	worst case traffic impacts during Scheme construction – this was in terms of either high volumes of construction delivery vehicle traffic on the network, traffic re-routing due to the restriction of some traffic movements at the junctions, and mainline traffic using the new slip roads at Markeaton junction and Little Eaton junction thereby bringing mainline traffic closer to nearby receptors. The end of traffic management Scenario 0 was selected for assessment purposes which is representative of when Phase 1 construction works are underway at all three junctions (refer to Illustration 2.1), noting that at the end of this traffic management scenario covers the period of maximum volumes of construction vehicles (HGVs) and maximum material haulage. In addition, traffic management Scenario 2 was also selected for assessment purposes, again representative of construction works taking place at each junction and covering a period with maximum volumes of construction vehicles (light vehicles and HGVs) (between months 12 to 14). Thus, it is considered that the assessment of these two traffic management scenarios included the worst cases as associated with material import and construction generated traffic flows (light vehicles and HGVs).
4.21	Applicant DCiC DCC EBC	**ES Chapter 12 – People and Communities [APP-050] Paragraph 12.9.2** The potential is noted for HGV movements outside the 07:00-19:00 working hours in "*exceptional circumstances*". a) Please clarify what would constitute "*exceptional circumstances*" and what would be the anticipated frequency? b) How have any potential impacts been assessed? c) Noting that the timings differ to those set out in dDCO Requirement 3(2)(d) and OEMP provision MW-G12, how are these	a) & b) ES Chapter 12: People and Communities **[APP-050]** para. 12.9.2 states the following: "*HGV deliveries of construction materials would be made in a 12-hour period between 7am and 7pm other than in exceptional circumstances*" which is at odds with the working hours referred to in ES Chapter 2 **[APP-040]** and in the OEMP **[APP-249]**. This is an error as para. 12.9.2 should refer to the working hours as detailed in ES Chapter 2 **[APP-040]** and in the OEMP **[APP-249]** (and as referenced in the dDCO **[APP-016]**). The assessment included in ES Chapter 12: People and Communities is based upon the working hours as referred to in ES Chapter 2 **[APP-040]** and in the OEMP **[APP-249**]. c) In the dDCO, as the ExA has noted in requirement 3(2)(d), activities permitted outside of these core hours are listed in (i) to (vii) of that requirement. In addition, any other work is possible with the prior agreement of the relevant environmental health officer provided the effects of such activities are not materially worse than those assessed in the Environmental Statement. d) As detailed in dDCO requirement 3(2)(d), activities permitted outside of these core hours are listed in (i) to (vii) of that requirement, noting that any other work is possible with the prior agreement of the relevant environmental health officer provided the effects of such activities are not materially worse than those assessed in the Environmental Statement. e) Response required from the defined local authorities.

No	Question to	Reference (in bold) and Question	Applicant's Response
		movements permitted by the dDCO and OEMP? d) Should these movements require Local Authority approval in advance? e) Please could the Local Authorities comment?	
4.22	Applicant DCiC DCC EBC	**Overnight closures** **Transport Assessment Report [APP-253] Table 9.1** It is stated that overnight closures of the A38 would be permitted subject to diversion routes being agreed. a) Please could the Applicant: • justify the need for such closures; • identify the likely diversion routes; • summarise the predicted impacts; and • clarify the mechanism for diversion routes being agreed and how this is secured through the dDCO? b) Please could the Local Authorities comment?	a) A temporary road closure of the A38 Queensway would be needed for the demolition of the existing Markeaton footbridge and for the erection of the new Markeaton footbridge deck. Selective closures of the Little Eaton roundabout would be required when lifting the bridge deck beams into place overhead. Temporary short-term road closures would also be required when making major changes to the Traffic Management layouts. To divert the longer-distance strategic trips, advance road direction signs would encourage road users to divert via the A50 Derby Southern Bypass and the M1 (J24A to J28 length). During closure of A38 Queensway, local journeys would be signed via A52 Ashbourne Road, A601 Derby Inner Rinq Road (St Alkmund's Way) and A61 Sir Frank Whittle Road. During overnight closures of the Little Eaton roundabout, local journeys would be signed via A6 Duffield Road. Lorries, heavier than 7.5 tonnes, would be directed via the A5111-A52-A61 Derby Outer Ring Road. These diversions would be of a similar scale as the diversions required to maintain the strategic road network on a year-to-year basis. These sorts of activities are required on a regular basis for maintenance of the road network or occasionally for emergency diversions during an incident. The mechanisms for agreeing diversion routes are described in the Traffic Management Plan **[APP-254]**. b) Response required from the defined local authorities.
4.23	Applicant	**TMP**	The Applicant notes the bullet point list in DCiC's Relevant Representation **[RR-003]**.

No	Question to	Reference (in bold) and Question	Applicant's Response
		RR by DCiC [RR-003] Please respond to the matters raised by DCiC, including in respect to: • the bullet point list of items on which more information should be provided in the TMP; • the impacts on local networks of measures to maintain traffic flow on the A38 during construction; and • the potential for "*significant disruption*" that will be "*extremely disruptive*" at the Markeaton junction and whether there is another option.	The Applicant's view is that it is more appropriate to develop these details of Traffic Management and the interim junction layouts (i.e. number of trafficable lanes and lane widths) once the Contractor has been appointed. It is traditional to make this appointment once the 'Works Commitment' business case gateway has been approved, which follows after the statutory approval process has been completed successfully. To undertake these activities earlier would risk spending public money on undertaking abortive design and construction planning. The Applicant's plan for undertaking construction planning and consulting with the customer groups, including stakeholders, is contained within the outline Traffic Management Plan **[APP-254]**. Regarding the second and third bullet points of the ExA's question, the Applicant has traffic modelled eight discreet traffic management scenarios (labelled Sc0 to Sc7), which were defined from programmed combinations of the three Junctions' construction phases. From this traffic modelling, the Applicant has identified target capacities for the interim junction layouts that, if achieved, would maintain the existing journey times and flows on the A38 without causing drivers to change routes to, for example, Derby city's inner ring road that includes the A601 Stafford Street. Similarly, if drivers can be convinced that the quickest journey during the construction period is found by remaining on A38 corridor, then there would be no detriment to the flows and delays on Derby's local road network. These interim junction capacity targets are challenging. One way to achieve these target capacities would be to restrict some right-turn movements. The displaced journeys would be directed to turn left and then make a U-turn at the next junction. These lengthened journeys would mainly be local trips on the city's radial routes. There will likely be some experimentation during the earlier days of each new traffic management phase whilst drivers optimise their available route choices.
4.24	Applicant	**Council resources and support** **RR by DCiC [RR-003]** a) Please respond to the resource issues raised by DCiC and their requests for support, including in respect to:	a) The contractor will be committed to working with Derby City Council to establish links with all the key stakeholders both before and during construction to listen to concerns and mitigate where possible. Highways England will have a communications officer and the contractor will appoint a Customer and Stakeholder Manager to support the project delivery. Access to Derby's Business Contact and Engagement Plan and the offer of a hot desk arrangement within Derby's Council House would be gratefully received. Transparent communication with stakeholders and the wider public is key to the project's success and working closely with the existing Derby City team to project a consistent message and actively promote the scheme and the benefits it will bring. Highways England is aware that the A38 scheme may cause some interim disruption on other roads in the Derby area. The nature of traffic forecasts means that it is difficult to predict the accuracy of the

No	Question to	Reference (in bold) and Question	Applicant's Response
		• the Council's ability to meet the demand for communication and liaison with local stakeholders; • the need for accommodation works to the local road network and the support on these to be provided to the Council; and • the Council's need for support for a technical officer. b) What comfort can be provided that any mitigation measures relying on other Councils would be delivered?	forecasts factoring in driver psychology and the use of alternate routes. Highways England is happy to consult with Derby City Council on the traffic management however, the Scheme is not in a position to be able to provide any financial assistance. b) Highways England do not anticipate any additional mitigation measures from other Councils with regards to accommodation works on the local road network or further support during the construction period. Highways England will continue to liaise with other Councils and work together to develop mitigation measures if required.
4.25	Applicant DCiC DCC EBC	**Detailed TMP** **Outline TMP [APP-254] paragraphs 1.1.7 and 1.3.2** **OEMP [APP-249] Table 2.1, Ref MW-TRA2** An outline TMP was provided with the application but the content is noted as being "*conjectural*". ES states that a detailed TMP would be prepared and implemented by the construction contractor, based on the outline TMP and would define those measures to be used by the contractor to reduce the impacts from construction traffic.	a) The appointment of a Contractor is the subject of ongoing contract discussions and as such it is not possible to provide any input from the contractor. Once a Contractor is appointed, there will need to be a period for the Scheme's design, the construction planning, the development of traffic management temporary layouts and control arrangements to be developed in detail. The timeline for the development of construction plans, in enough detail to be consulted upon by the Local Highway Authorities, will extend beyond the DCO examination period. As the ExA is aware, requirement 11 of the dDCO provides that the TMP is to be submitted to the Secretary of State for his written approval and that TMP has to be in accordance with the OTMP considered by the ExA as part of the Examination. As such, there will not be a detailed TMP available during the Examination and this will be secured by the Secretary of State prior to commencement of the authorised development. Highways England does not consider that the LHAs need to agree the TMP because they will be consulted on it as part of the TMP approval process, secured under requirements 11 and 4. b) Response required from the defined local authorities.

No	Question to	Reference (in bold) and Question	Applicant's Response
		The Applicant has identified the contractor that they intend to appoint. a) Please can the Applicant advise: • whether it is possible for the contractor to now input to the TMP, perhaps under arrangements for early contractor involvement; • when a draft of the detailed TMP will be made available to the Examination; and • whether the detailed TMP should be required to be agreed with the Local Highways Authorities and should this requirement be secured in the dDCO? b) Do the Local Authorities have any comments on: • the outline TMP; • measures that should be included in the detailed TMP; • the timing of the issue of a detailed TMP; and on • the need for the detailed TMP to be agreed with them?	
4.26	Applicant	**Reasonable worst-case scenario**	The assessments reported in the Environmental Statement (ES) have used construction phase traffic data to assess potential environmental effects based upon a set of construction phase phases and traffic

No	Question to	Reference (in bold) and Question	Applicant's Response
		Outline TMP [APP-254] section 3.2 Given that the TMP is to be updated by the contractor, what comfort can be provided that the proposed traffic management measures assessed in the ES represent a reasonable worst case?	management scenarios that have been developed taking into account advice from Highways England's appointed buildability advisors for the Scheme who have suitable relevant experience of construction traffic management planning for major highway infrastructure development projects (refer to the Traffic Management Plan (TMP) **[APP-254]**. Illustration 2.1 in ES Chapter 2: The Scheme **[APP-040]** provides an indicative high-level summary of the main elements of the Scheme construction programme and indicates that the works are anticipated to be divided into eight main construction traffic management phases (i.e. traffic management scenarios 0 through 7). As detailed ES Chapter 5: Air Quality **[APP-043]** and ES Chapter 9: Noise and Vibration **[APP-047**], potential environmental effects associated with construction vehicles have been assessed for a number selected construction traffic management scenarios that were chosen to represent the likely worst case traffic impacts during Scheme construction in terms of either high volumes of construction traffic on the network, traffic re-routing due to the restriction of some movements at the junctions, and the mainline traffic using the new slip roads at Markeaton junction and Little Eaton junction thereby bringing mainline traffic closer to nearby receptors. Construction Scenario 0 (starting in month 1, namely March 2021) is representative of when Phase 1 construction works are underway at all three junctions (refer to Illustration 2.1), noting that this traffic management scenario includes the period of maximum import of fill. Scenario 2 (starting in month 12, namely February 2022) was also selected for assessment, again representative of construction works taking place at each junction, and during a period of maximum volumes of construction vehicles (light and HGVs). Thus, given that these traffic management scenarios were selected for assessment, it is considered that these cover the worst-case scenario due to construction vehicle volumes, whilst is noted that a degree of contingency has been included within the construction traffic figures. It is accepted that the selected construction contractor upon appointment will review the construction programming and associated traffic management proposals. However, given the construction requirements and the physical constraints at each junction, it is considered that there is very limited ability to change the construction traffic management proposal as reported in the TMP and assumed by the ES. It is also noted that during the Scheme detailed design stage, Highways England will review the contractor's traffic management proposals and undertake an assessment of the potential noise and vibration effects, and air quality effects to determine whether they comply with the requirements of the ES and the associated Outline Environmental Management Plan (OEMP) **[APP-249]**. Given the above, it is anticipated that this indicate that the effects are similar to those are reported in the ES. In the unlikely

No	Question to	Reference (in bold) and Question	Applicant's Response
			event that the assessment indicates that the traffic management proposals give rise to materially new or materially worse adverse environmental effects, this would indicate the need for the contractor to amend the traffic management proposals or propose additional mitigation. It is noted that this process will be included in the next version of the OEMP. The above illustrates that there is limited ability to change the construction traffic management proposal as detailed in the TMP, whilst the ES selected the worst-case traffic management proposals for assessment purposes. Further there will be further assessments and checks undertaken during the detailed design stage. It is thus considered that the effects reported in the ES represent a reasonable worst case.
4.27	Applicant DCiC	**Significance of effects** **ES Chapter 16 – Summary of Residual Effects** **RR by DCiC [RR-003]** DCiC states that "*The construction of the A38(T) Derby Junctions Scheme will be a challenging period for the City, with major employers, city centre retailers, and the hospital all expressing concerns about accessibility and congestion having negative impacts.*" However, other than for noise and vibration, no significant effects appear to have been identified on key stakeholders, or on motorists using the A38 or local roads during construction. a) Please could DCiC provide more detail on its' concerns and does it	a) Response required from DCiC. b) Environmental Statement (ES) Chapter 16: Summary of Residual Effects **[APP-054]** reports a range of potentially significant adverse effects during the Scheme construction phase – this includes significant visual effects, significant noise and vibration effects, significant effects upon pedestrian and cyclists, significant effects associated with residential property loss and significant combined environmental effects. It is likely that DCiC's concern is that there could be adverse traffic impacts during the Scheme's construction phase, rather than environmental effects. The ES uses construction phase traffic data to assess environmental effects associated with noise and vibration, air quality, water quality and severance. However, the ES does not cover general driver concerns regarding wider network delays. These delays are inevitable given the nature of the works proposed and their location, however, Highways England is committed to minimising the effects of construction activities on traffic flows on the A38 and on the associated local roads. An outline Traffic Management Plan **[APP-254]** has been developed and identifies construction phasing and traffic management that will keep traffic moving during construction of the Scheme. The TMP will be developed by the Scheme's contractor once appointed and will be sufficiently flexible to allow adjustments to be made in response to unforeseen queuing and congestion. Key stakeholders, including the local highway authorities, will be consulted on the final detailed version of the Traffic Management Plan, including the temporary traffic management arrangements and processes to be followed during construction.

No	Question to	Reference (in bold) and Question	Applicant's Response
		have any proposals for how they can be addressed? b) Please could the Applicant comment?	
4.28	Applicant	**Response to Interested Parties issues and concerns** **RR by Carter Jonas LLP on behalf of Haven Care Group Ltd [RR-015]** **RR by Alan Bradwell [RR-021]** Please respond to the transport network and traffic issues during the construction of the Proposed Development raised in other RRs, including with respect to: • congestion; • delays due to construction being on the line of the existing road; and • alternative construction proposals at the Markeaton junction using additional land.	An outline traffic management plan has been developed and this identifies construction phasing and traffic management that will keep traffic moving during construction of the Scheme. This will be developed by the Scheme's contractor once appointed and will be sufficiently flexible to allow adjustments to be made in response to unforeseen queuing and congestion. The contractor will appoint a full-time stakeholder liaison officer who will be able to discuss these issues with the local residents during the construction phase. The points raised in Mr Bradwell's representation **[RR-021]** regarding construction being on the line of the existing road and alternative construction proposals at the Markeaton junction using additional land relate to alternative proposals for the scheme alignment. Highways England has been developing the proposals for the A38 Derby junctions Scheme for many years and there have been several public consultation exercises where we have sought the public's view on the proposals. Several alternative layouts have been considered for all of the junctions since studies into this route improvement commenced in 2002. The alternatives previously considered are included in Chapter 3 of the Environmental Statement: Scheme History and Assessment of Alternatives **[APP-041]**. In early 2015 a consultation was carried out and the views of the public were actively sought on the options presented and also invited alternatives to be suggested by the public. We received suggestions for alternatives from the public and these were assessed in accordance with Department for Transport guidance. The outcomes of the assessments were published in 'Alternative Options Assessment' reports. In 2016 the Scheme Assessment Report was produced – this considered the findings of the options assessment work and made recommendations for a preferred route.

No	Question to	Reference (in bold) and Question	Applicant's Response
			There was a formal 'Preferred Route Announcement' in January 2018 and this was taken to a further 'statutory' public consultation in September 2018. This is the scheme that has now been subject to a full Environmental Assessment and submitted for development consent.
4.29	DCiC DCC EBC	**Construction traffic and temporary closures and diversions assessment, impacts and mitigation** **NPSNN paragraphs 5.215-7** Do the Local Authorities have any more comments regarding the Applicant's assessment of construction traffic and temporary closures and diversions, including: a) The nature of likely effects on receptors? b) Relevant mitigation measures secured by the dDCO and OEMP? c) Whether any potential to worsen accessibility would be mitigated so far as reasonably possible? d) The sufficiency of consideration given to mitigation by way of the design, lay-out or construction methods for the Proposed Development? e) Whether the mitigation measures are proportionate, reasonable and focussed on promoting sustainable development?	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
		f) Whether the mitigation measures are enforceable, precise, sufficiently secured and likely to result in the identified residual impacts? g) The identification of all significant impacts? h) Road safety during construction?	
	Operational traffic and permanent road closures		
4.30	Applicant DCiC DCC EBC	**Driver stress assessment** **ES Chapter 12 – People and Communities [APP-050] paragraphs 12.3.15-18 and 12.10.22-32; Tables 12.5 and 12.16** a) Have the average journey speeds provided in Table 12.5 been used to quantify changes in driver stress during operation? If not, why not? b) Table 12.5 shows that driver stress level derives from a combination of peak hourly flow and average journey speed. Tables 12.16 and 12.17 suggest driver stress levels based solely on peak hourly flow. Please justify how driver stress levels can be identified in the absence of average journey speeds.	a) Predicted average journey speeds and traffic flows have been taken into account to categorise driver stress levels as associated with Scheme operation according to the criteria set out in ES Chapter 12: People and Communities **[APP-050]** Table 12.5. Table 12.14 defines baseline levels of driver stress taking into account average predicted journey speeds for various road sections, together with predicted traffic flows per hour (peak) per lane. A revised version of Table 12.14 is resubmitted to correct an observed error as related to predicted traffic flows. b) Table 12.16 and 12.17 are resubmitted highlighting predicted average journey speeds together with predicted traffic flows (with and without the Scheme). Note that these tables also contain corrected predicted traffic flow data. c) Average journey speeds are now illustrated in resubmitted Tables 12.16 and 12.17. d) Please see response to question 4.19 which provides a justification for the assessment of minor (correction: *slight*) adverse effects and how this relates to the significance criteria as set out in Table 12.6. e) As described in ES Chapter 12: People and Communities **[APP-050]** para. 12.6.3, the driver stress assessment focuses on users of the A38 and users on the surrounding roads within 500m of the Scheme. The significance of driver stress levels has therefore considered the A38 mainline carriageway users (at five separate locations along the route), and users of five surrounding roads. The assessment results are summarised in ES Table 12.19. The A38 route assessment results are considered to apply to the whole of the A38, whilst any differences in assessment results as associated with the surrounding roads are appropriately identified – in this regard a distinction in operational effects was identified for users of B5111 Kingsway.

No	Question to	Reference (in bold) and Question	Applicant's Response
		c) Please provide average journey speeds for each road in Tables 12.16 and 12.17. d) How does the assessment of "*minor adverse effect*" relate to the significances set out in Table 12.6? e) An overall assessment of significance is provided. Should the significance be identified at different locations, as is normal with the assessment in other Chapters of the ES? f) Please comment on the significance of effect at B5111 Kingsway WB where peak flows are predicted to increase from 338 to 1183 per hour. g) Please could the Local Authorities comment?	It is considered that the assessment appropriately assesses the effects on users of the A38 and the surrounding roads, and where applicable we have highlighted where key differences should be noted (e.g. for the B5111 Kingsway). f) ES Chapter 12: People and Communities **[APP-050]** Table 12.17 reports that for users of B5111 Kingsway there would be no change in driver stress levels eastbound, although there would be an increase in driver stress from moderate to high westbound. As detailed in para. 12.10.32, the westbound carriageway of the B5111 Kingsway is anticipated to experience an increase in traffic during peak hours of more than 800 vehicles per hour as a result of the Scheme. Though it is likely that these vehicles would travel through the junction more quickly, there is the potential for increased congestion on this route. As a result, it is anticipated that users of the B5111 Kingsway may experience an increase in driver stress, and thus the assessment has defined that there would be minor (correction: *slight*) adverse effect for such users, which is not significant. This definition of slight adverse aligns with the definition provided in Table 12.6. g) Response required from the defined local authorities. Resubmitted Tables 12.14, 12.16 and 12.17, have been attached in Appendix C **[TR01022/APP/8.5.1]**.
4.31	Applicant	**Driver stress assessment** **ES Chapter 12 – People and Communities [APP-050] table 12.19; paragraph 12.3.8** Please justify the assessments of residual effects of "*minor adverse*", "*minor beneficial*" and "*moderate beneficial*" and articulate how they relate to the magnitude criteria set out	**Minor adverse effects (Scheme construction phase: effects upon users of the A38 mainline, surrounding roads; and Scheme operational phase effects upon the B5111 Kingsway):** Please see response to question 4.19 which provides a justification for the assessment of minor (correction: *slight*) adverse effects. **Minor beneficial effects (Scheme operational phase: effects upon users surrounding roads, excluding the B5111 Kingsway):** As described in ES Chapter 12: People and Communities **[APP-050]** identifies minor (correction: *slight*) beneficial effects with regard to driver stress for users of surrounding roads during Scheme operation. The starting point for the assessment is the analysis of driver stress as presented in Table 12.17as based on the analysis of vehicles flows and average speeds (as per Table 12.5) - this indicates no change to

No	Question to	Reference (in bold) and Question	Applicant's Response
		in table 12.5 and to the significance criteria set out in Table 12.6.	stress levels for drivers on the majority of surrounding roads, an increase in driver stress from moderate to high on the westbound A52 Ashbourne Road north of Markeaton junction and an increase in driver stress from moderate to high on the northbound A61 (plus an increase in driver stress from moderate to high for users of the B5111 Kingsway westbound which are considered separately). However, the analysis in Table 12.17 focuses upon the links between junctions, rather than improvements at the junctions themselves – thus the analysis does not capture the traffic benefits of the Scheme through the junctions which are the principal components of the Scheme. Therefore, analysis in Table 12.17 does not take into account the reduced traffic numbers using the roundabouts at the three junctions. The majority of traffic would pass under or over these junctions on the A38, therefore traffic using these local roads would move more freely through the junctions resulting in reduced congestion and improved journey reliability. This would result in a reduction in driver stress on surrounding routes (other than the B5111 Kingsway). Overall it is assessed that the Scheme would result in a minor (correction: *slight*) beneficial effect on driver stress for users of surrounding roads (other than the B5111 Kingsway), which is not significant. This definition of slight beneficial aligns with the definition provided in Table 12.6. **Moderate beneficial effects (Scheme operational phase: effects upon users of the A38 mainline):** Moderate beneficial effects on driver stress were identified for users of the mainline A38 during the Scheme operation phase. The starting point for the assessment is the analysis of driver stress as presented in Table 12.16 – based on the analysis of just vehicles flows and average speeds (as per Table 12.5). The submitted revised Table 12.16 indicates that sections of the mainline A38 would experience either no change in driver stress levels or increases is stress levels. This is because the DMRB methodology as detailed in Table 12.5 focuses on the links between junctions, rather than improvements at junctions – thus the analysis does not capture the traffic benefits of the Scheme through the junctions which are the principal components of the Scheme. Therefore, analysis in Table 12.16 does not capture that traffic using the A38 would no longer be required to reduce their speed or stop to pass through the three signalised junctions that would be grade separated by the Scheme. Therefore, taking this into consideration, it is considered that motorised users would actually experience a reduction in stress due to reduced congestion, increased journey reliability, shorter journey times and reduced fear of accidents. To illustrate this, the Transport Assessment Report **[APP-253]** reports that between 8:00am and 9:00am peak hour largest modelled decreases in total journey time along the A38 northbound would be 6 minutes 44 seconds in 2039, whilst the largest decrease in total journey time along the A38 southbound would be 9 minutes 25 seconds in 2039 during the 0800 – 0900 hours peak time period. Thus, regardless of the analysis

No	Question to	Reference (in bold) and Question	Applicant's Response
			detailed in Table 12.16, based on improved journey reliability and improved journey times, and reduced fear of accidents, it is considered that the Scheme would have a moderate beneficial effect on driver stress for motorised vehicles using the A38 through the Scheme, which is significant. This definition of moderate beneficial aligns with the definition provided in Table 12.6. Whilst the driver stress benefits are defined as being moderate beneficial for A38 drivers through the Scheme, the benefits for those travelling through the Scheme including the Scheme approaches are considered to be slight beneficial. Resubmitted Tables 12.14, 12.16 and 12.17, have been attached in Appendix C **[TR01022/APP/8.5.1]**.
4.32	Applicant	**Kingsway Park Close** **ES Chapter 12 – People and Communities [APP-050] table 12.18** Please summarise the need for any improvements required to the existing length of Kingsway Park Close due to the high predicted increase in traffic.	Although there is expected to be an increase in total traffic flow on Kingsway Park Close following completion of the scheme, the increase in HGV traffic is not expected to be significant (HGV traffic that currently accesses Kingsway Park Close would continue to do so after the scheme implementation – the environmental weight restriction should prevent this increasing significantly). It is HGV traffic loading the dictates road pavement construction depths. It is currently the assumption that the existing Kingsway Park Close would be sufficiently strong to carry the predicted future traffic loading. Pavement surveys will be carried out during the detailed design to confirm this assumption and strengthening work can be implemented if deemed necessary.
4.33	Applicant	**Wider area impacts** **Transport Assessment Report [APP-253] Figure 4.6** Increases in traffic are predicted in the wider area, outside the study area. Please summarise the impacts of the Proposed Development on the wider area.	The Scheme would lead to daily flow reductions of about 2% in the A42/M42 corridor. Flows in the A38 corridor to the south of the A50 'Toyota Junction' would increase by about 1,600 vehicles per day (+2%). Flows in the A38 corridor to the north of the A610 'Ripley' junction would increase by about 4,300 vehicles per day (+7%). The magnitude of these increases would not cause material detrimental impacts.
4.34	Applicant DCiC	**Junction layouts** **Consultation Report [APP-023] paragraph 4.2.11-12**	a) Highways England has noted the points made by the Local Authorities, as recorded in the Consultation Report **[APP-023]** at paragraphs 4.2.11 and 4.2.12. These are points that are capable of being incorporated into the detailed design at the next stage.

No	Question to	Reference (in bold) and Question	Applicant's Response
	DCC EBC	a) Please could the Applicant summarise how the junction layouts have incorporated feedback from Local Authorities? b) Please could the Local Authorities comment?	Responding to the specific points raised: 1) The length of the southbound merge taper at Kingsway southbound could be increased from an urban design to a rural design, which can be accommodated within the existing available carriageway widths. 2) Improved access and egress to the Kingsway Park Retail site was raised by many of the attendees to the Consultation exhibitions. The Kingsway Retail Park site is privately owned and therefore it is not within Highways England's remit to spend public money on resolving this third-party issue. However, it is noted that there could be opportunities for creating a second access/egress onto Kingsway Park Close. Highways England's concern is that, if this improvement were to be made by others, then it should be implemented in a way that discourages the Kingsway Retail Park's customers from routing through the residential area of Mackworth. 3) The A38 northbound diverge would carry low flows, which is why it is shown as being road-marked as a single lane. The DMRB standard requires this type of slip road's carriageway to include a hard shoulder to allow vehicles to pass a stationary (e.g. broken down) vehicle. 4) The pedestrian crossing of A5111 Kingsway, initially to be provided by a developer, would become – with the Scheme – a staggered crossing of the A5111 Kingsway. It's central refuge would be combined with an extension to the splitter island for the Kingsway Junction East roundabout. 5) Highways England, in response to comments raised at the public consultation exhibitions, intends to include a traffic-signal controlled crossing of the Kingsway Park link, on the line of the existing cycleway on the north verge of the A5111 Kingsway. 6) As part of the detailed design of the Brackensdale Avenue / Kingsway Park Close junction improvement, Highways England intends to develop a signal-controlled junction that would incorporate facilities for cyclists. 7) With the closure of the Brackensdale Avenue existing connection to the A38 northbound carriageway, the detailed design will consider the provision of new NMU connection to Greenwich Drive North and the cycleways' continuation alongside Brackensdale Avenue under the A38. 8) The number of lanes and the access arrangements at Markeaton, during construction, will be considered as part of the construction preparation activities. DCiC is identified as a key stakeholder. 9) DCiC's preference for spiral lane markings on roundabout circulatory carriageways is noted. DCC would be the LHA for the Little Eaton roundabout. The existing 'Pinch Point' layouts at these two junctions, implemented by Highways England in 2014, have spiral lane markings.

No	Question to	Reference (in bold) and Question	Applicant's Response
			10) The access from the A52 into the McDonald's/Euro Garages sites is being discussed with the landowners. Pedestrian refuges on the A52 will be incorporated into the junction layout where practicable. 11) At Little Eaton, the northbound diverge would be marked with two lanes. 12) There is no 'public open space' at Ford Lane; but the existing cycleway/footway alongside the A38 and over the railway bridge would be retained and linked to the wider cycleway network. b) Response required from the defined local authorities.
4.35	Applicant	**Kingsway junction capacity** **Transport Assessment Report [APP-253] Table 4.3** The proposed Kingsway junctions would appear to perform well within capacity in 2039. Does this suggest that there might be an alternative layout that would perform satisfactorily but have less impacts, including on the need for Compulsory Acquisition and Temporary Possession?	No. The Kingsway layout was derived from the A38 Derby Junctions road-based study and consultations of 2001. That original layout was then rationalised during the subsequent preliminary design stages. The size of the new roundabouts, which would be designed to the Design Manual for Roads and Bridges, is set by considerations of: operational capacity, the geometric configuration of the approaching roads, and road safety principles. For the proposed Kingsway grade-separated layout, its roundabouts' sizes were governed by the last two considerations and not its operational capacity.
4.36	Applicant DCiC DCC EBC	**Increased journey times on the Mansfield Road route** **Transport Assessment Report [APP-253] Tables 4.5 and 4.6** Increased journey times are predicted on the Mansfield Road route.	The noted journey time increase appears in just one time period, AM2 (0800-0900), in just one forecast year, 2039, and only in the With-Scheme case. By 2039, the A608 Mansfield Road in the southbound (city-bound) direction would experience a large increase in traffic demand in the AM2 time period, driven by the planned increase in housing numbers at Breadsall Hilltop. In terms of capacity, the A608 Mansfield road has two capacity constraints: • The A608 Mansfield Road – over its length between its junction with Stratford Road and its traffic signalled junction at the Meteor Centre – has four frequently used bus stops and two frequently use

No	Question to	Reference (in bold) and Question	Applicant's Response
		a) Please clarify the causes. b) Please comment on the impacts and on the need for mitigation.	pelican crossings. This places a limit on the operational capacity of this route, which is reflected in the traffic model. • The A608 Mansfield Road makes at a sharp turn at a priority-controlled T-junction. This junction lies between Bristol Street Motors, Honda Derby and the Sims Metal businesses. It is located just 60 metres to the west of the A61 Sir Frank Whittle Road / Hampshire Road roundabout. This junction has – in 2019 – long queues of vehicles waiting to make each of the two right turns at this junction (i.e. the right-in and right-out). These existing queue-lengths became significantly longer in the 2039 traffic forecasts. In the traffic forecasting model, the assignment of trip demands to the simulation links and nodes representing the A608 Mansfield Road became over-capacity in the highest demand case (i.e. 2039 inbound AM2). The dynamic route-choice algorithm, which is an iterative process, became unstable in this location as a result. The tables show that in 2015 a journey that took 7 minutes in the inter-peak (10:00 – 16:00 weekday) took 20 minutes in the AM2 peak (08:00 – 09:00). The forecasts indicate that this journey time would increase to around 26 and 38 minutes in the 2039 forecasts. The result of this model sensitivity is reflected in the values noted in Table 4.5 of the Transport Assessment, which indicates a 12-minute (38-26) increase in the southbound journey time on the A608 Mansfield Road. This increase is not an impact of the Scheme but a random instability in the traffic model assignments. These 2039 traffic forecasts show no change in the A608 Mansfield Road traffic flows, between the 'Do-Minimum' and the 'Do-Something' cases. In each case the assigned flows on these A608 Mansfield Road southbound links were 1,500 vehicles per hour; which is the simulated one-directional capacity limit of this road.
4.37	Applicant DCiC DCC EBC Breadsall Parish Council	**A38 speed limits** **ES Chapter 2 – The Scheme [APP-040]** **ES Chapter 12 – People and Communities [APP-050] paragraph 12.9.6** **RR by Breadsall Parish Council [RR-001]**	a) **Kingsway and Markeaton Junctions** - initially, the concept for the design of these junctions was to retain the existing 40mph mandatory speed limit on this section of the A38. In 2007, the (then) Highways Agency investigated the impact of increasing the proposed speed limit to 50mph. Essentially, the main impacts of changing to a 50mph speed limit were identified as: • up to 2,500 more two-way trips attracted from the local roads network into the A38 corridor a day • a £74m relative increase in benefit • the 50mph speed limit would mean the design speed would increase to 85kph (from 70kph) • certain geometric parameters that were compliant with Standards for a 70kph design speed would become Departures from Standards for the 85kph design speed. The key Departures relating to the substandard weaving lengths between Markeaton and Kedleston road junctions, were

No	Question to	Reference (in bold) and Question	Applicant's Response
		a) Please could the Applicant summarise the balance of beneficial and adverse impacts considered in decisions about the adoption of 40 mph, 50mph or 70mph speed limits on different sections of the A38? b) Why would there be a 70mph limit through the Little Eaton junction when safety considerations appear to point towards 50mph? c) What difference would a 50mph limit through the Little Eaton junction make to road safety, journey times and noise levels at Ford Farm Mobile Home Park and in Breadsall? d) What difference would a 40mph limit through the Markeaton junction make to journey times and noise levels at the Royal School for the Deaf Derby and at residential properties near the junction? e) Please could the Councils comment?	submitted ahead of the submission of this DCO application. They were approved by Highways England's safety specialist. Refinements to the design will eliminate or reduce the severity of the Departures from Standards, therefore, a 50mph speed limit was adopted as the benefits greatly outweighed the impacts. The constraints due to the urban nature of the route meant that further increases to the speed limit (to 70mph) would not be possible without unacceptably high impacts on property, public open space and cost. b) **Little Eaton junction safety considerations –** it is normal to apply the national speed limit to 'new' road schemes (i.e. 70mph for a dual carriageway). It would not be desirable to impose a 50mph through Little Eaton junction, especially as the A38 to the north and south of the junction operate at national speed limit. The geometry of the road through Little Eaton junction has an acceptable relaxation to the horizontal radius through the junction. However, there is also an acceptable relaxation to the vertical curve through the junction and design standards dictate that where two such relaxations are co-existent then approval for a Departure from Standards must be sought. Appropriate mitigation for this Departure from Standards would be appropriate signage and an advisory speed limit. Risk assessments have been carried out on the proposed scheme design and it been determined that the scheme is likely to operate with an acceptable level of safety. c) **Little Eaton junction** **Noise levels:** The A38 mainline through Little Eaton junction is currently included in the traffic noise model with a speed of 97km/hr, in accordance with the speed banding process set out in Highways Agency Interim Advice Note 185/15. A speed limit of 50mph corresponds to 80km/hr, which is the boundary between the 97km/hr and 63 km/hr speed bands. However, it is considered that for a 50mph speed limit in this location a departure from the speed banding process would be appropriate to more accurately represent the likely speeds on the A38 mainline with such a speed limit in place. Therefore, a speed of 80km/hr is considered appropriate to represent a 50mph speed limit. In accordance with the traffic noise prediction methodology set out in the Calculation of Road Traffic Noise (CRTN) and taking account of the proportion of Heavy-Duty Vehicles (HDVs), a decrease in traffic speed from 97km/hr to 80km/hr would result in a reduction in traffic noise at source of just over 1dB. To determine the impact of this reduction at specific receptors would require the traffic noise modelling to be repeated. However, it is unlikely that any receptors (such as the Ford Farm Mobile Home Park and in Breadsall) would experience the full benefit of this noise reduction as the overall

No	Question to	Reference (in bold) and Question	Applicant's Response
			traffic noise level at a receptor is dependent on the contribution from all roads in the vicinity including the slip roads at Little Eaton junction, other roads including the A61 and B6179, and the sections of the A38 mainline to the north and south outside of any 50mph speed limit. **Journey times**: In the future year traffic assignment models of the 'Do-Something' cases, the A38 mainline through the Little Eaton junction was represented as 80km/hour links. This method was used to make sure that the geometric alignment constraint of the combined horizontal and vertical curvatures was represented within the forecast journey times. Hence transport economic efficiency appraisals may not have claimed all of the journey time benefits that would be provided by the grade separation. **Road safety**: The road safety appraisal of the Scheme used the outputs from the traffic assignment forecasting models. As explained in response b) above, the 50mph advisory warnings are considered appropriate mitigation for the two co-existent relaxations in the alignment standard. d) **Markeaton junction** **Noise levels:** The A38 mainline through Markeaton is currently included in the traffic noise model with a speed of between 65 and 70km/hr, this is based on the modelled/pivoted speeds generated by the traffic model. As detailed in the Noise and Vibration Chapter of the Environmental Statement **[APP-047]**, as a conservative approach the speed banding process was not adopted on the A38 mainline in this area as it effectively masked the potentially adverse effect of increasing the speed limit from 40mph (64km/hr) to 50mph (80km/hr) as proposed by the Scheme. In accordance with the traffic noise prediction methodology set out in CRTN and taking account of the proportion of HDVs a decrease in speed from 65-70km/hr to 64km/hr would result in a reduction in traffic noise at source of up to 0.5 dB. To determine the impact of this reduction at specific receptors would require the traffic noise modelling to be repeated. It is unlikely that any receptor would experience the full benefit of this reduction as the overall traffic noise level at a receptor is dependent on the contribution from all roads in the vicinity including the slip roads at Markeaton and other roads including the A52. **Journey times**: The planned 50mph (80kph) speed limit, between the Kingsway south-facing slip roads and the Kedleston Road south-facing slip roads, covers a length of the A38 of about 2,300m. If this length of the A38 was to be reduced to a 40mph (64kph) speed limit, then the journey times for the fastest vehicles travelling along the A38 would be increased by 26 seconds. This increased journey time would be most noticed by travellers in the inter-peak and overnight time periods. Any proposal to reduce the speed limit below that adopted in the Scheme's design could lead to vehicles choosing alternative routes that avoid the A38 and this would consequently erode some of the

No	Question to	Reference (in bold) and Question	Applicant's Response
			Scheme's objectives (such as road safety, air quality and noise benefits) on those local roads parallel to the Scheme. To fully appraise an alternative speed-limit option would be a complex process because the traffic forecasts would have to take account of the possibility that some trips would become suppressed in the travel demands. e) Response required from the defined local authorities.
4.38	Applicant DCiC	**Traffic Regulation Measures and Stopping Up** **RR by DCiC [RR-003]** **dDCO [APP-016] Schedule 3** a) DCiC has provided a list of issues but notes that these are not exhaustive. Please could it set out any further concerns? b) Please could DCiC clarify whether it is referring to Schedule 3 of the dDCO rather than Schedule 13, and to which Part(s)? c) Please could the Applicant respond to the issues raised by DCiC? d) Please could the Applicant make any necessary changes to the dDCO?	a) Response required from DCiC. b) Response required from DCiC c) Please refer to the Relevant Representation response **[RR-003t]**, the text for that response is as follows: Prior to the drafting of the draft DCO document DCiC was requested to provide all Traffic Regulation Order information for the affected roads surrounding the A38 Derby Junctions Scheme. At the time of drafting the dDCO, Highways England was not aware of DCiC's proposed changes to the clearway orders relating to the A5111. Liaison with DCiC will continue in order to rectify this through the examination process to address the changes. The TROs have not yet been drafted for this scheme. TROs have a limited life span before they expire if not implemented. The TROs will be drafted and consulted on at the appropriate time prior to implementation. Further consultation will be undertaken with DCiC during examination process. As yet the final position of all Bus Stops and associated Road Markings has not been agreed. The final positions for these items will be consulted on with DCiC and completed during the detailed design stage. The scheme seeks to extend the existing 30mph speed limit from the east of Markeaton Roundabout across the junction to the west beyond the new proposed Markeaton Park access junction, replacing the current 40mph speed limit. The scheme proposes to reposition the Sutton Close access to allow left and right turn access and egress from the close.

No	Question to	Reference (in bold) and Question	Applicant's Response
			d) Changes will be made to the dDCO **[APP-016]** at such time that the issues are raised by DCiC are agreed through consultation. When the TROs are drafted the details will be discussed and agreed with DCiC.
4.39	Applicant	**A6 / Ford Lane** **Transport Assessment Report [APP-253] paragraph 8.4.6** **ES Chapter 2 – The Scheme [APP-040] paragraph 2.5.35** **dDCO [APP-016] Schedule 1** **Works Plans [APP-009]** **RR by DCiC [RR-003]** It is stated that the A6 / Ford Lane would be over capacity and may require mitigation. Work No 34 involves the reconfiguration of this junction. ES Chapter 2 refers to "*a minor reconfiguration and signalisation*" of this junction. Please could the Applicant: a) Clarify the proposal for signalisation in the dDCO? b) Advise whether signalisation has been assumed for the purposes of the traffic model? c) Respond to DCiC's questioning of the assessment and of any decision to signalise the junction?	a) The proposal is to convert the A6 Duffield Road / Ford Lane priority T-junction into a traffic-signal controlled T-junction. The analysis was discussed with DCiC officers. Officers commented and suggested some design changes. The opportunity could be taken to include a pedestrian crossing of the A6, which would assist pedestrians to reach the existing northbound bus stop on the A6 Duffield Road at this location. Signalisation can be referred to as part of Work No 34 if it is considered that this is required. However, this Work No reflects what works will be undertaken to this junction i.e. it will be reconfigured. The dDCO does not detail how a specified Work No will necessarily operate i.e. it will be signalised, as this is not reflected in the development being authorised. b) For the purpose of appraising the 'Do-Something' case, the proposed traffic signals were included in the future year traffic model. This is a robust approach because it loads higher flows onto the A6 Duffield Road and onto the A38/A6 Palm Court junction. c) The junction was assessed with 2039 traffic growth applied to the junction model. DCiC questioned the magnitude of the growth factors. The traffic forecasting model used trip-end growth factors that are consistent with DfT's national trip end model outputs of the Derby area. In this respect the traffic growth applied is reasonable. DCiC suggest that car growth within the residential area accessed via Ford Lane could be less than predicted by the DfT's model. d) If the A6 Duffield Road / Ford Lane junction were not traffic signalled, then: • Residents would experience delays of around 5 to 10 minutes leaving the residential area in the AM peak hour. • Flows on the alternative egress from the residential area, at the A6 Duffield Road / Derwent Avenue priority T-junction, would likely increase. • Pedestrians would receive no assistance in crossing the A6 Duffield Road when using the A6 northbound bus stop. • Traffic travelling towards Derby city centre along the A6 Duffield Road would not be delayed by these proposed signals. • The capital cost of the Scheme would reduce.

No	Question to	Reference (in bold) and Question	Applicant's Response
		d) Summarise the implications of not signalising the junction?	Highways England will accept the advice of DCiC as the relevant local highway authority for this junction.
4.40	Applicant DCiC DCC EBC	**Closure of the existing Ford Lane access to the A38** **ES Chapter 2 – The Scheme [APP-040] paragraphs 12.8.3 and 12.9.6** **ES Chapter 12 – People and Communities [APP-050]** a) Please could the Applicant summarise the alternative options considered for the closure of the existing Ford Lane access to the A38 and the balance of impacts considered for each option? b) What other options are there to discourage the use of Ford Lane as a short cut from the A6 to the A61? c) What is the case against Ford Lane connecting to the A38 slip road and are there any precedents for this? d) Please could the Local Authorities comment?	(It should be noted that ES Chapter 2: The Scheme **[APP-040]** paragraphs 12.8.3 and 12.9.6 do not exist. As such, if this response does not deal with the reference made by the ExA, Highway England would be grateful if the ExA could please clarify). a) During the 2015 consultation, an option to provide a link from Ford Lane to the B6179 north of Little Eaton junction was proposed. This involved the provision of a new bridge across the railway line. Support for this option following the Public Consultation was not sufficient to justify the significant additional costs; also, it would also be difficult to maintain an acceptable access to Talbot Turf's fields due to the large level differences so potentially would result in the extinguishment of the business. b) The reason for the closure of the existing Ford Lane access to the A38 is primarily for safety reasons and not to discourage the use of Ford Lane as a short cut from the A6 to the A61 (although the local authorities and residents may see this as an added benefit. c) Under the scheme proposals, it is necessary to close the existing access to Ford Lane from the A38 for safety reasons. Ford lane junction would be located at the start of the northbound diverge slip road taper. Site constraints mean it would not be possible to relocate the slip road. This would introduce an unacceptable safety hazard as drivers leaving the A38 on the free-flowing diverge slip road would not expect to meet slow moving vehicles turning into or out of Ford Lane. For this reason, the arrangement is not permitted by current design standards (design standard TD22/06, paragraph 5.30 refers). A departure from standards would be very unlikely to be approved as a safer alternative is available (i.e. the scheme proposals). d) Response required from the defined local authorities.
4.41	Applicant DCiC	**Changes to local traffic management** **RR by DCiC [RR-003]**	a) Response required from DCiC.

No	Question to	Reference (in bold) and Question	Applicant's Response
		a) Is DCiC able to provide any further clarification of the potential changes to local traffic management in the Kedleston Road corridor and at Five Lamps junction to the Applicant for their transport network and traffic assessments? b) Please could the Applicant comment on the potential implications of the changes suggested by DCiC?	b) Highways England would be happy to provide comment on the potential implications of the changes suggested by DCiC during construction and operation when DCiC have provided their responses requested above.
4.42	DCiC	**Traffic flow changes** **RR by DCiC [RR-003]** DCiC has highlighted "*significant major traffic flow changes*" at several junctions. a) Please could the Council clarify whether it considers that the Applicant has underestimated the significance of impacts at those junctions? b) Does the Council consider that there is a case for more mitigation measures? If so, what?	N/A
4.43	Applicant	**Response to Interested Parties issues and concerns**	• The alignment of the A38 and speed limits at Little Eaton (RRsRR by Breadsall Parish Council **[RR-001]** and Simon Morris **[RR-026]**)

No	Question to	Reference (in bold) and Question	Applicant's Response
		RR by Breadsall Parish Council [RR-001] **RR by DCC [RR-004]** **RR by Carter Jonas LLP on behalf of Haven Care Group Ltd [RR-015]** **RR by McDonald's Restaurants Limited [RR-016]** **RR by Alan Bradwell [RR-021]** **RR by Simon Morris [RR-026]** **RR by Ken Pendle [RR-028]** **RR by Jordanne Romanos [RR-030]** Please respond to the transport network and traffic issues during the operation of the Proposed Development raised in other RRs, including with respect to: • the alignment of the A38 and speed limits at Little Eaton; • the closure of Ford Lane; • car parking; • the Alignment of the A38 Southbound Merge slip road at the Markeaton junction; • congestion • health and safety risks to road users;	Both Simon Morris and Breadsall Parish Council believe that it could be based on a tighter radius for the A38 with a 50mph limit, similar to the limit at the other two junctions. This would keep the carriageway further away from Breadsall and mitigate its effects. Highways England notes that a reduction in the speed limit to reduce the design standards could reduce the radius of the main curve through the junction from 225m to 180m (the next design step down). Using a 180m radius would mean the A38 could more closely follow its existing alignment and move the carriageway some 40 to 50m further from Breadsall village. It should be noted, however, that the 'Southern Sweep' option also had the A38 main line on an alignment that was close to the existing A38; the environmental assessment of the Southern Sweep found that the impacts (in terms of noise, visual and air quality) were not much different to the preferred option but had big disadvantages in terms of buildability (a temporary road would need to be constructed off-line while the new A38 was constructed), construction programme and scheme costs, refer to Environmental Statement Chapter 3: Scheme History and Assessment of Alternatives **[APP-041]**. It is anticipated that, assessing it in the same way, an option with a 50mph mandatory speed limit would perform in a similar way as the Southern Sweep with the additional disadvantage of requiring a 40mph advisory speed limit (introducing economic dis-benefits). It is normal to apply the national speed limit to 'new' road schemes (i.e. 70mph for a dual carriageway). It would not be desirable to impose a 50mph through Little Eaton junction, as the A38 to the north and south of the junction operate at national speed limit and, as noted above, it would offer no advantages over options that have been assessed and discounted previously. • the closure of Ford Lane (RR by Derbyshire County Council **[RR-004]**) Derbyshire County Council has raised concerns over the closure of Ford Lane and its impact on local businesses, particularly relating to proposed weight restrictions on the Ford Lane bridge, Highways England, upon being advised of the proposed weight restriction, has carried out further assessment work on the existing bridge and, at the time of writing, is optimistic that the structure will be able to carry a 40T vehicle if the bridge is restricted to one-way traffic flow. Further discussions will take place with the County Council before this is finalised. This would allow local businesses (Talbot Turf in particular) to carry on with their operations. • car parking (RR by Carter Jonas LLP on behalf of Haven Care Group Ltd **[RR-015]**)

No	Question to	Reference (in bold) and Question	Applicant's Response
		• the capacity and installation of traffic lights at the Ashbourne road junction to the fast food site at Markeaton junction; • delivery issues; • the suggestion of a separate 3-lane dual carriageway for the A38 and a separate A5111 Derby Ring Road; • a reduction in the number of access junctions between the A38 and Derby roads; • the gradient up Windmill Hill and issues for lorries; • alternative junction layouts at Little Eaton; • improved journey times from the A50 to the M1; and • alternative suggestions for Markeaton Island and to prevent local and long-distance traffic "*clashing*".	Carter Jonas LLP on behalf of Haven Care Group has expressed concern that, due the compulsory acquisition of the Plots the Home will lose all of its parking spaces. However, Highways England would point out that it is likely that a large portion of the land required for the Scheme will only be required temporarily and can be returned to the land owner on completion of the Scheme. The parcel labelled as 3/15a is likely to be required only temporarily whilst 3/15b is required permanently. • the Alignment of the A38 Southbound Merge slip road at the Markeaton junction (RR by Carter Jonas LLP on behalf of Haven Care Group Ltd **[RR-015]**) Carter Jonas LLP on behalf of Haven Care Group has expressed concern that the A38 Southbound Merge slip will come significantly closer than the existing carriageway. Highways England would point out that the slip road has been kept as far as practicable from the residential properties by introducing retaining walls adjacent to the A38 main line. During the detailed design, appropriate boundary treatment for the Care Home at 255 Ashbourne Road will be agreed with the property owner and tenant to ensure their privacy and security are maintained. • congestion (RR by McDonald's Restaurants Limited **[RR-016]**) McDonald's Restaurants Limited expressed concern that, due to their increase in customer numbers the Works and increased site traffic will exacerbate already existing congestion. Highways England would respond stating that the proposed exit onto the A38 slip road will be able to perform better than the existing exit due to the greatly reduced flow passing the exit on the A38 slip road. The proposed exit on the A52 will be able to perform better than the existing exit due to the introduction of traffic signals. A Technical Note covering this has been prepared by Highways England's designers and shared with McDonald's with a view to meeting again to discuss further. • health and safety risks to road users (RR by McDonald's Restaurants Limited **[RR-016]**) Highways England confirms that the design been carried out to current standards and one of the objectives of the standards is to ensure an appropriate level of safety is included in the design. Highways England would be happy to discuss any safety concerns McDonald's Restaurants Limited have and would be happy to provide advice on how they can operate a safe system within their car park area if required. • the capacity and installation of traffic lights at the Ashbourne road junction to the fast food site at Markeaton junction (RR by McDonald's Restaurants Limited **[RR-016]**)

No	Question to	Reference (in bold) and Question	Applicant's Response
			Highways England confirms that the traffic signals have been designed to current standards and have adequate capacity (plus a 10% contingency allowance to accommodate the forecast traffic flow for the scheme design year (2039). As noted above, a Technical Note covering this has been prepared by Highways England's designers and shared with McDonald's with a view to meeting again to discuss further. • delivery issues (RR by McDonald's Restaurants Limited **[RR-016]**) Highways England can confirm that swept path diagrams have been provided to demonstrate that access for deliveries from the proposed new A52 access is feasible within the current car park layout and, during the detailed design stage, pavement surveys could be carried out to determine the strength of all parts of the car park – strengthening could be carried out as accommodation works if required. • the suggestion of a separate 3-lane dual carriageway for the A38 and a separate A5111 Derby Ring Road (RR by Alan Bradwell **[RR-021]**) The suggestion that Highways England should provide a separate 3-lane dual carriageway for the A38 and a separate A5111 Derby Ring Road has not been considered as a realistic alternative. The proposed scheme has been shown (through traffic modelling); Mr Bradwell's suggestion would not offer significant benefits in comparison to the proposed scheme but would introduce significant impacts on residential property, businesses and public open space. • a reduction in the number of access junctions between the A38 and Derby roads (RR by Alan Bradwell **[RR-021]**) As part of the scheme, Highways England propose closing the direct accesses onto the A38 between Kingsway junction and Markeaton junction (3 accesses) for safety reasons – the traffic that currently use these junctions will now use the improved Kingsway and Markeaton junctions. • the gradient up Windmill Hill and issues for lorries (RR by Alan Bradwell **[RR-021]**) It has been assumed that Mr Bradwell is referring to the gradient on the A38 near to Windmill Hill Lane (Windmill Hill Lane is not affected by the scheme proposals). The Maximum gradient on the A38 is just below 8% but this only exist over a length of less than 50m so is not considered to be an issue for HGVs. • alternative junction layouts at Little Eaton (RR by Alan Bradwell **[RR-021]**)

No	Question to	Reference (in bold) and Question	Applicant's Response
			Highways England has been developing the proposals for the A38 Derby junctions Scheme for many years and there have been several public consultation exercises where the public's view on the proposals have been sought. Many alternative layouts have been considered for the Little Eaton junction since studies into this route improvement commenced in 2002. The alternatives previously considered are included in Chapter 3 of the Environmental Statement: Scheme History and Assessment of Alternatives **[APP-041]**. In early 2015 a consultation was carried out and the views of the public were sought on the options that were presenting and also alternatives were invited to be suggested by the public. Several suggestions for alternatives were received from the public and these were assessed in accordance with Department for Transport guidance. The outcomes of the assessments were published in 'Alternative Options Assessment' reports. In 2016 the Scheme Assessment Report was produced – this considered the findings of the options assessment work and made recommendations for a preferred route. There was a formal 'Preferred Route Announcement' in January 2018 and this was taken to a further 'statutory' public consultation in September 2018. This is the scheme that has now been subject to a full Environmental Assessment and submitted for development consent • improved journey times from the A50 to the M1 (RR by Ken Pendle **[RR-028]**) Mr Pendle has offered his support to the junction improvements which, he states, will speed the journey times from the A50 to the M1 tremendously and Highways England would like to thank him for this. • alternative suggestions for Markeaton Island and to prevent local and long-distance traffic "clashing" (RR by Jordanne Romanos **[RR-030]**) The proposed design for Markeaton junction, a grade separated 2-bridge roundabout junction, is the recognised solution for separating the north-south A38 traffic flows from the east-west A52 flows allowing for all turning movements between the two roads. The form of grade separation is appropriate for the forecast design (2039) year traffic flows
4.44	DCiC DCC	**Operational traffic and permanent road closures assessment, impacts and mitigation**	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
	EBC	Do the Local Authorities have any more comments regarding the Applicant's assessment of operational traffic and permanent road closures, including: a) The nature of likely effects on receptors? b) Relevant mitigation measures in the dDCO? c) Whether any potential to worsen accessibility would be mitigated so far as reasonably possible? d) The sufficiency of consideration given to mitigation by way of the design, lay-out or operation of the Proposed Development? e) Whether the mitigation measures are proportionate, reasonable and focussed on promoting sustainable development? f) Whether the mitigation measures are enforceable, precise, sufficiently secured and likely to result in the identified residual impacts? g) The identification of all significant impacts?	
	Public transport		

No	Question to	Reference (in bold) and Question	Applicant's Response
4.45	Applicant DCC DCiC EBC	**ES Chapter 12 [APP-050]** The effect of the Proposed Development on bus services is reviewed at ES paragraphs 12.7.17-12.7.22, 12.10.74 and 12.10.76. a) DCC, DCiC, EBC - Are you content that this review fully and accurately reflects the effects of the Proposed Development? b) Applicant - Have the proposals been discussed with bus operators and local transport groups? If not, is there an intention to do so? If they have been discussed, what was the response?	a) Response required from the defined local authorities. b) Representatives from the bus operators attended the September 2018 Public Consultation events and provided feedback. In addition, Arriva and Trent Barton attended a meeting at Derby City Council offices in October 2018 where the status of the Scheme was presented, and key stakeholder comments were discussed and recorded. Key comments recorded related to: • The promotion of sustainable transport initiatives (e.g. Personal Travel Planning) to encourage a mode shift to buses during the four-year construction period; • A request that bus routes remain clear during construction, noting a 1% increase in travel time equates to a 1% drop in patronage; and • Given that the bus-timetable frequency is fixed – increase in bus travel times has to be covered by the provision of additional bus vehicles. This has a real cost to the bus companies. Highways England would be happy to further discuss with bus operators during the detailed design stage.
4.46	DCiC	**Impacts during operation** **Transport Assessment Report [APP-253] Section 7.2** Is DCiC content with the changes proposed to bus stop locations and the route into Markeaton Park during operation?	N/A
4.47	DCiC DCC EBC	**Public transport assessment, impacts and mitigation**	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
		ES Chapter 12 – People and Communities [APP-050] paragraphs 12.7.17-22 Do the Local Authorities have any more comments regarding the Applicant's baseline, assessment and mitigation proposals with respect to public transport?	
5	**Air quality**		
	Baseline conditions and overall assessment methodology		
5.1	Applicant	**Details of exceedances of air quality screening criteria at affected road links.** The Applicant was issued with s51 advice on 22 May 2019 requesting further information regarding the screening process for inclusion of receptors/road links on the affected road network for further consideration in the assessment. In its response [AS-013] the Applicant provided updated figures [AS-006] to illustrate affected road links. However, detailed information demonstrating how the air quality screening criteria are exceeded were not supplied.	The road links shown in the tables in Appendix D **[TR01022/APP/8.5.1]** exceeded the DMRB screening criteria for changes to traffic flows and speeds. In addition, there are changes to road alignment with the Scheme which have also been considered in the assessment.

No	Question to	Reference (in bold) and Question	Applicant's Response
		Please provide specific details of how the affected road links exceed the DMRB screening criteria during both construction and operation or signpost to where this may be found in the application documents.	
5.2	Applicant DCiC	**DCiC traffic measures for Stafford Street** **ES Chapter 5 – Air Quality [APP-043] paragraphs 5.2.20, 5.5.9, 5.10.44** Please could the Applicant clarify any implications for the air quality assessment of any updates provided by DCiC of the timing of the removal of their clean air zone traffic management measures for Stafford Street?	A meeting was held with Derby City Council (DCiC) on the 10th October 2019 at which an update was provided regarding their proposals to install traffic management measures on Stafford Street. DCiC plan to have their defined traffic management measures to improve air quality in place during the Scheme construction phase. These measures include making better use of the road network through junction improvements and the operation / management of traffic signal junctions to reduce traffic flows in Stafford Street. The system will be dynamic as the signal timing can be adjusted depending upon local circumstances. DCiC envisages that the traffic management measures will be in place for the duration of the Scheme construction phase. This was the assumption made for the construction phase air quality assessment as reported in the ES **[APP-043]**. The traffic management measures will reduce traffic flows in Stafford Street which will improve air quality along Stafford Street. The air quality impact assessment reported in the ES **[APP-043]** has assumed that the traffic management measures will not be in use during the opening year of the Scheme (2024). DCiC is expecting that operation of the Scheme will be beneficial for air quality in Stafford Street – thus following Scheme opening, the DCiC traffic management measures are not anticipated to be required. Given that the air quality impact assessment **[APP-043]** has assumed that the traffic management measures will not be in use during the Scheme operational phase, the assessment has assumed that traffic flows in Stafford Street would be higher than they would be should the traffic management measures still be in use. Thus, if the traffic management measures were to be in use in the Scheme opening year, pollutant concentrations would be expected to be lower in Stafford Street than as reported in ES Chapter 5: Air Quality **[APP-043]**, paragraph 5.10.44.
5.3	Applicant DCiC	**Changes to local traffic management** **RR by DCiC [RR-003]**	a) Response required from DCiC. b) Highways England assumes that Derby City Council (DCiC) will not know the details of the improvements that will need to be made to their local road network at Kedleston Road and Five Lamps Junction until after the Scheme is open for traffic. Our traffic model of the With Scheme ('Do-

No	Question to	Reference (in bold) and Question	Applicant's Response
		a) Is DCiC able to provide any further clarification of the potential changes to local traffic management in the Kedleston Road corridor and at Five Lamps junction to the Applicant for their air quality assessment? b) Please could the Applicant comment on the potential implications of the changes suggested by DCiC for the air quality assessment?	Something') case assumed that the nearby traffic signals would be adjusted to maximise their operational efficiency in the peak hours. Such improvements would necessarily need to be constrained to the existing number of approach lanes and within the available carriageway widths. In the traffic forecasting model, the process applied to adjust traffic signal settings is termed signal optimisation. The implication for the air quality assessment in ES Chapter 5: Air Quality **[APP-043]** is that the link flow forecasts used in Highways England's air quality modelling already allow for potential capacity improvements to the traffic signal settings. If Highway England's traffic model has over-estimated the capacity of the local road network at these two locations, then the actual flows reaching the Scheme's road links in the 'Do-Something' case would be less than used in our analysis, but congestion could increase. As a result, if DCiC is not be able to implement capacity improvements to Kedleston Road and to the Five Lamps junction, then the localised air quality impacts could possibly be different to that assessed. However, air quality in this area was predicted to be well within the national objectives and limit values at receptors on Kedleston Road (R58 and R59) with an imperceptible increase in concentrations due to the Scheme during construction and operation. DCiC's own air quality assessment for limit value compliance purposes, at receptors near the Five Lamps junction in 2020 shows annual mean NO_2 concentrations to be less than 37µg/m^3 which is well within the objective and limit value at 40µg/m^3 (DCiC maps available at http://maps.derby.gov.uk/#). NO_2 concentrations in later years will be lower due to a cleaner vehicle fleet. A significant worsening of air quality due to the Scheme is not anticipated in this area if signal optimisation does not proceed at Kedleston Road and Five Lamps junction.
5.4	DCiC DCC EBC	**Study area, receptors and baseline data** **ES Chapter 5 – Air Quality [APP-043] sections 5.6 and 5.7** **ES Appendix 5.2 – Air Quality Methodologies [APP-171] table 2**	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
		Are the Local Authorities content with the Applicant's assessment with respect to: a) The study area, including consideration of the effects of fleet and traffic volume changes resulting from temporary diversionary routes? b) The baseline data, including the use of the 2015 or the 2016 baseline? c) The receptors selected for the assessment and whether they are considered representative?	
5.5	DCiC DCC EBC	**Carbon monoxide, 1,3-butadiene, benzene, lead and sulphur dioxide** **ES Chapter 5 – Air Quality [APP-043] paragraph 5.3.4** a) Are the Local Authorities content with the Applicant's conclusion that there is no risk of carbon monoxide, 1,3-butadiene, benzene, lead or sulphur dioxide concentrations exceeding the relevant national objectives? b) Are there any local factors that might lead to an exceedance?	N/A
5.6	DCiC	**$PM_{2.5}$ assessment**	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
	DCC EBC	**ES Chapter 5 – Air Quality [APP-043] paragraph 5.35 and Table 5.5.** The Applicant states that "*The $PM_{2.5}$ results are not discussed in this chapter as concentrations are well below the objective and limit value under all scenarios*" and that "*The change in overall exposure to $PM_{2.5}$ would be the same as for PM_{10}. The Scheme is shown to reduce overall exposure to PM_{10} (and $PM_{2.5}$). Therefore, no additional mitigation measures are required to reduce exposure to $PM_{2.5}$.*" a) Are the Local Authorities content with the Applicant's assessment of $PM_{2.5}$, including in relation to the European Union (EU) Ambient Air Quality Directive? b) Are any additional mitigation measures required for $PM_{2.5}$?	
5.7	Applicant	**Consideration of receptor sensitivity** **ES Chapter 5 – Air Quality [APP-043] paragraphs 5.3.6 and 5.3.14; table 5.11** Please clarify how receptor sensitivities combine with magnitude of	The modelled receptors were selected based on locations where members of the public are regularly present and where air quality objectives and limit values apply. As described in ES Chapter 5: Air Quality **[APP-043]**, para. 5.3.6 "*sensitive receptors are predominantly residential properties, but also include schools, hospitals and community facilities*." All receptors where members of the public could be regularly present are considered to be of equal sensitivity. The sensitivity of the receptors to human health impacts is not subdivided as the public includes the most vulnerable members of society (the young, the elderly and the sick) who could be present at the vast majority, if not all, of the receptor locations. Modelled sensitive receptors were selected as those anticipated to experience the largest

No	Question to	Reference (in bold) and Question	Applicant's Response
		change in Nitrogen Dioxide (NO_2) or PM_{10} to allow the impact on receptors to be identified?	magnitude of change in pollutant concentrations and therefore those located within 200m of the affected road network based on guidance presented in the DMRB,11, Section 3, Part 1, air quality. At each selected sensitive receptor, annual mean concentrations of nitrogen dioxide and particulate matter were predicted for the following scenarios: • Baseline 2015. • Future baseline construction year 2021, without construction (Do-Minimum). • Construction year 2021 with construction (Do-Something). • Future baseline opening year 2024 without the Scheme (Do-Minimum). • Opening year 2024 with the Scheme (Do-Something). The magnitude of change in pollutant concentrations between the Do-Something and Do-Minimum scenarios for each of the construction phase scenarios and the operational phase scenarios was determined. If the change in concentrations is less than or equal to 1% of the objective and limit value, then the impact is imperceptible. The impact of the magnitudes of change greater than 1% depend on whether the change is predicted to take place above an air quality objective and limit value or within an objective and limit value. Changes in pollutant concentrations that do not exceed the objectives and limit values are not considered to be significant as the air quality objectives and limit values were set with regard to scientific and medical evidence on the effects of the particular pollutant on health at minimum or zero risk levels (Defra, The Air Quality Strategy for England, Scotland, Wales and Northern Ireland,1 (2011), Chapter 2, paragraph 18). Perceptible changes in pollutant concentrations at levels that exceed an objective and limit value could be significant as set out in ES Chapter 5: Air Quality **[APP-043]** para. 5.3.9 to 5.3.11.
5.8	Applicant	**Definition of significant effect** **ES Chapter 5 – Air Quality [APP-043] table 5.3**	ES Chapter 5: Air Quality **[APP-043]** Table 5.3 is derived from Table 2.3 in Interim Advice Note (IAN) 174/13, 'updated advice for evaluating significant local air quality effects for users of DMRB11, Section 3, Part 1 'Air Quality' (Highways England, 2013). The methodology is described in the ES Chapter 5: Air Quality **[APP-043]**, para. 5.3.9 to 5.3.11 which outlines seven questions used to determine whether an air quality effect is significant. ES Table 5.3 is used to answer the question 'will many people be affected?'

No	Question to	Reference (in bold) and Question	Applicant's Response
		Please clarify the origin of this table and justify its' basis for the assessment.	The results from the detailed local air quality assessment which predicted the magnitude of change in annual mean nitrogen dioxide (NO_2) and particulate matter (PM_{10}) concentrations at each modelled sensitive receptor were used to populate Table 5.9, ES Chapter 5: Air Quality **[APP-043]**. It should be noted that only those receptors exceeding the air health-based quality objectives and limit values in either the Do-Minimum scenario or the Do-Something scenario would be considered. Table 5.3 indicates that for a significant adverse effect to occur (and similarly for a significant beneficial impact due to predicted improvements), one of the following criteria would need to be achieved: • 30 - 60 receptors would need to have a small magnitude deterioration, or • 10 - 30 receptors would need to have a medium magnitude deterioration, or • 1 - 10 receptors would need to have a large magnitude deterioration. For this Scheme, only one modelled receptor is at risk of exceeding the air quality objective and limit value for NO_2 (R197 in Stafford Street) both with and without the Scheme. This receptor is predicted to have a small magnitude improvement with the Scheme in 2024. This receptor is representative of ground floor flats in Burleigh Mews. There are approximately four ground floor flats in Burleigh Mews that are at risk of exceeding, however, DCiC's traffic management measures are expected to improve air quality so that there are no exceedances in 2024. Therefore, no significant air quality effects are predicted (beneficial or detrimental) as illustrated in ES Tables 5.9 and 5.10.
5.9	Applicant	**Emission rates and background concentrations after 2024** **ES Chapter 5 – Air Quality [APP-043] paragraph 5.5.8** Please justify the assertion that emission rates and background concentrations would be lower after 2024 and would result in lower predicted concentrations.	Vehicle emission factors were obtained from Interim Advice Note (IAN) 185/15 'Updated Traffic, Air Quality and Noise Advice on the Assessment of Link Speeds and Generation of Traffic Data into Speed Bands for Users of DMRB 11.3.1 Air Quality and DMRB 11.3.7 Noise'. Annex C1 and C2 of this IAN show the year on year reduction in emission factors of NO_x and PM_{10} respectively from 2015 (the base year used in the air quality assessment for the Scheme) onwards for each road type. Air pollution background concentration maps are published by The Department for Environment, Food and Rural Affairs (Defra) and provide an estimate of background concentrations in 1km grid squares across the country for specific pollutants. Data is provided for a base year and each future year up to 2030. According to these background maps, concentrations of oxides of nitrogen (NO_x), nitrogen dioxide (NO_2) and particulate matter (PM_{10}) decrease year on year, mainly due to a cleaner vehicle fleet in future years. This is illustrated in ES Appendix 5.2: Air Quality Methodologies, Table 3 **[APP-171]**, where background concentrations for 2015, 2021 and 2024 are provided.

No	Question to	Reference (in bold) and Question	Applicant's Response
			Air quality objectives and limit values are set for an annual period; therefore, the modelled opening year of a scheme should be the first full year of opening. As the Scheme is not planned to be fully open until late 2024, the year of opening for the air quality assessment should be 2025. As described in ES Chapter 5: Air Quality **[APP-043]**, the opening year assessed for air quality was selected as 2024 as that was the year for which modelled traffic data are available. For the reasons outlined above, in terms of slightly lower background concentrations and also vehicle emission factors in 2025 compared to 2024, the assessment can be considered to be conservative with higher predicted concentrations presented than would have been for 2025.
5.10	Applicant DCiC DCC EBC NE	**Biodiversity impact assessment** **ES Chapter 5 – Air Quality [APP-043] paragraph 5.8.14 and table 5.10** **NPSNN paragraphs 5.11** a) Are the Local Authorities and NE satisfied with the Applicant's assessment that no international or nationally designated sites would be affected by the Proposed Development in respect to air quality? b) With reference to the NPSNN, please could the Applicant clarify and summarise potential air quality impacts on other nature conservation sites?	a) Response required from the defined local authorities. b) This question is in relation to the National Policy Statement for National Networks (NPSNN), paragraph 5.11 which states: *"Air quality considerations are likely to be particularly relevant where schemes are proposed:* • *within or adjacent to Air Quality Management Areas (AQMA); roads identified as being above Limit Values or nature conservation sites (including Natura 2000 sites and SSSIs, including those outside England); and* • *where changes are sufficient to bring about the need for a new AQMAs or change the size of an existing AQMA; or bring about changes to exceedences of the Limit Values, or where they may have the potential to impact on nature conservation sites."* Highways England's approach to the consideration of air quality impacts on ecological sites is outlined in Design Manual for Roads and Bridges (DMRB),11, Section 3, Part 1, Air Quality. The type of Designated Sites for ecology according to the DMRB 11.3.1 that should be assessed for air quality impacts are Natura 2000 sites (Special Areas of Conservation (SACs), Sites of Community Importance (SCIs), potential SCIs, Special Protection Areas (SPAs) and Ramsar sites) and Sites of Special Scientific Interest (SSSIs), which contain a designated feature that is sensitive to air pollution. As stated in the ES Chapter 5: Air Quality **[APP-043]**, para. 5.8.14, there are no such Designated Sites for ecology within 200m of the affected road network for operational and construction traffic impacts or within 200m of the Scheme boundary and therefore no change in air quality is expected at any Designated Site. The closest Designated Sites to the study area for air quality are Morley Brick Pits SSSI, Breadsall Railway Cutting

No	Question to	Reference (in bold) and Question	Applicant's Response
			SSSI and Kedleston Park SSSI. ES Figure 8.3 **[APP-097]** shows the locations of these SSSIs, with the closest site (Breadsall Railway Cutting SSSI) being approximately 1.5km from the Scheme boundary. ES Chapter 8: Biodiversity **[APP-046]** has also considered the potential of the Scheme to impact on other nature conservation sites that are of less importance (i.e. of importance at the county or Unitary Authority geographical scale) than the Designated Sites as discussed above. There are other nature conservation sites such as Local Nature Reserves (LNRs) and Local Wildlife Sites (LWSs) in the study area that could be affected by the Scheme, although the DMRB does not require these to be assessed. These LWSs and LNRs are shown on ES Figures 8.4 **[APP-098]** and 8.5 **[APP-099]**. ES Chapter 8: Biodiversity **[APP-046]** has also considered the potential of the Scheme to impact on other nature conservation sites that are of less importance (i.e. of importance at the county or Unitary Authority geographical scale) than the Designated Sites as discussed above. There are other nature conservation sites such as Local Nature Reserves (LNRs) and Local Wildlife Sites (LWSs) in the study area that could be affected by the Scheme, although the DMRB does not require these to be assessed. These LWSs and LNRs are shown on ES Figures 8.4 **[APP-098]** and 8.5 **[APP-099]**. The non-statutory sites that are within 200m of the Scheme boundary and so could be affected by dust during construction include: • Mickleover Railway Cutting LWS (adjacent to the construction footprint at Kingsway junction) • Bramble Brook and margins LWS (within the construction footprint at Kingsway junction) • A38 Roundabout LWS (within the construction footprint at Kingsway junction) • Markeaton Brook System LWS (within the construction footprint at Markeaton junction) • Markeaton Park LWS (adjacent to and within the construction footprint at Markeaton junction) • Alfreton Road Rough Grassland LWS (within the construction footprint at Little Eaton junction) • River Derwent LWS (within construction footprint at Little Eaton junction) Locally designated sites with a feature that may be affected by dust deposition are considered to be of low sensitivity by the Institute of Air Quality Management (IAQM) (Box 8 in IAQM, Guidance on the assessment of dust from demolition and construction, 2016). High sensitivity receptors are locations with an international or national designation with designated features may be affected. A medium sensitivity receptor is a location with a national designation with a feature that may be affected by dust deposition. A

No	Question to	Reference (in bold) and Question	Applicant's Response
			low sensitivity receptor is a location with a local designation with features that may be affected by dust deposition. The standard dust mitigation measures as set out in the Outline Environmental Management Plan **[APP-249]** are appropriate to minimise dust emissions in the locally designated sites and thus impacts are not expected to be significant with the application of such measures. LNRs and LWSs in the biodiversity study area that are within 200m of the affected road network during construction or operation and so could be affected by a change in air quality include those below in addition to those sites listed above: • Allestree LNR (near Ford Lane) • Camp Wood, Little Eaton LWS (located near the A38) • Drum Hill Fields, Breadsall Moor LWS (located near the A38) • Moor Plantation & Drum Hill LWS (located near the A38) • Breadsall Disused Railway Line LWS (located near Brookside Road) • Friargate Station LWS (located near Stafford Street) • Darley Park LWS (located near Duffield Road) • Bunkers Wood LWS (located near the A38) By applying the same sensitivity criteria to air quality as there are for dust deposition, local statutory and non-statutory designated sites with a feature that may be affected by air quality are considered to be of low sensitivity. Due to the construction or operation of the Scheme, these sites could have a change in NO_x concentrations and nitrogen deposition rates in the parts of the sites that are within 200m of the affected road network with the largest changes expected within 10m of the roadside. The changes are expected to be broadly comparable with the changes that occur over several years due to improvements in vehicle fleet emissions and the year to year variations in meteorology. Due to the low sensitivity of these locally designated sites, these changes are not considered to be significant and have not been assessed quantitatively.
5.11	Applicant	**CO_2 emissions** **ES Chapter 5 – Air Quality [APP-043] paragraphs 5.10.61-64**	The assessment of CO_2 emissions was undertaken as part of the regional assessment, in accordance with the Design Manual for Roads and Bridges (DMRB), Volume 11, Section 3, Part 1, Air Quality (Highways England 2007). The study area for the regional assessment is described in ES Chapter 5: Air Quality **[APP-043]** para. 5.6.8 and 5.6.9 and the assessment methodology in para. 5.3.12. The results of

No	Question to	Reference (in bold) and Question	Applicant's Response
		ES Appendix 5.2 – Air Quality Methodologies [APP-171] **ES Appendix 5.3 – Air Quality Results [APP-172]** The methodology for assessing CO_2 impacts is not included in Appendix 5.2 and CO_2 air quality results are not included in Appendix 5.3. Please could the Applicant summarise the methodology used and clarify how CO_2 emissions due to the Proposed Development have been calculated?	the regional assessment have been provided in ES Chapter 5: Air Quality **[APP-043]** para. 5.10.61 to 5.10.65.
5.12	Applicant	**Cumulative impact assessment** **ES Chapter 15 – Assessment of Cumulative Effects paragraphs 15.10.2** If the two potential designated fund projects at Markeaton junction/park projects do go ahead, what is the potential for significant cumulative impacts with the Proposed Development in relation to air quality?	As detailed in the ES Chapter 15: Assessment of Cumulative Effects **[APP-053]**, Highways England is considering the possibility for two Designated Fund projects in the vicinity of the Scheme – namely: i) the feasibility of a green bridge structure at Markeaton junction rather than the 'like-for-like' Markeaton footbridge replacement which would be provided by the Scheme; ii) biodiversity enhancement works within areas of open space located adjacent to the Scheme (i.e. Markeaton Park and Mill Ponds, Ford Lane Site of Interest, noting that these areas have been identified through stakeholder engagement). Potential designated fund projects are assessed by Highways England on their merits and alignment with Designated Fund policies and may be selected for funding and progression. However, both of these projects remain at the feasibility stage and there is no defined programme for their determination and progression, and thus there remains no certainty that they will progress as they are both subject to separate Highways England funding being secured. It is noted that neither of the Designated Fund projects are included within the dDCO as they do not form part of the Scheme for which consent is being sought. If they come forward, they would be consented under the appropriate planning regime with the local authority (Derby City Council). As part of the planning application process, a key issue to consider would be any potential cumulative effects as associated with any concurrent works associated with the Scheme. It is thus considered that the routine planning application process would appropriately consider the potential for cumulative effects, including

No	Question to	Reference (in bold) and Question	Applicant's Response
			potential effects associated with air quality. Nevertheless, it is anticipated that the Designated Fund project investigating the potential for biodiversity enhancements within areas of open space located adjacent to the Scheme (i.e. Markeaton Park and Mill Ponds, Ford Lane Site of Interest) would not have the ability to generate any significant construction phase cumulative air quality effects due to the unintrusive nature of the proposed works (which would predominantly entail landscape enhancement planting). Similarly, the works would not result in any operational phase air quality effects. With regard to the green bridge structure, this could entail additional traffic movements during the construction phase given that green bridge would likely need additional material imports, plus some additional construction activities. However, the volume of additional haulage traffic (above that associated with the Scheme) is anticipated to be minimal, whist the construction works would unlikely be very different from those already assumed to be needed for footbridge installation. Installation of the green bridge structure is not anticipated to have any significant implications with regard to operational phase air quality.
5.13	DCiC DCC EBC EA	**Baseline conditions and overall assessment methodology** Do the Local Authorities or EA have any more comments regarding the Applicant's consideration of baseline conditions or its' overall assessment methodology?	N/A
	Construction dust and emissions		
5.14	Applicant	**Emissions from construction machinery** **ES Chapter 5 – Air Quality [APP-043]** a) Please confirm the basis for the assertion in paragraph 5.3.16 that "*Significant air quality effects are not anticipated to be associated*	a) The Institute of Air Quality Management (IAQM) advises that (IAQM, Guidance on the Assessment of Dust from Demolition and Construction. 2016, section 4.1): *"Experience of assessing the exhaust emissions from on-site plant (also known as non-road mobile machinery or NRMM) and site traffic suggests that they are unlikely to make a significant impact on local air quality, and in the vast majority of cases they will not need to be assessed."* Air quality at receptors near the Scheme construction site is expected to achieve the objectives and limit values in 2021 with concentrations well within the criteria (less than 36µg/m^3 for nitrogen dioxide (NO_2) at receptors near the Scheme construction site) (refer to ES Chapter 5: Air Quality **[APP-043]**, para. 5.7.11 and 5.7.12). A potential slight increase in concentrations due to on-site plant is, therefore, unlikely to cause a significant

No	Question to	Reference (in bold) and Question	Applicant's Response
		with emissions from construction machinery and have thus been scoped out of the assessment". b) What measures have been considered and what controls are in place to ensure this outcome?	impact and so an assessment from on-site plant has been scoped out of the air quality impact assessment. b) Emissions from diesel construction plant are controlled through emission standards set by the EU with machinery having to comply with the relevant standard when manufactured. Dust and exhaust emission mitigation measures that would be applied during the Scheme construction phase are detailed in the Outline Environmental Management Plan (OEMP) **[APP-249]**. These are set out in PW-AIR1, MW-AIR1 and MW-AIR2 and require the contractor to "*manage dust, air pollution and exhaust emissions during construction works in accordance with BPM*" (Best Practicable Means). The adoption of these mitigation measures will minimise associated air quality impacts at any nearby receptors. Prior to Scheme works commencing, the construction contractor will prepare a method statement and a comprehensive site-specific Construction Environmental Management Plan (CEMP), as based upon the OEMP. The local planning authorities will be consulted during the preparation of the contractor's CEMP. The contractor, in consultation with the local authorities, will ensure that effective dust and emission management practices are implemented for the duration of the Scheme construction phase. Preparation of the CEMP in accordance with the OEMP is secured via Requirement 3 in the dDCO **[APP-016]**.
5.15	Applicant	**Diversionary routes during construction** **RR by DCiC [RR-003]** Please respond to DCiC's comments regarding the potential for diversionary routes during construction to give rise to significant congestion and the potential implications for the assessment of air quality effects.	Derby City Council (DCiC) has raised concerns that the traffic management measures proposed during Scheme construction could increase congestion significantly. During Scheme construction there would be an increase in congestion, and, for some road users, the journey times would inevitably be longer. Highways England has discussed the potential traffic impacts with DCiC and Derbyshire County Council (DCC). Please refer to Applicant's responses to ExA Question 4.22 and 4.23. The potential for diverted journeys to have detrimental impacts on air quality are most likely during Markeaton junction Construction Phase 2 (refer to the Scheme construction programme in Illustration 2.1 in ES Chapter 2: The Scheme **[APP-040]**). This has been considered in the traffic modelling undertaken for construction Scenario 2. These outputs have then been used to assess potential air quality impacts during this construction Scenario 2 with the results reported in ES Chapter 5: Air Quality **[APP-043]** para. 5.10.18 to 5.10.28. In addition to considering diverted journeys, the air quality assessment has also taken into consideration changes in traffic flows, traffic speeds and road alignments due to the additional construction traffic, the proposed construction traffic management measures, re-routing of traffic and

No	Question to	Reference (in bold) and Question	Applicant's Response
			increased congestion. Increased congestion has, therefore, been considered within the air quality assessment. Large magnitude increases and medium magnitude changes in nitrogen dioxide (NO_2) concentrations were predicted during construction Scenario 2. Large magnitude increases are expected at some receptors near Markeaton junction, with medium magnitude increases predicted at some receptors near the A38 between Kingsway and Markeaton junctions. However, concentrations in these areas are predicted to remain well within the objectives and limit values, such that these impacts are not considered to be significant. Construction Scenarios 0 and 4 have also been similarly assessed for traffic and air quality impacts, with impacts reported in ES Chapter 5: Air Quality **[APP-043]** para. 5.10.8 to 5.10.17 for Scenario 0 and para. 5.10.29 to 5.10.39 for Scenario 4, respectively. Large and medium magnitude changes in NO_2 concentrations were also predicted with construction Scenario 4 near the A38 between Markeaton and Kingsway junctions. Concentrations in these areas are predicted to remain well within the objectives and limit values, such that these impacts are not considered to be significant.
5.16	Applicant	**Magnitude of dust impacts** **ES Chapter 5 – Air Quality [APP-043] paragraphs 5.10.4-5** a) Please clarify the meaning and definition of "*slight adverse*" impact. b) How has this assessment been arrived at? c) What bands of different sensitivities of receptors have been considered? d) Have magnitudes of dust deposition been quantified? If not, how has the magnitude of dust been identified?	a) It is noted that ES Chapter 5: Air Quality **[APP-043]** para. 5.10.5 should refer to dust effects rather than dust impacts. The term slight adverse has been used to indicate that there might be a small increase in dust deposition rates, but that this increase and the associated effect will not be significant. b) ES Chapter 5: Air Quality **[APP-043]** para. 5.3.17 explains that the effective application of appropriate dust mitigation measures during the Scheme construction phase, has the potential to reduce dust effects to non-significant levels (slight adverse at worst), as based on UK experience of good site practice (Institute of Air Quality Management, Guidance on the Assessment from Dust from Demolition and Construction, 2016). Dust mitigation measures are outlined in the Outline Environmental Management Plan (OEMP) **[APP-249]** Table 3.2, PW-AIR1, MW-AIR1, MW-AIR2 and MW-AIR3. The adoption of these mitigation measures will ensure that the dust effects at receptors closest to the works are not significant. Prior to Scheme construction activities commencing on site, the construction contractor will prepare a method statement and a comprehensive site-specific dust management proposals as part their Construction Environmental Management Plan (CEMP), as based upon the OEMP. The CEMP will be consulted upon with the local planning authorities. The CEMP will also include provision for dust monitoring techniques to check the effectiveness of the dust mitigation measures. Preparation of the CEMP in accordance with the OEMP is secured via Requirement 3 in the dDCO **[APP-016]**.

No	Question to	Reference (in bold) and Question	Applicant's Response
		e) How has the identified impact considered combinations of different sensitivities and different magnitudes of dust deposition? f) How much would dust impacts be expected to vary within the 200m zone identified? g) Which receptors are closest to the works and what would the impact be on them?	c) Different sensitivities of receptors have been considered in the qualitative construction phase dust assessment. This has been done through reference to the Institute of Air Quality Management, Guidance on the Assessment from Dust from Demolition and Construction (2016). The areas near A38 construction sites that could be affected are shown on ES Figure 5.1A/B: Areas Potentially Affected by Construction Phase Dust Impacts **[APP-071]** and includes: • High sensitivity receptors such as residential properties, schools and residential care homes; • Medium sensitivity receptors such as offices and parks; and • Low sensitivity receptors such as Local Nature Reserves, Local Wildlife Sites and footpaths. d) A qualitative assessment has been undertaken of the potential dust impacts associated with the Scheme during the construction phase. As described in ES Chapter 5: Air Quality **[APP-043]**, para. 5.3.13, the four main dust generating Scheme-related activities are track-out from heavy goods vehicles (HGVs), demolition, earthworks and construction works. The magnitude of dust emissions from such activities is proportionate to the number of vehicle movements and the quantities of materials involved. Based on this, for the main works sites, the demolition of properties at Markeaton junction is considered to be of small emissions magnitude, whilst earthworks are considered to be of large emissions magnitude, construction is considered to be of medium emissions magnitude and track-out by HGVs is considered to be of large emissions magnitude. e) The sensitivity of the area is determined based on the sensitivity, number and proximity of the receptors to the works. If the area close to the works is built up and so contains a large number of high sensitivity receptors, and emissions of high magnitude are expected from Scheme activities, then further additional mitigation should be applied in order to avoid a significant effect. If the area close to the works is sparsely populated with few high sensitivity receptors, then standard mitigation measures should be sufficient to avoid a significant effect. f) Dust impacts are expected to be greatest closest to dust generating activities. Dust concentrations are expected to decrease in a Gaussian manner with increasing distance from a dust source, such that by 20m from the dust source, concentrations have decreased to around 60% of those at the site boundary and by 100m dust concentrations have decreased to around 10% of those at the site boundary. Dust deposition rates are expected to change by a similar amount.

No	Question to	Reference (in bold) and Question	Applicant's Response
			g) The receptors that are of most concern due to their high sensitivity and closeness to the works are residential properties, schools and residential care homes located within 20m of the construction site boundary in built up areas (for example near Markeaton junction). These areas would benefit from further additional mitigation measures as set out in the OEMP, Table 3.2, Ref. MW-AIR2 **[APP-249]**. With regard to effects upon these receptors, with the implementation of the mitigation measures proposed (as detailed in the OEMP), dust effects during the Scheme construction phase are anticipated to be slight adverse at worst, and thus not significant (as per ES Chapter 5: Air Quality **[APP-043]**, para. 5.10.5).
5.17	Applicant	**NO_2 analysis method** **ES Chapter 5 – Air Quality [APP-043] paragraph 5.10.9 and 5.10.30** Two different analysis methods have been used. Given the variation between the results, please can the Applicant clarify how both methods can be relied on by the SoS and the ExA?	The ES Chapter 5: Air Quality **[APP-043]** refers to predicted nitrogen dioxide (NO_2) concentrations in the Scheme construction year of 2021 (para. 5.10.9 for Scenario 0, para. 5.10.19 for Scenario 2 and para. 5.10.30 for Scenario 4) and also in the Scheme opening year of 2024 (para. 5.10.44). The results presented throughout are all based on Highways Agency gap analysis results with the one exception, this being the receptor at Burleigh Mews, Stafford Street (R197), where two sets of results have been provided. At this receptor, the conservative Highways Agency gap analysis method predicts NO_2 concentrations to be above the objective and limit value, whilst the other less conservative Defra based method predicts concentrations to be within the objective and limit value, with all cases modelled. The less conservative Defra method has also been presented for this receptor as there is particular focus on the improvement of NO_2 concentrations in future years at this location as associated with DCiC's traffic management plans to improve air quality. This response outlines that irrespective of which projection method is considered for Stafford Street neither a significant adverse air quality effect nor a compliance risk (e.g. delay to compliance) is predicted for either the Scheme construction or operational phases. **Projections Background** NO_2 concentrations measured nationally between 1996 and 2002 showed a clear decrease which was due primarily to improvements in vehicle emissions. However, there was little or no reduction between 2004 and 2010. This contrasted with Defra's projections on the annual rate of improvement which predicted a much greater improvement between 2004 and 2010. Further to this, the Highway Agency undertook an analysis of long term monitored NO_2 concentrations between 2006 and 2010 which confirmed the trend observed by Defra that NO_2 concentrations were not improving as expected. The gap between the projections and measured concentrations was due to NOx emissions from diesel vehicles

No	Question to	Reference (in bold) and Question	Applicant's Response
			not improving as expected. In 2012, the Highways Agency published a method to adjust the modelled NO_2 concentrations to account for the long term NO_2 profiles with an update to the method issued in 2013. This method is known as the gap analysis method as it adjusts the future year standard modelled concentrations to allow for the observed gap between the measured long-term trends and the modelled projections. The gap analysis method is set out in Interim Advice Note (IAN) 170/13 v3. The gap analysis method is conservative as explained in IAN 170/13, section 3, 4th paragraph: "*Emerging evidence indicates that currently published future NOx and NO_2 projections in this IAN may be too pessimistic, when taking into account emerging evidence associated with the performance of Euro 6/VI vehicles and anticipated reductions in vehicle emissions. Although it is for the project's air quality specialist to identify which set of projection factors to use to support the assessment*." Since IAN 170/13 was published, Defra has updated its projections for future years to be less optimistic. This Defra update to the projections means that the standard predictions are less likely to underestimate concentrations and could possibly no longer be in need of an adjustment to allow for the gap. The results presented in ES Appendix 5.3 – Air Quality Results **[APP-172]** have been derived using the Highways Agency gap analysis method and so the predicted concentrations are conservative in future years. Where the predicted NO_2 concentrations in future years are within the objective and limit value using the conservative gap analysis method, then it is extremely unlikely that any exceedances at those receptors would occur. At receptors where exceedances were predicted using the conservative gap method, then results predicted using the Defra standard projections have also been examined. If these also exceed the objective and limit value, then exceedances are more likely to occur. However, if these standard predicted concentrations are within the objective and limit value, then the exceedance is less likely to occur. **Stafford Street Predictions** The predicted concentrations at Burleigh Mews on Stafford Street were marginally above the objective and limit value (by between 0.1 and 0.7 $\mu g/m^3$) with each of the construction scenarios using the conservative gap analysis method (both with and without Scheme construction activities). Use of the

No	Question to	Reference (in bold) and Question	Applicant's Response
			standard Defra method resulted in concentrations within the objective and limit value (by between 1.3 and 1.9 µg/m^3). Irrespective of which projection method is utilised, the predicted changes in concentrations of NO_2 on Stafford Street are either imperceptible (up to 0.4 µg/m^3) for scenarios 0 and 2 or are small improvements (less than 2.0 µg/m^3 but more than 0.4 µg/m^3). On this basis, the construction of the Scheme does not result in receptors experiencing a significant air quality effect nor do the predictions cause a compliance risk. The predicted concentrations at Burleigh Mews in the Scheme opening year were above the objective and limit value (by 2.2 µg/m^3 without the Scheme and by 1.0 µg/m^3 with the Scheme) using the conservative gap analysis method. Use of the Defra standard method resulted in concentrations within the objective and limit value (by 4.9 µg/m^3 without the Scheme and 5.9 µg/m^3 with the Scheme). Independent of which projection method that is utilised the predicted changes in concentrations of NO_2 on Stafford Street are small improvements (less than 2.0 µg/m^3 but more than 0.4 µg/m^3). On this basis, the operation of the Scheme does not result in an adverse significant air quality effect nor do the predictions cause a compliance risk. It should be noted that operational modelling assumes that the DCiC traffic management measures would not to be in place in 2024. DCiC may decide to continue operating these measures, which would further reduce NO_2 modelled concentrations in Stafford Street. As a comparison, the concentrations predicted by DCiC in Stafford Street in their modelling for their traffic management measures following Defra/ DfT Joint Air Quality Unit (JAQU) guidance, were well within the limit value in 2020 with 35.5 µg/m^3 (that is within the limit value by 4.5 µg/m^3) with the traffic management measures but without the Scheme in place (DCIC, Draft Derby Air Quality Modelling Report AQ3, issue 6, 14/03/2019). This also suggests that the gap analysis results are conservative. **Summary** For this Scheme, the conclusions from the air quality modelling for Stafford Street should be taken to be: 1) Imperceptible NO_2 changes during Scheme construction Scenario 0 and 2 are expected, whilst a small magnitude improvement is expected with Scheme construction Scenario 4.

<table>
<tr><th>No</th><th>Question to</th><th>Reference (in bold) and Question</th><th>Applicant's Response</th></tr>
<tr><td></td><td></td><td></td><td>2) A small magnitude NO_2 improvement is expected with the Scheme in operation.
3) NO_2 concentrations are at risk of exceeding the NO_2 annual average objective and limit value during Scheme construction and operation (both with and without the Scheme).
4) The construction and operation of the Scheme will not result in a significant adverse air quality effect.
5) The Scheme will not delay NO_2 compliance in Stafford Street and will improve air quality once the Scheme is operational.
6) The traffic management measures proposed by DCiC to improve air quality in Stafford Street will help achieve compliance.</td></tr>
<tr><td>5.18</td><td>Applicant</td><td>Definitions of magnitude of changes in NO_2 and PM_{10} and assessment of significance of effects during construction
ES Chapter 5 – Air Quality [APP-043] paragraphs 5.10.06-42

a) Please clarify the definitions of large, medium, small and imperceptible magnitude of change in NO_2 and PM_{10} concentrations and how those are derived from best practice guidance.
b) Please clarify whether each assessment of significance of effect considers both the magnitude of change of concentration and receptor sensitivity.
c) Does the methodology allow for a significant effect to be identified if objectives and limit values are not exceeded? For example, if a large</td><td>a) The definitions of the magnitude changes and significance are set out in Interim Advice Note IAN 174/13. This is based on best practice as it takes into account the requirement of Annex III of the EIA Directive to have regard to areas in which the environmental quality standards laid down in EU legislation have already been exceeded and considers the National Planning Policy Framework (NPPF) which requires consideration of the Scheme's impacts on limit values and national objectives for pollutants.

The air quality modelling results were verified against monitoring data to reduce the uncertainty in the predictions. The table below presents the different magnitude of change criteria for annual average NO_2 and PM_{10} concentrations set out in IAN 174/13, these are described as a percentage of the relevant objective and limit value.

<table>
<tr><th>Impact Descriptor</th><th>Change in annual mean NO_2 or PM_{10} concentration ($\mu g/m^3$)</th><th>Value of change in annual average NO_2 and PM_{10} at 40 $\mu g/m^3$</th></tr>
<tr><td>Large adverse</td><td>> -4</td><td>Increase of more than 10% of objective</td></tr>
<tr><td>Medium adverse</td><td>> -2 to -4</td><td>Increase of between 5 and 10% of objective</td></tr>
<tr><td>Small adverse</td><td>>-0.4 to -2</td><td>Increase of between 1% and 5% of objective</td></tr>
<tr><td>Imperceptible</td><td>-0.4 to 0.4</td><td>Change of up to 1% of objective</td></tr>
<tr><td>Small beneficial</td><td>>0.4 to 2</td><td>Increase of between 1% and 5% of objective</td></tr>
<tr><td>Medium beneficial</td><td>> 2 to 4</td><td>Increase of between 5 and 10% of objective</td></tr>
<tr><td>Large beneficial</td><td>> 4</td><td>Increase of more than 10% of objective</td></tr>
</table>
</td></tr>
</table>

No	Question to	Reference (in bold) and Question	Applicant's Response
		change in concentration is predicted for a sensitive receptor over a prolonged period?	The imperceptible band is considered to be a screening value below which changes are so small that they should not be considered further. This is consistent with the approach utilised by the Environment Agency (Environment Agency, Air Emissions Risk Assessment for Your Environmental Permit, 2016). b) The assessment of significance considers both the magnitude of change and the number of receptors affected at receptor locations where an objective or limit value is predicted to be exceeded, as shown in Table 5.3 of ES Chapter 5: Air Quality **[APP-042]**. All receptors where members of the public could be regularly present are considered to be of equal sensitivity. The sensitivity of the receptors to human health impacts is not subdivided as the public includes the most vulnerable members of society (the young, the elderly and the sick) who could be present at the vast majority, if not all, of the receptor locations. c) Changes in pollutant concentrations that do not exceed the objectives and limit values are not considered to be significant. This is because the air quality objectives and limit values were set with regard to scientific and medical evidence on the effects of the particular pollutant on health at minimum or zero risk levels (Defra, The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, Volume 1 (2011), Chapter 2, paragraph 18). Therefore, changes in concentrations at levels within the air quality criteria would not have a significant effect on health.
5.19	Applicant	**Construction scenarios** **ES Chapter 5 – Air Quality [APP-043] paragraphs 5.8.8-9** ES Chapter 5 concentrates on construction scenarios 0, 2 and 4. What is the potential for large or medium magnitude changes in NO_2 or PM_{10} during the preliminary works or during construction scenarios 1, 3, 5, 6 or 7?	Illustration 2.1 in ES Chapter 2: The Scheme **[APP-040]** provides an indicative high-level summary of the main elements of the Scheme construction programme and indicates that the works are anticipated to be divided into eight main construction traffic management phases (i.e. construction traffic management scenarios 0 through 7). Taking into account the Scheme design details, material balance and workforce, Illustration 2.2 in ES Chapter 2: The Scheme **[APP-040]** provides details of construction generated traffic flows (HGVs and light construction vehicles) for the duration of the Scheme construction phase. This illustrates that construction haulage vehicle flows are predicted be at a maximum towards the end of the first year of construction works (i.e. in months 6 to 14 which occur during traffic management Scenarios 0, 1 and 2), mainly associated with material haulage to various locations within the length of the works.

No	Question to	Reference (in bold) and Question	Applicant's Response
			The three construction traffic scenarios that have the potential to result in the largest traffic-related air quality impacts during Scheme construction were identified as being construction traffic management Scenarios 0, 2 and 4. These construction scenarios would have either high volumes of construction traffic on the network or traffic re-routing. Such re-routing would be due to the restriction of some traffic movements at the junctions, and mainline traffic using new slip roads at Markeaton junction and Little Eaton junction, thereby potentially bringing mainline traffic closer to nearby receptors or drivers avoiding the A38. It is noted that detailed air quality modelling during traffic management construction phases is usually only carried out for a few receptors near a scheme where the impacts from construction traffic or traffic management measures are expected to be greatest. However, for this Scheme a more detailed modelling approach was adopted due to air quality sensitivities in Derby City. Due to the considerable additional complexity of modelling the construction traffic management scenarios in the air quality model and the considerable workload involved in generating traffic data for the air quality model, a proportionate approach was adopted by focussing on those construction traffic management scenarios with the potential to result in the largest impacts (i.e. construction traffic management Scenarios 0, 2 and 4). Without considerable additional traffic modelling to generate the construction traffic data for the other scenarios, and extensive additional construction traffic air quality modelling of the data once generated, it is not possible to quantify the impact on air quality of construction traffic during the preliminary works and construction traffic management Scenarios 1, 3, 5, 6 and 7. However, for these five construction phases it can be assumed that the air quality impacts would either be comparable to, or less than, those predicted for construction traffic management Scenarios 0, 2 and 4. A brief qualitative discussion is provided below for each of these scenarios. During the preliminary works, construction traffic is anticipated to be relatively low given the activities anticipated – refer to Table 1.1 in the Outline Environmental Management Plan (OEMP) **[APP-249]**. Such construction traffic will use the existing road layout with no traffic management restricting movements at any of the junctions. The volume of construction traffic generated by the preliminary works would be considerably less than that assessed for Scenario 0, which was based on the existing road network and the period of maximum HGV traffic movement during the main works. Therefore, air quality impacts associated with construction traffic are expected to be less than with traffic management Scenario 0 with concentrations similar to the Do-minimum (existing situation).

No	Question to	Reference (in bold) and Question	Applicant's Response
			During construction traffic management Scenario 1, the existing road layout would be used at Kingsway and Markeaton junction. At Little Eaton junction, the road layout would be the same as during construction traffic management Scenario 2 i.e. southbound mainline traffic would use the new southbound merge and diverge slip roads. Therefore, the potential air quality impacts at Markeaton and Kingsway junctions would be comparable to construction traffic management Scenario 0 and at Little Eaton junction they would be comparable to construction traffic management Scenario 2. During construction traffic management Scenario 3, only the new Scheme roundabout would be utilised at Kingsway junction, the mainline would remain on the existing road layout, therefore the potential air quality impacts would be broadly comparable to construction traffic management Scenario 0. At Markeaton junction, traffic management would be the same as during construction traffic management Scenario 2 i.e. southbound mainline traffic would use the new southbound merge and diverge slip roads. At Little Eaton junction, the road layout would be also similar to construction traffic management Scenario 2 i.e. southbound mainline traffic would use the new southbound merge and diverge slip roads, in addition the new roundabout would be in operation. Therefore, the air quality impacts at Markeaton junction and Little Eaton junction would likely be comparable to construction traffic management Scenario 2. During construction traffic management Scenarios 5, 6 and 7, the Scheme would be complete at Kingsway junction, therefore the air quality impact would be comparable to that of the operational Scheme in this area. However, pollutant concentrations are likely to be slightly higher with Scenario 5 in 2023 than in the Scheme opening year of 2024 as vehicle emission rates and background pollutant concentrations would be slightly higher in 2023. Traffic management Scenarios 6 and 7 are expected to take place in 2024. At Markeaton junction, the road layout during construction traffic management Scenarios 5 and 6 is very similar to construction traffic management Scenario 4 i.e. southbound mainline traffic would use the new southbound merge and diverge slip roads and northbound traffic would use the new northbound on slip. Therefore, the air quality impact at Markeaton junction would be comparable to Scenario 4. During Scenario 7 at Markeaton junction, the Scheme would be largely complete with only the northbound off slip road diverted onto the mainline, therefore the air quality impact is expected to be broadly comparable to that of the operational Scheme in this area.

<table>
<tr><th>No</th><th>Question to</th><th>Reference (in bold) and Question</th><th>Applicant's Response</th></tr>
<tr><td></td><td></td><td></td><td>
During traffic management Scenario 5 at Little Eaton junction, the road layout would be similar to Scenario 4 i.e. both northbound and southbound mainline traffic would use the new merge and diverge slip roads. Therefore, the air quality impact would be comparable to Scenario 4. During Scenarios 6 and 7 at Little Eaton junction, the Scheme would be complete, therefore the air quality impact would likely be comparable to that of the operational Scheme in this area.

The above comparisons are summarised in the table below.

<table>
<tr><th>Construction traffic management scenario</th><th>Kingsway junction</th><th>Markeaton junction</th><th>Little Eaton junction</th></tr>
<tr><td>Preliminary</td><td>Comparable to Do-Minimum</td><td>Comparable to Do-Minimum</td><td>Comparable to Do-Minimum</td></tr>
<tr><td>0</td><td>Modelled Scenario 0</td><td>Modelled Scenario 0</td><td>Modelled Scenario 0</td></tr>
<tr><td>1</td><td>Comparable to Scenario 0</td><td>Comparable to Scenario 0</td><td>Comparable to Scenario 2</td></tr>
<tr><td>2</td><td>Modelled Scenario 2</td><td>Modelled Scenario 2</td><td>Modelled Scenario 2</td></tr>
<tr><td>3</td><td>Comparable to Scenario 0</td><td>Comparable to Scenario 2</td><td>Comparable to Scenario 2</td></tr>
<tr><td>4</td><td>Modelled Scenario 4</td><td>Modelled Scenario 4</td><td>Modelled Scenario 4</td></tr>
<tr><td>5</td><td>Comparable to operational phase Do-Something</td><td>Comparable to Scenario 4</td><td>Comparable to Scenario 4</td></tr>
<tr><td>6</td><td>Comparable to operational phase Do-Something</td><td>Comparable to Scenario 4</td><td>Comparable to operational phase Do-Something</td></tr>
<tr><td>7</td><td>Comparable to operational phase Do-Something</td><td>Comparable to operational phase Do-Something</td><td>Comparable to operational phase Do-Something</td></tr>
</table>

No large or medium magnitude changes in PM_{10} concentrations are predicted at any location with any construction traffic management scenario or with the Scheme in operation.
</td></tr>
</table>

No	Question to	Reference (in bold) and Question	Applicant's Response
			Large or medium magnitude changes in NO_2 concentrations are predicted with construction traffic management Scenarios 2 and 4 - please refer to the Applicant's response to Question 5.20. No large or medium changes in NO_2 concentrations were predicted with any modelled construction traffic management scenario near Little Eaton junction. Medium magnitude decreases in NO_2 concentrations are predicted in the opening year with the Scheme at some receptors near all three junctions - please refer to the Applicant's response to Question 5.23. No large increases or decreases or medium magnitude increases in NO_2 concentrations are predicted near any of the three junctions in the Scheme opening year. Therefore, large and medium magnitude changes in NO_2 concentrations could also occur during the following construction traffic management scenarios: • Scenario 3 near Markeaton junction. • Scenario 5 near Markeaton junction. • Scenario 6 near Markeaton junction. • Scenario 6 with medium magnitude decreases at some receptors near Kingsway and Little Eaton junction. • Scenario 7 with medium magnitude decreases at some receptors near all three junctions. No large or medium magnitude changes in NO_2 concentrations are expected during the preliminary works or construction traffic management Scenario 1. In summary, large or medium magnitude increases in NO_2 concentrations may occur at some receptors near Markeaton junction with construction traffic management Scenarios 2, 3, 4, 5 and 6. However, pollutant concentrations predicted at receptors with large or medium magnitude changes in the construction traffic management scenarios are within the air quality objectives and limit values so no significant air quality effects are expected during any of these construction traffic management scenarios.
5.20	Applicant	**Receptors receiving large or medium magnitude changes in NO_2 or PM_{10}**	No medium or large changes in PM_{10} concentrations are predicted for any of the construction traffic management scenarios. The table below identifies each receptor receiving a medium or large magnitude change in NO_2 concentrations during construction Scenarios 0, 2 and 4. The receptor locations are shown on ES Figure

<table>
<tr><th>No</th><th>Question to</th><th>Reference (in bold) and Question</th><th>Applicant's Response</th></tr>
<tr><td></td><td></td><td>ES Chapter 5 – Air Quality [APP-043] section 5.10

Please provide a summary table to identify each receptor receiving either a large or medium magnitude increase or decrease in NO_2 or PM_{10} concentrations during the preliminary works or construction. In each case, please include comments on the main cause of the change, the duration and the sensitivity of the receptor.</td><td>5.2 A-C: Study Area for Construction Phase Traffic Impacts [APP-072]. All of the predicted NO_2 concentrations at the receptors identified with medium or large magnitude change are within the air quality objectives for NO_2 so no significant effects are predicted.

The NO_2 concentration model results were taken from the ES Appendix 5.3 Air Quality Results [APP-172] and are summarised as:

• No receptors were predicted to have medium or large magnitude changes with construction traffic management Scenario 0.
• With Scenario 2, three modelled receptors were predicted to have a large magnitude NO_2 increase, whereas none would have a large magnitude decrease.
• With Scenario 2, seven modelled receptors were predicted to have a medium magnitude NO_2 increase, whereas two would have a medium magnitude decrease.
• With Scenario 4, three modelled receptors were predicted to have a large magnitude NO_2 increase, whereas two would have a large magnitude decrease.
• With Scenario 4, three modelled receptors were predicted to have a medium magnitude NO_2 increase, whereas six would have a medium magnitude decrease.

<table>
<tr><th>Receptor</th><th>Change in NO_2 concentration</th><th>Comment</th></tr>
<tr><td>R176, R177 and S12 Royal School for the Deaf</td><td>Large magnitude increases for NO_2 with Scenario 2</td><td>Increase due to traffic management measures and road realignment at Markeaton junction. Residential and school receptors so long term and short-term exposure relevant. Temporary duration during construction works.</td></tr>
<tr><td>R175 Royal School for the Deaf</td><td>Medium magnitude increases for NO_2 with Scenario 2</td><td>Increase due to traffic management measures and road realignment at Markeaton junction. Residential receptor so long term and short-term exposure relevant. Temporary duration during construction works.</td></tr>
<tr><td>R146, R148, R149, R154, R155 and</td><td>Medium magnitude increases for NO_2 with Scenario 2</td><td>Increase due to traffic management measures increasing flows on Raleigh Street.</td></tr>
</table>
</td></tr>
</table>

No	Question to	Reference (in bold) and Question	Applicant's Response

R156 on or near Raleigh Street		Residential receptors so long term and short-term exposure relevant. Temporary duration during construction works.
R88 on A52 Ashbourne Road to the east of Markeaton junction	Medium magnitude decrease for NO_2 with Scenario 2	Decrease due to traffic management measures reducing flows on Ashbourne Road. Residential and commercial receptor so long term and short-term exposure relevant. Temporary duration during construction works.
C12 Markeaton Park	Medium magnitude decrease for NO_2 with Scenario 2	Decrease due to A38 realignment away from the receptor. Community facility so short-term exposure relevant. Temporary duration during construction works.
R176, R177 and S12 Royal School for the Deaf	Large magnitude increases for NO_2 with Scenario 4	Increase due to traffic management measures and road realignment at Markeaton junction. Residential and school receptors so long term and short-term exposure relevant. Temporary duration during construction works.
R146 Raleigh Street	Large magnitude decrease for NO_2 with Scenario 4	Closure of Raleigh Street access to A38. Residential receptor so long term and short-term exposure relevant.
C14 Mackworth Park	Large magnitude decrease for NO_2 with Scenario 4	Realignment of A38 mainline away from receptor. Community receptor so short-term exposure relevant.
R175 Royal School for the Deaf	Medium magnitude increases for NO_2 with Scenario 4	Increase due to traffic management measures and road realignment at Markeaton. Residential receptor so long term and short-term exposure relevant. Temporary duration during construction works.
R82 and R83 Ashbourne Road	Medium magnitude increases for NO_2 with Scenario 4	Increase due to traffic management measures and road realignment at Markeaton junction.

<table>
<tr><th>No</th><th>Question to</th><th>Reference (in bold) and Question</th><th>Applicant's Response</th></tr>
<tr><td></td><td></td><td></td><td>
<table>
<tr><td></td><td></td><td>Residential receptors so long term and short-term exposure relevant.
Temporary duration during construction works.</td></tr>
<tr><td>R139, R145, R147, R148 and R159 on or near Raleigh Street</td><td>Medium magnitude decreases for NO_2 with Scenario 4</td><td>Closure of Raleigh Street access to A38.
Residential receptors so long term and short-term exposure relevant.
Temporary duration during construction works but will become permanent.</td></tr>
<tr><td>C12 Markeaton Park</td><td>Medium magnitude decrease for NO_2 with Scenario 4</td><td>Decrease due to A38 realignment away from the receptor.
Community facility so short-term exposure relevant.
Temporary duration during construction works.</td></tr>
</table>

Medium or large changes in NO_2 concentrations are not expected during the preliminary works due to the small number of vehicles involved with the associated works.

Please refer to Highways England's response to Question 5.19 in relation to air quality impacts during non-modelled construction traffic management scenarios.</td></tr>
<tr><td>5.21</td><td>DCiC
DCC
EBC
EA</td><td>Construction dust and emissions assessment and mitigation

Do the Local Authorities or EA have any more comments regarding the Applicant's assessment of construction dust and emissions, including the identification of:
a) The nature of likely effects on receptors?
b) Relevant mitigation measures secured by the dDCO and OEMP?</td><td>N/A</td></tr>
</table>

No	Question to	Reference (in bold) and Question	Applicant's Response
		c) Whether the mitigation measures are enforceable, precise, reasonable, sufficiently secured and likely to result in the identified residual impacts? d) All significant impacts?	
	Operational vehicle emissions		
5.22	Applicant	**A52 Air Quality Management Area (AQMA) in Spondon** **Applicant's letter dated 1 July 2019 [AS-013]** a) The Applicant stated that "*The traffic assessment prepared for the ES showed that traffic flows on the A52 in Spondon are expected to change by up to approximately 200 AADT in the opening year due to the Scheme, this is well below the DMRB screening criteria of 1000 AADT and so was not included in the Affected Road Network. The A52 AQMA in Spondon was not assessed as air quality effects will be insignificant.*" b) Please provide confirmation that this is the case for all the screening criteria identified in DMRB HA207 paragraph 3.12 for	None of the Design Manual for Roads and Bridges (DMRB) local air quality traffic screening criteria (as detailed in DMRB HA207 para. 3.12) for an air quality assessment (that is changes in traffic flow, Heavy Duty Vehicle flow, speed or road alignment) are exceeded for the assessed construction and operational scenarios, with regard to the Spondon Air Quality Management Area (AQMA). The following roads are within the Spondon AQMA - the A52 and associated slip roads, the A6005 and the A52/A6005 roundabout. During construction of the Scheme (during construction traffic management Scenarios 0, 2 and 4), traffic flows on any road within the AQMA are expected to change by less than 300 vehicles per day, HDV flows by less than 150 vehicles per day, whilst speed bandings are not expected to change. During operation of the Scheme in 2024, traffic flows on any road within the AQMA are expected to change by less than 200 vehicles per day, HDV flows by less than 15 vehicles per day, whilst the speed bandings are not expected to change.

<table>
<tr><th>No</th><th>Question to</th><th>Reference (in bold) and Question</th><th>Applicant's Response</th></tr>
<tr><td></td><td></td><td>the assessed construction and operational scenarios.</td><td></td></tr>
<tr><td>5.23</td><td>Applicant</td><td>Receptors receiving large or medium magnitude changes in NO_2 or PM_{10}
ES Chapter 5 – Air Quality [APP-043] section 5.10

Please provide a summary table to identify each receptor receiving either a large or medium magnitude increase or decrease in NO_2 or PM_{10} concentrations during operation. In each case, please include comments on the main cause of the change, the duration and the sensitivity of the receptor.</td><td>The table below identifies each receptor predicted to receive a medium or large magnitude change in air quality concentrations during Scheme operation. All of the predicted concentrations at the receptors identified are within the air quality objectives and limit values for NO_2 and PM_{10}. These results, therefore, do not contribute to an overall evaluation of the significance of air quality effects which focuses on locations with predicted exceedances of an air quality objective and limit value.

These model results were taken from the ES Appendix 5.3 Air Quality Results [APP-172], with receptor locations and results being shown on ES Figures 5.5A-F: Receptor Locations and NO_2 Results for Operational Local Air Quality Assessment [APP-075].

The results can be summarised as follows:

• No receptors are predicted to have large magnitude increases or decreases in NO_2 or PM_{10} concentrations.
• No receptors are predicted to have medium magnitude increases in NO_2 or PM_{10} concentrations.
• No receptors are predicted to have medium magnitude decreases in PM_{10} concentrations.
• Nine modelled receptors are predicted to have a medium magnitude decrease in NO_2 concentrations.

<table>
<tr><th>Receptor</th><th>Change in concentration</th><th>Comment</th></tr>
<tr><td>R12 Ford Farm Mobile Home Park</td><td>Medium magnitude decrease for NO_2</td><td>Decrease due to the realignment of the A38 mainline away from this receptor.
Residential receptor so long term and short-term exposure relevant.
Long term duration of change.</td></tr>
<tr><td>R13 Ford Farm Mobile Home Park</td><td>Medium magnitude decrease for NO_2</td><td>Decrease due to the realignment of the A38 mainline away from this receptor.
Residential receptor so long term and short-term exposure relevant.
Long term duration of change.</td></tr>
</table>
</td></tr>
</table>

No	Question to	Reference (in bold) and Question	Applicant's Response		
			R131 Enfield Road	Medium magnitude decrease for NO_2	Closure of Enfield Road as an access road to the A38. Residential receptor so long term and short-term exposure relevant. Long term duration of change.
			R139 Raleigh Street	Medium magnitude decrease for NO_2	Closure of Raleigh Street as an access road to the A38. Residential receptor so long term and short-term exposure relevant. Long term duration of change.
			R145 Raleigh Street	Medium magnitude decrease for NO_2	Closure of Raleigh Street as an access road to the A38. Residential receptor so long term and short-term exposure relevant. Long term duration of change.
			R146 Raleigh Street	Medium magnitude decrease for NO_2	Closure of Raleigh Street as an access road to the A38. Residential receptor so long term and short-term exposure relevant. Long term duration of change.
			R148 Raleigh Street	Medium magnitude decrease for NO_2	Closure of Raleigh Street as an access road to the A38. Residential receptor so long term and short-term exposure relevant. Long term duration of change.
			R149 Raleigh Street	Medium magnitude decrease for NO_2	Closure of Raleigh Street as an access road to the A38. Residential receptor so long term and short-term exposure relevant. Long term duration of change.
			C14 Mackworth Park	Medium magnitude decrease for NO_2	Realignment of the A38 mainline away from receptor. Community facility so short-term exposure relevant. Long term duration of change.

No	Question to	Reference (in bold) and Question	Applicant's Response
5.24	DCiC DCC EBC EA	**Operational vehicle emissions assessment, impacts and mitigation** Do the Local Authorities or EA have any more comments regarding the Applicant's assessment of operational vehicle emissions, including the identification of: a) The nature of likely effects on receptors? b) Relevant mitigation measures secured by the dDCO? c) Whether the mitigation measures are enforceable, precise, reasonable, sufficiently secured and likely to result in the identified residual impacts? d) All significant impacts?	N/A
	Statutory compliance, monitoring, pollution control and other matters		
5.25	DCiC DCC EBC	**Exceedances of EU limit values for NO_2, reporting of non-compliance and timescales to achieve compliance** **ES Chapter 5 – Air Quality [APP-043] paragraphs 5.7.3-8** **NPSNN paragraph 5.13**	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
		a) Do the Local Authorities agree with the areas identified by the Applicant as exceeding EU limit values for NO_2? b) If they do not agree, why not and how do they consider that the areas identified should be amended? c) Which of these areas have been reported to the European Commission as being non-compliant? d) What are the most recent timescales reported to the European Commission for the non-compliant areas to becomes compliant?	
5.26	Applicant DCiC DCC EBC	**Increases in NO_2 concentrations in non-compliant areas** **ES Chapter 5 – Air Quality [APP-043] section 5.10** **NPSNN paragraph 5.13** a) Following discussion and agreement with the Local Authorities about non-compliant areas, please could the Applicant clarify where and when any increases in NO_2 concentrations from the Proposed Development	a) This question relates to the second bullet point in National Policy Statement on National Networks (NPSNN), paragraph 5.13 which states: *'The Secretary of State should refuse consent where, after taking into account mitigation, the air quality impacts of the scheme will:* • *result in a zone/agglomeration which is currently reported as being compliant with the Air Quality Directive becoming non-compliant; or* • *affect the ability of a non-compliant area to achieve compliance within the most recent timescales reported to the European Commission at the time of the decision.'* The road network expected to be affected by the Scheme is shown in ES Figure 5.2A-C: Study Area for Construction Phase Traffic Impacts **[APP-072]** and Figure 5.3A-C: Study Area for Operational Phase Traffic Impacts in the Opening Year **[APP-073]**.

No	Question to	Reference (in bold) and Question	Applicant's Response
		are predicted at any area that is non-compliant with the Air Quality Directive, together with the magnitude of the increase in each case? b) Please could the Applicant and the Local Authorities comment, in detail and with justification, whether they consider that the Proposed Development would affect the ability of any non-compliant area to achieve compliance within the most recent timescales reported to the European Commission at the time of the decision?	All of the affected roads are within the East Midlands non-agglomeration zone (Defra, Air Quality Plan for tackling roadside nitrogen dioxide in East Midlands (UK0032), July 2017). There are 40 local authorities within this zone including Derby City Council (DCiC), Erewash Borough Council (EBC), Amber Valley Borough Council and South Derbyshire District Council. This zone is expected to be compliant by 2024 and is therefore a non-compliant area. Non-compliant areas are areas where NO_2 concentrations are predicted to exceed the limit value in a given year. Preliminary works associated with the Scheme are expected to start in November 2020, with the main works commencing in March 2021. Changes in traffic flows during the preliminary works are expected to be much less than during construction traffic management Scenario 0 so are not expected to affect air quality in 2020. The earliest year that could be affected by the Scheme is 2021. Therefore, this is the earliest year that is considered for compliance risks associated with the Scheme. Pollutant concentrations are expected to decrease year on year due to a cleaner vehicle fleet, so the largest number of non-compliant areas will be in the earliest year being considered. Roads in two local authority areas are expected to be affected by the Scheme, namely DCiC and EBC. Compliance risk assessments have been carried out for Scheme construction and operation, which are discussed in ES Chapter 5: Air Quality **[APP-043]** para. 5.10.40 to 5.10.42 for Scheme construction and in para 5.10.54 to 5.10.56 for Scheme operation. This is based on the Department for Environment, Food and Rural Affairs (Defra) predicted NO_2 concentrations using the national Pollution Climate Mapping (PCM) model, with the predicted changes in concentrations due to the Scheme added onto the PCM concentrations to determine whether the Scheme could cause non-compliance. There were not expected to be any non-compliant areas in 2021 (construction) or 2024 (operation) and as such a low compliance risk was expected to be associated with the Scheme. However, based on more recent compliance work, there is one road (Stafford Street) in the city of Derby that is expected to be non-compliant in 2021. This is based on compliance work undertaken by DCiC in conjunction with the Department for Transport (DfT) and Defra Joint Air Quality Unit (JAQU) (DCiC, Draft Derby Air Quality Modelling Report AQ3, issue 6, 14/03/2019). Stafford Street is predicted by DCiC and JAQU to be non-compliant if no action is taken to improve air quality. However, DCiC is planning to implement traffic management measures to achieve compliance as discussed in ES Chapter 5: Air Quality **[APP-043]** para. 5.2.19 to 5.2.21. DCiC predicts that with the

<table>
<tr><th>No</th><th>Question to</th><th>Reference (in bold) and Question</th><th>Applicant's Response</th></tr>
<tr><td></td><td></td><td></td><td>
traffic management measures in use, NO_2 concentrations in Stafford Street would be within the limit value with 35.5 µg/m^3.

The changes in NO_2 concentrations predicted due to the Scheme are provided in ES Chapter 5: Air Quality [APP-043] and are summarised in the table below. These changes can be used in conjunction with predicted total NO_2 concentrations of DCiC according to the JAQU compliance approach to understand whether there is a compliance risk associated with the Scheme. The DCiC predicted concentration in Stafford Street in 2020 with the traffic management measures to improve air quality in place was 35.5µg/m^3. The changes shown below would not cause Stafford Street to become non-compliant due to the Scheme.
<table>
<tr><th>Scenario</th><th>Change in NO_2 due to the Scheme (µg/m^3)</th><th>Magnitude Descriptor</th></tr>
<tr><td>Construction Scenario 0 [1]</td><td>+0.1</td><td>Imperceptible change</td></tr>
<tr><td>Construction Scenario 2[1]</td><td>-0.1</td><td>Imperceptible change</td></tr>
<tr><td>Construction Scenario 4[1]</td><td>-0.5</td><td>Small improvement</td></tr>
<tr><td>Operation of the Scheme[1]</td><td>-1.2</td><td>Small improvement</td></tr>
</table>
The predicted NO_2 concentrations reported in ES Chapter 5: Air Quality [APP-043] without Scheme construction was 38.6 – 40.6 µg/m^3 in 2021 and 35.1 - 42.2 µg/m^3 in 2024 without the Scheme. The lower prediction was made using Defra's standard projections, whilst the higher prediction was made using Highway England's gap analysis method for use in the determination of the significance of effects. The two methods are discussed in the Applicant's response to Question 5.17. The 2024 prediction is without DCiC's traffic management measures in use.

Besides Stafford Street, there are roads in Derby City that are close to the NO_2 limit value which could exceed the limit value if NO_2 concentrations increase due to the Scheme. In order to assess the risks associated with such potential exceedances, DCiC has provided Highways England with modelled NO_2 concentrations in 2016 and 2020 at receptors located at 4m from roads across the city. This modelling was carried out by DCiC for JAQU for compliance purposes and is the most recent information available. The information can be seen at http://maps.derby.gov.uk/. Annual mean NO_2 concentrations in the range 30 - 40 µg/m^3 in 2020 were predicted at a number of locations, including at DCiC receptors near the A38 and A601 Inner Ring Road. Highways England has undertaken
</td></tr>
</table>

No	Question to	Reference (in bold) and Question	Applicant's Response
			additional analysis which indicates that the A38 Scheme is not expected to affect compliance in areas that are currently compliant during both Scheme construction and operation. b) Highways England considers that the Scheme would not affect the ability of any non-compliant areas (that is the East Midlands zone) to achieve compliance. With DCiC's traffic management measures to improve air quality in Stafford Street in operation, there are not expected to be any non-compliant areas in 2021 or later years that could be adversely affected by the Scheme. Even if Stafford Street remained in non-compliance, the changes in air quality at Stafford Street associated with the Scheme are either imperceptible or are an improvement and so would not affect compliance.
5.27	Applicant DCiC DCC EBC	**Compliant areas becoming non-compliant** **ES Chapter 5 – Air Quality [APP-043] section 5.10** **NPSNN paragraph 5.13** Would the Proposed Development result in a zone/agglomeration which is currently reported as being compliant with the Air Quality Directive becoming non-compliant?	This question relates to the first bullet point in National Policy Statement on National Networks (NPSNN), paragraph 5.13 which states: *'The Secretary of State should refuse consent where, after taking into account mitigation, the air quality impacts of the scheme will:* • *result in a zone/agglomeration which is currently reported as being compliant with the Air Quality Directive becoming non-compliant; or* • *affect the ability of a non-compliant area to achieve compliance within the most recent timescales reported to the European Commission at the time of the decision.'* The road network expected to be affected by the Scheme is shown in ES Figure 5.2A-C: Study Area for Construction Phase Traffic Impacts **[APP-072]** and Figure 5.3A-C: Study Area for Operational Phase Traffic Impacts in the Opening Year **[APP-073]**. All of the affected roads are within the East Midlands non-agglomeration zone (Defra, Air Quality Plan for tackling roadside nitrogen dioxide in East Midlands (UK0032), July 2017). There are 40 local authorities within this zone, including Derby City Council (DCiC), Erewash Borough Council (EBC), Amber Valley Borough Council and South Derbyshire District Council. This zone is expected to be compliant by 2024 and is therefore a non-compliant area. The effect of the Scheme on the East Midlands zone is discussed in the Applicant's response to Question 5.26. The proposed Scheme will only affect the East Midlands zone and so will not affect a compliant zone.
5.28	Applicant	**NO_2 compliance at Stafford Street**	a) The question relates to Derby City Council's (DCiC) comments **[RR-003]** which states;

No	Question to	Reference (in bold) and Question	Applicant's Response
	DCiC	**RR by DCiC [RR-003]** a) Please could the Applicant respond to DCiC's comments about the Council's ability to achieve and maintain NO_2 compliance at Stafford Street and set out how it intends to work with the council to this end? b) Does DCiC see any merit in specific requirements or measures being identified and secured through the DCO or OEMP in relation to NO_2 compliance at Stafford Street? If so, what form might those take?	" *As you are aware, we have a ministerial direction to implement a scheme to tackle predicted nitrogen dioxide exceedances identified in Stafford Street in Derby. We are required to implement the scheme in the shortest possible time and then maintain compliance. As previously stated in our discussions with Government about the roadside NO_2 project, the Council still wishes to see the A38 scheme taken forward as soon as possible for valid transport reasons and not delayed. However, the A38 Derby Junction Scheme, both during the construction period and once opened, needs to ensure that it does not put the ability of the council to achieve and maintain NO_2 compliance at risk."* Stafford Street in Derby is on the west side of their inner ring road. The A38 between Little Eaton junction and Kingsway junction forms the north and west quadrants of Derby's outer ring road. Once the Scheme is open, trips that are currently using the inner ring road (including Stafford Street) will no longer be deterred from using the A38 route. Thus, the effect of the Scheme, once opened, will be to reduce traffic flows on Stafford Street, with a resultant improvement in air quality. Both DCiC's and Highways England's traffic and air quality modelling agree that the Scheme, once opened to traffic, would reduce NO2 concentrations on Stafford Street due to a decrease in traffic flows. During the Scheme construction period, there is a risk that construction works on the A38 could deter traffic from using the A38 and cause some drivers to reroute onto the Derby Inner ring road (including Stafford Street). The key to minimising this risk to DCiC's NO_2 compliance area is to ensure that traffic delays are kept to a minimum along the A38 route during Scheme construction. Actions to achieve this include: a) maintaining three north-to-south running-lanes through the temporary traffic-signalled Markeaton junction; and b) banning some of the right-turning movements at the Markeaton junction during these critical traffic management phases. Highways England is aware of the air quality risks during the Scheme construction phase and thus has traffic modelled three of the more critical construction traffic management phases in detail. These three scenarios indicate that traffic flows in Stafford Street could change slightly during construction with changes expected of between a decrease in traffic flows of around 500 vehicles per day and an increase of around 60 vehicles per day (refer to ES Chapter 5: Air Quality **[APP-043]** – refer to para. 5.8.9). In terms of air quality, such traffic flow changes would either be imperceptible or result in a small improvement in NO_2 concentrations. However, traffic flows in Stafford Street could be controlled by adjusting the timings of traffic signals in the city centre which is part of the traffic management system that will be introduced by the City Council as part of its measures to improve air quality in Stafford Street.

No	Question to	Reference (in bold) and Question	Applicant's Response
			Highways England is very mindful of DCiC's proposals to tackle NO_2 exceedances in Stafford Street. With the actions proposed, construction and operation of the Scheme will not affect the Council's ability to achieve and maintain NO_2 compliance in Stafford Street. b) Response required from DCiC.
5.29	Applicant DCiC DCC EBC	**NO_2 analysis method and increases at Stafford Street** **ES Chapter 5 – Air Quality [APP-043] paragraphs 5.10.9, 25, 30 and 44** **NPSNN paragraph 5.13** a) Two different analysis methods have been used. Are both methods acceptable for the purposes of Air Quality Directive? b) Increases in NO_2 during construction are predicted at Stafford Street. Could those be reduced or avoided through alternative construction traffic measures?	a) The modelling undertaken by the Department of Environment, Food and Rural Affairs (Defra) and also Derby City Council (DCiC), in consultation with the Department for Transport and Defra Joint Air Quality Unit (JAQU) are the primary sources of information to be used for the purposes of the Air Quality Directive. In relation to Defra, compliance is reported upon to the European Commission using the national Pollution Climate Mapping (PCM) model. Whilst for those authorities with compliance issues against the Air Quality Directive, further work is undertaken with JAQU. JAQU has prepared the guidance so that the same methods are used to predict pollutant concentrations by local authorities across the country. The information from those assessments is used to assess compliance and help inform the reporting to the EU. The information provided by the Scheme-specific predictions within ES Chapter 5: Air Quality **[APP-043]** are intended to be used to determine whether the Scheme will change the stated position of Stafford Street as set out by Defra and DCiC, i.e. are concentrations expected to increase or decrease in Stafford Street during Scheme construction and operation. Scheme construction is either predicted to have imperceptible change in air quality (Scenarios 0 and 2) or to improve air quality at this location (Scenario 4) and so no material change is predicted or an improvement. Scheme construction would, therefore, not change the timescales of delivery as reported to the EC using either the PCM data or DCiC data developed in consultation with JAQU. The differences between the JAQU method and the Scheme assessment method are discussed in ES Chapter 5: Air Quality **[APP-043]** para. 5.4.4 and 5.4.5.

No	Question to	Reference (in bold) and Question	Applicant's Response
			b) Changes in NO_2 concentrations are predicted at Burleigh Mews (R197) at Stafford Street with each of the construction traffic management scenarios assessed. The results are reported in ES Chapter 5: Air Quality **[APP-043]**, para. 5.10.9 for construction traffic management Scenario 0, para. 5.10.19 for construction traffic management Scenario 2 and para. 5.10.30 for construction traffic management Scenario 4. The predicted changes due to Scheme construction are: • An increase of 0.1µg/m^3 with Scenario 0 which is classed as imperceptible. • A decrease of 0.1µg/m^3 with Scenario 2 which is classed as imperceptible. • A decrease of 0.5µg/m^3 with Scenario 4 which is classed as a small magnitude decease. The traffic management measures that will be put in place by DCiC to improve air quality will be used to reduce traffic flows in Stafford Street. These are discussed in ES Chapter 5: Air Quality **[APP-043]** para. 5.2.20 and 5.2.21. These traffic management measures are the most appropriate way to reduce flows in Stafford Street in the city centre and is the purpose of the measures. The method of implementing the Scheme's traffic management measures during the Scheme construction phase are set out in the Traffic Management Plan (TMP) **[APP-254]** with proposals to manage network occupancy on the local road network set out in Section 6.3 of the TMP. On the basis that either imperceptible changes or improvements in air quality are predicted during the Scheme construction phase, alternative construction traffic management methods are not considered to be required. Nevertheless, DCiC has the option to use the traffic management measures implemented to improve air quality by further restricting traffic flows along Stafford Street and further improve air quality.
5.30	Applicant DCiC DCC EBC	**Mitigation measures** **ES Chapter 5 – Air Quality [APP-043] section 5.9** **NPSNN paragraph 5.15** a) Please could the Applicant summarise the consideration given to mitigation measures such as changes to the route, changes to	a) ES Chapter 3: Scheme History and Assessment of Alternatives **[APP-041]** as well as Appendices 3.1, 3.2 and 3.3 **[APP-162, APP-163** and **APP-164]** sets out the Applicant's process of assessment of alternative Scheme options and alignments. An initial sifting exercise was undertaken for each option, which included a webTAG assessment with consideration of air quality. Following this, as well as feedback from the non-statutory public consultation events in Spring 2015, a concise list of options was subject to a more detailed assessment. For each option considered, cost estimates were provided and an assessment in terms of engineering, environmental and traffic/economic considerations was conducted. As described in ES Chapter 5: Air Quality **[APP-043]**, paragraphs 5.9.9 and 5.9.10, whilst no specific air quality mitigation measures have been incorporated into the Scheme design(due to an absence of

No	Question to	Reference (in bold) and Question	Applicant's Response
		the proximity of vehicles to local receptors in the existing route, physical means including barriers to trap or better disperse emissions, and speed control? b) Please could the Local Authorities comment?	significant air quality effects), the Scheme design aims to maintain traffic flows on the A38 and the surrounding road network, thus reducing congestion and the occurrence of idling vehicles with resultant air quality benefits. The Scheme design also aims to maintain or increase the distances between properties and traffic, where possible, thus reducing air quality impacts. The air quality assessment concluded that significant effects on local air quality are not anticipated with regards to nitrogen dioxide NO_2 and particulate matter (PM_{10}) (ES Chapter 5: Air Quality **[APP-043]**, para. 5.10.50 and 5.10.53). Therefore, specific mitigation measures such as barriers to shield properties and speed control are not considered to be necessary. b) Response required from the defined local authorities.
5.31	Applicant DCiC DCC EBC	**Dust monitoring during preliminary works and main construction works** **ES Chapter 5 – Air Quality [APP-043] paragraphs 5.9.4-6** **OEMP [APP-249] tables 3.2a and 3.2b** The Applicant refers to dust monitoring for locations with higher dust risks. The OEMP provides for the consideration of dust monitoring during the main construction works, but not during the preliminary works, which include activities such as establishment of working areas and compounds and delivery of construction materials, plant and equipment. a) Please could the Applicant justify that no dust monitoring should be	a) As described in the ES Chapter 5: Air Quality **[APP-043]**, para. 5.9.6: "*As part of best practice measures for locations with higher dust risks, monitoring would be implemented. The final details of any monitoring would be consulted upon between the construction contractor and DCiC / EBC (as applicable), with details being included within the contractor's CEMP*". This commitment applies to the preliminary works as well as the main works. This is further documented in the Outline Environmental Management Plan (OEMP) **[APP-249]**, Table 3.2a, ref PW-AIR 1 as set out below: *"Best Practicable Means (BPM): The preliminary works contractor (all) shall manage dust, air pollution and exhaust emission during the preliminary works in accordance with Best Practicable Means (BPM). Specific measures shall be based upon industry best practice, including the measures listed in the Institute of Air Quality Management's (IAQM) Guidance on the Assessment of Dust from Demolition and Construction. These measures shall be set out in more detail in the CEMP and examples of these measures are listed in the main works table (MWAIR1). MW-AIR2 details measures to be implemented for high-risk sites, whilst MW-AIR3 details air quality monitoring requirements.'* Monitoring during the preliminary works would be considered for locations with a higher risk for dust soiling. The activities, location and duration of preliminary works are set out in ES Chapter 2: The Scheme, Table 2.3 **[APP-040]**. The locations of the main construction compound and satellite compounds, storage and laydown areas are shown in ES Figure 5.1 A/B **[APP-071]**. Earthworks and demolition are the activities most likely to generate dust in the preliminary phase as set out below. Small scale earthworks would take place near Kingsway junction at the Kingsway hospital site for flood storage works and also within Kingsway junction to divert Bramble Brook. Earthworks would

No	Question to	Reference (in bold) and Question	Applicant's Response
		considered during the preliminary works? b) Should dust monitoring be a firm requirement rather than something to be considered? c) Please could the Local Authorities comment?	also take place near Little Eaton junction to divert Dam Brook and the floodplain compensation area excavation works would take place to the west of the River Derwent. These preliminary works earthworks are of relatively short duration and are not adjacent to residential properties, so this is not considered to be a higher risk for dust soiling. Demolition would take place of properties in Queensway and Ashbourne Road. There are a number of properties adjacent to the demolition area including the Royal School for the Deaf, that could be affected by dust soiling. This area is also likely to be affected during the main works. Consideration should be given to monitoring in this area. However, the type and level of any dust monitoring, should it be required, would be agreed between the contractor and the local authorities and then included within the contractors Construction Environmental Management Plan (CEMP). b) It is expected that dust monitoring would be required at locations with a higher dust risk as set out above. However, this has yet to be agreed between the contractor and the local authorities. Such discussions will take during the Scheme detailed design stage. c) Response required from the defined local authorities.
5.32	Applicant DCiC DCC EBC	**NO_2 monitoring** **OEMP [APP-249] tables 3.2a and 3.2b** The OEMP does not mention any potential for NO_2 monitoring during the preliminary works, construction or operation. However, the assessment identifies cases where NO_2 levels are close to EU limit values and instances of large increases in NO_2 concentrations	a) The ES Chapter 5: Air Quality **[APP-043]** identifies one residential receptor which could exceed the annual mean NO_2 objective of 40µg/m^3 during the Scheme construction phase (2021) and Scheme opening year of the operational phase (2024), depending on which emission reduction forecast for future years is used. This receptor (R197) is located on Stafford Street and is a ground floor flat in Burleigh Mews. Annual mean NO_2 concentrations were predicted to change at this receptor during construction traffic management Scenarios 0 and 2 by an imperceptible amount and to decrease by a small amount during construction traffic management Scenario 4 and during the Scheme operational phase. Monitoring of NO_2 is already being carried out at this location by Derby City Council (DCiC) using diffusion tubes as shown in ES Appendix 5.1, Table 2 **[APP-170]**. Annual mean NO_2 concentrations at all other modelled air quality sensitive receptors are predicted to be less than 36µg/m_3 in all assessed scenarios during Scheme construction and operation. Large increases in annual mean NO_2 concentrations are predicted during some of the construction traffic management scenarios. These large increases are predicted to occur at three receptors during construction traffic management Scenarios 2 and 4. These receptors (R176, R177 and S12) are residential dwellings or school buildings located within the Royal School for the Deaf. However,

No	Question to	Reference (in bold) and Question	Applicant's Response
		a) Please could the Applicant justify that no NO_2 monitoring should be considered? b) Should NO_2 monitoring be something to be considered or a firm requirement? c) Please could the Local Authorities comment?	during construction traffic management Scenarios 2 and 4, the annual mean NO_2 concentrations at these receptors are predicted to be less than 30µg/m_3 and therefore well within the objective and limit value set at 40µg/m_3. Significant effects on air quality due to the Scheme are not anticipated with regard to NO_2 during the construction works and operational phase. For the above reasons, NO_2 monitoring is not considered necessary for either the construction or operation of the Scheme. b) NO_2 monitoring should not be a requirement for the reasons as outlined above. c) Response required from the defined local authorities.
5.33	Applicant	**RR by Royal School for the Deaf Derby [RR-019]** **RR by Cherry Lodge children's residential care home [RR-019]** **ES Chapter 5 – Air Quality [APP-043] paragraphs 5.10.23, 24, 26, 34, 35, 37 and table 5.6** a) Please provide an update on any recent discussions with the Royal School for the Deaf Derby and Cherry Lodge children's residential care home? b) Please respond to their Relevant Representations with respect to air quality, whether this is expressed explicitly in their comments or included under a broader heading	a) Recent meetings have taken place with the RSDD and the Haven Care Group (who operate the Cherry Lodge children's residential care home). The progress of these discussions is being recorded in their respective Statements of Common Ground. b) **RSDD** The Scheme effects on the school during and after the works are detailed in the Environmental Statement (ES) – air quality effects are reported in ES Chapter 5: Air Quality **[APP-043]**. It is considered that the mitigation measures to be applied during the construction phase as detailed in the Outline Environmental Management Plan (OEMP) **[APP-249]** are appropriate. Air pollutant concentrations at the School are currently achieving the national and European air quality criteria set to protect human health and will continue to do so during both construction and operation of the Scheme. The air quality criteria have been set to protect the most vulnerable members of society which includes children and the elderly. Additional mitigation or compensation is therefore not required for air quality. **CLC** The Environmental Statement (ES) reports the potential for environmental effects during the construction phase as associated with construction activities.

No	Question to	Reference (in bold) and Question	Applicant's Response
		such as changes in the local environment. c) Please clarify the proposed mitigation or compensation measures at each location. d) Could the impacts be reduced or avoided through alternative construction traffic measures? e) What alternatives have been considered, including changes to road alignments for the A38, changes to the proximity of vehicles to local receptors in the existing route, physical means including barriers to trap or better disperse emissions, and speed control?	With regard to dust from construction activities, the mitigation measures as detailed in ES Chapter 5: Air Quality **[APP-043]** and the Outline Environmental Management Plan (OEMP) **[APP-249]** would be implemented in a manner that would avoid significant effects upon the Home. In addition, air quality effects associated with construction traffic are predicted to be well within applicable air quality objectives and limit values. c) ES Chapter 5: Air Quality **[APP-043]** provides details of Scheme construction and operation. With regard to air quality at the Royal School for the Deaf Derby during the Scheme construction phase a range of mitigation measures would be implemented in order to control dust – these are detailed in ES Chapter 5: Air Quality **[APP-043]** and in the Outline Environmental Management Plan (OEMP) **[APP-249]**. These measures would be implemented by the construction contractor in a manner that would avoid significant effects upon the school. In addition, air quality effects associated with construction traffic are predicted to be well within applicable air quality objectives and limit values. Air pollutant concentrations at the school are currently achieving the national and European air quality criteria set to protect human health and will continue to do so during both construction and operation of the Scheme. The air quality criteria have been set to protect the most vulnerable members of society which includes children and the elderly. Additional mitigation or compensation is therefore not required for air quality. With regard to air quality at Cherry Lodge during the Scheme construction phase, a range of mitigation measures would be implemented in order to control dust – these are detailed in ES Chapter 5: Air Quality **[APP-043]** and in the Outline Environmental Management Plan (OEMP) **[APP-249]**. These measures would be implemented by the construction contractor in a manner that would avoid significant effects upon the home. In addition, air quality effects associated with construction traffic are predicted to be well within applicable air quality objectives and limit values. Air pollutant concentrations at Cherry Lodge are currently achieving the national and European air quality criteria set to protect human health and will continue to do so during both construction and operation of the Scheme. The air quality criteria have been set to protect the most vulnerable members of society which includes children and the elderly. Additional mitigation or compensation is therefore not required for air quality.

No	Question to	Reference (in bold) and Question	Applicant's Response
			d) Given the confined nature of the site and the location of these receptors adjacent to the Scheme construction site, there are very limited options with regard to traffic management that would divert traffic away from them whilst also keeping traffic moving during the Scheme construction phase. The air quality assessment as included in ES Chapter 5: Air Quality **[APP-043]** considers the air quality impacts of the defined traffic management scenarios on these receptors and indicates that air pollutant concentrations are currently achieving the national and European air quality criteria set to protect human health and will continue to do so during both construction and operation of the Scheme. It is noted that the detailed construction traffic management proposals will be reviewed and confirmed by the appointed construction contractor during the Scheme detailed design stage. Any alternative traffic management options will be investigated and only progressed if effects are not materially worse than the activities assessed in the Environmental Statement, although the potential for improvements will also be considered. e) ES Chapter 3: Scheme History and Assessment of Alternatives **[APP-041]** provides a review of the Scheme alignment options considered at Markeaton junction – this included options that would place the mainline A38 on an flyover through the junction (rejected on the basis of the potential high visual impact of the flyover), and placing the mainline A38 in an underpass but taking land from Markeaton Park, the petrol station and the McDonald's restaurant (rejected following the 2002 public consultation, mainly due to unacceptable environmental impacts due to the land take from Markeaton Park). It is considered that placing the A38 mainline in an underpass through the junction maximises the distance between traffic and nearby sensitive receptors, while the underpass retaining walls form effective screens/ barriers. ES Chapter 5: Air Quality **[APP-043]** assesses the Scheme air quality effects upon nearby receptors and highlights that air pollutant concentrations at these receptors are currently achieving the national and European air quality criteria set to protect human health and will continue to do so during both construction and operation of the Scheme. The air quality criteria have been set to protect the most vulnerable members of society which includes children and the elderly. Additional air quality mitigation measures are therefore not required. As such, alternative A38 road alignments have been considered that change the proximity of vehicles to local receptors, whilst placing the Scheme in an underpass aims to provide a physical barrier between mainline traffic and nearby receptors.
5.34	Applicant	**Responses to Relevant Representations**	**RR by Public Health England [RR-008]** The relevant representation from Public Health England **[RR-008]**, received on the 25th July 2019 states, in relation to air quality:

No	Question to	Reference (in bold) and Question	Applicant's Response
		RR by Public Health England [RR-008] **Caron Fellows [RR-023]** Please respond to the Relevant Representations from Public Health England and Caron Fellows with respect to air quality.	*'The applicant has identified some receptors within 200m of the project would experience an increase in nitrogen dioxide (NO_2) and PM10 concentrations, whilst others would experience a decrease, however, overall, there would be a slight deterioration in local air quality at properties within the air quality study area, but this deterioration would be temporary during the Scheme construction phase. The applicant should work closely with Derby City Council (DCiC) to ensure that impacts are kept to a minimum during both the construction and operational phase of the works. Improving air quality is a key public health priority and this is evidenced by its inclusion in the Public Health Outcomes for England (PHOF) as an indicator of mortality associated with air pollution, or specifically: "the fraction of adult mortality attributable to long-term exposure to human-made particulate air pollution (indicator 3.01)." We support measures to reduce sources of air pollution and people's exposure.'* This RR states that the applicant should work closely with Derby City Council (DCiC) to ensure that air quality impacts are kept to a minimum during both the construction and operational phase of the works given that improving air quality is a key public health priority. ***Response:*** ES Chapter 5: Air Quality **[APP-043]** highlights that with the Scheme in operation, some receptors would experience an increase in nitrogen dioxide (NO_2) and particulate matter (PM_{10}) concentrations, whilst others would experience a decrease, however, overall, there would be a slight improvement in local air quality at properties within the study area during operation of the Scheme. The operation of the Scheme therefore supports PHE's indicator to reduce people's exposure to air pollution. The assessment also highlights that a range of air quality mitigation measures would be implemented during the construction phase – such measures are detailed in the Outline Environmental Management Plan (OEMP) **[APP-249]**. Overall air quality effects during the construction phase would not be significant. Highways England has worked closely with Derby City Council (DCiC) during the development of the Scheme design and environmental assessment. The air quality assessment reported in the Environmental Statement (ES) indicates that Scheme construction and operation will not affect DCiC's ability to put in place and operate traffic management measures to improve local air quality. Highways England and the construction contractor will continue to liaise with DCiC regarding air quality impacts and mitigation. **Caron Fellows [RR-023]**

No	Question to	Reference (in bold) and Question	Applicant's Response
			The relevant representation from Caron Fellows, received on 5th July 2019, states: *'Impact on local environment. Loss of amenity by increasing traffic volume, noise, vibration and air pollution and what mitigation measures will be used to reduce the impact of these factors; road surfacing, fencing, speed limits. Measures taken to Protect wild life, birds, green areas, trees, insects & plants. Short term and long-term Impact on local road & residents near to the development. Impact on tranquillity & increase in light pollution'.* ***Response:*** An assessment of the environmental effects of the Scheme is reported in the Environmental Statement (ES) **[APP-039** to **APP-254]**. A summary of the ES is reported in the Non-technical Summary (NTS) **[APP-241]**. The air quality assessment reported in ES Chapter 5: Air Quality **[APP-043]** concluded that significant effects on local air quality (NO_2 and PM_{10}) due to the Scheme are not anticipated during the construction works and operational phase. As described in ES Chapter 5: Air Quality]para. 5.9.9 and 5.9.10, whilst no specific air quality mitigation measures have been incorporated into the Scheme design, the design aims to maintain traffic flows on the A38 and the surrounding road network, thus reducing congestion and the occurrence of idling vehicles with resultant air quality benefits. The Scheme design also aims to maintain or increase the distances between properties and traffic, where possible, thus reducing air quality impacts. As described in ES Chapter 5: Air Quality para. 5.10.1 to 5.10.5, dust generating activities will be undertaken during the construction works. Sensitive receptors such as residential dwellings and schools have been identified in para. 5.10.3 as these properties could be affected due to their proximity to dust generating activities. Standard dust mitigation measures are detailed in Section 5.9 and in the OEMP **[APP-249]** ref. AIR-PW 1, AIR-MW 1 and further standard mitigation measures for high risk sites are detailed in the AIR-MW2. These mitigation measures will be implemented, where appropriate, during Scheme construction in order to minimise dust emissions.
5.35	DCiC DCC EBC EA	**Statutory compliance, monitoring, pollution control and other matters** Do the Local Authorities or EA have any more comments regarding:	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
		• consideration of and compliance with local policies and plans; or • the Applicant's assessment and mitigation proposals with respect to statutory compliance, monitoring, pollution control or other matters?	
6	Noise and vibration		
	Baseline conditions, surveys and the overall assessment methodology		
6.1	Applicant DCiC	**Changes to local traffic management** **RR by DCiC [RR-003]** a) Is DCiC able to provide any further clarification of the potential changes to local traffic management in the Kedleston Road corridor and at Five Lamps junction to the Applicant for their noise and vibration assessment? b) Please could the Applicant comment on the potential implications of the changes suggested by DCiC?	a) Response required from DCiC. b) Highways England assumes that Derby City Council (DCiC) will not know the details of the improvements that will need to be made to their local road network at Kedleston Road and Five Lamps Junction until after the Scheme is open for traffic. Highways England's traffic model of the With Scheme ('Do-Something') case assumed that the nearby traffic signals would be adjusted to maximise their operational efficiency in the peak hours. Such improvements would necessarily need to be constrained to the existing number of approach lanes and within the available carriageway widths. In the traffic forecasting model, the process applied to adjust traffic signal settings is termed signal optimisation. The implication for the noise assessment in ES Chapter 9: Noise and Vibration **[APP-047]** is that the link flow forecasts used in Highways England's noise modelling already allows for potential reasonable cost capacity improvements to the traffic signal settings. If Highway England's traffic model has over-estimated the capacity of the local road network at these two locations, then the actual flows reaching the Scheme's road links in the 'Do-Something' case would be less than used in Highways England's analysis, but congestion could increase. As a result, if DCiC is not able to implement capacity improvements to Kedleston Road and to the Five Lamps junction, then the localised traffic noise impacts could possibly be different. However, the impacts are likely to be

No	Question to	Reference (in bold) and Question	Applicant's Response
			limited to the peak hours, therefore, the impact over the 18-hour period used in the traffic noise assessment is likely to be minimal. The traffic noise assessment reported in ES Chapter 9: Noise and Vibration **[APP-047]** indicates a negligible change in traffic noise is anticipated at Kedleston Road. The Five Lamps junction is just outside the study area for the detailed traffic noise modelling, however, no road links in this area have been identified as 'affected routes', therefore, again the traffic noise impact is anticipated to be negligible. A significant worsening of traffic noise is not anticipated in this area if signal optimisation does not proceed at Kedleston Road and Five Lamps junction.
6.2	Applicant DCiC	**DCiC traffic measures for Stafford Street** **ES Chapter 9 – Noise and Vibration [APP-047] paragraphs 9.3.9 and 9.5.1** Please could the Applicant clarify any implications for the noise and vibration assessment of any updates provided by DCiC of the timing of the removal of their clean air zone traffic management measures for Stafford Street?	Most recent discussions with Derby City Council (DCiC) (10th October 2019) confirm that the traffic management measures associated with Stafford Street are planned to be in place during the Scheme construction phase. DCiC has also confirmed that given that the Scheme would support actions to improve air quality along Stafford Street, following Scheme opening the proposed traffic management measures would no longer be required. These assumptions are consistent with those as applied by the environmental impact assessment (refer to ES Chapter 9: Noise and Vibration **[APP-047]**).
6.3	DCiC EBC	**Study area, receptors and baseline data** **ES Chapter 9 – Noise and Vibration [APP-047] sections 9.6 and 9.7; paragraphs 9.7.17-27** **ES Figures 9.1A [APP-128] and 9.1B [APP-129]** Are DCiC and EBC satisfied with the Applicant's proposals with respect to:	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
		a) The study area? b) The receptors selected for the assessment, whether they are specified in enough detail and whether they are considered representative? c) The baseline noise surveys?	
6.4	DCiC EBC	**Lowest Observed Adverse Effect Level (LOAEL)** **Significant Observed Adverse Effect Level (SOAEL) and** **ES Chapter 9 – Noise and Vibration [APP-047] tables 9.2-7; paragraphs 9.3.17 and 9.3.49-50** Are DCiC and EBC content with: a) The LOAEL and SOAEL used for construction noise and vibration and for traffic noise? b) The noise and vibration levels used to identify magnitudes of impact? c) The use of a traffic noise level of 58dB, $L_{A10,18h}$ as a proxy for the consideration of traffic vibration?	N/A
6.5	Applicant	**Baseline noise levels** **ES Chapter 9 – Noise and Vibration [APP-047] paragraph 9.7.26**	a) A discussion of the baseline monitoring is provided in the ES Chapter 9: Noise and Vibration **[APP-047]**, para. 9.7.17 - 9.7.27.

No	Question to	Reference (in bold) and Question	Applicant's Response
		a) Noise models are predicting levels higher than measured levels, in one case by 13dB. This suggests that the magnitude of change predicted may be less than experienced, i.e. could assessment against a higher baseline result in a smaller predicted magnitude of change? Please justify that the assessment has considered a reasonable worst-case scenario. b) Continuous monitoring data was obtained in June 2015, so is now over four years old. Have there been any significant changes to baseline conditions since then that might lead to concerns about whether the baseline data is still representative?	The purpose of the baseline noise survey is to assist with developing an understanding of the general noise climate along the Scheme. For example, to identify if any other local noise sources (other than road traffic) are present and contribute significantly to the local noise climate. In addition, the results of the baseline noise survey have been used as part of a validation exercise for the traffic noise prediction modelling by comparing predicted traffic noise levels with measured ambient levels. An exact match would not be expected for a variety of reasons, for example: i) Noise predictions are based on typical weekday traffic conditions over a year, not the exact traffic conditions during the few weeks or hours of noise monitoring. ii) The prediction method is designed to be conservative in terms of the effect of wind direction, whereas the wind direction is likely to vary throughout the monitoring period. iii) The noise predictions only consider road traffic noise, whereas the measurements include all ambient noise sources. It is worth noting that, in accordance with the Design Manual for Road and Bridges (DMRB), measured baseline noise levels are not used to determine the magnitude of impact of a scheme as this is based on future conditions both with and without the scheme which it is not possible to measure. At the majority of monitoring locations along the Scheme, the predicted noise levels match very well with the upper range of the measured levels. At the majority of the monitoring locations the measured and predicted levels are within 2dB, which is considered to be a very good match. The noise prediction methodology is designed to be conservative, therefore, a correlation between the predicted traffic noise levels and the upper end of the range of measured levels would be expected. The measured levels at the long-term monitoring sites in Breadsall M10, M11 and M12 illustrate the impact weather conditions can have on measured noise levels in particular at locations which are not immediately adjacent to the road. At these three sites the range of measured daytime $L_{A10,18h}$ levels are 10dB. Comparison of the measured noise levels with the wind direction data illustrates that there is a general correlation between wind direction and measured noise levels in Breadsall. Days when the wind was mainly from the west, south-west or north-west (i.e. from the direction of the A38 and A61 towards the village) tend to correspond to days when noise levels were highest. Conversely days when the wind was mainly from a southerly, northerly or easterly direction tend to correspond to days when noise levels were lowest.

No	Question to	Reference (in bold) and Question	Applicant's Response
			The match between measured and predicted levels is not as good at M3 and two of the short-term sites M9 and M13, where the predicted levels were rather higher than the monitoring data. At M3 the predicted daytime $L_{A10,18h}$ levels are around 5dB above the upper end of the range of measured levels. At night the match is closer, with predicted levels being around 3dB above the upper range of measured levels. Local conditions in the rear garden of the property and the proximity of boundary fences is the likely source of the mismatch in this area. The short-term noise measurements at M9 and M13 are inherently more likely to differ from the predicted level as the measurements provide only a brief snapshot of conditions over three hours on a single day. The long-term noise monitoring at the closest long-term site in Breadsall (M11) was on-going during the short-term measurements at M9 and M13. Comparison of the results indicates that noise levels at M11 were also very low during the short-term monitoring period, more than 10dB below the upper end of the daily range for M11, which correlates very well with the predicted daytime levels. The wind direction was predominantly from a northerly direction during the short-term monitoring, minimising the contribution from the A38 and A61 at these locations. It is, therefore, concluded that the timing of the measurements corresponded with low noise levels from the A38, predominantly due to the wind direction, and that it is likely that short-term monitoring on a day with the wind blowing towards the monitoring locations from the A38 and A61 would result in a much better correlation with the predicted levels. Overall, the comparisons provide confidence that the noise model developed to estimate the noise impacts of the Scheme is robust. The difference of 13dB identified in the question relates to a single short-term site M13 in the vicinity of Little Eaton junction. As detailed above, at the majority of locations the monitoring and modelling data matches very well. As discussed above, a short-term measurement is inherently less likely to match a predicted level due to the limited monitoring duration of 3 hours. At this particular location monitoring at nearby long-term sites confirms that levels during these particular 3 hours were very low. Based on the results from these long-term sites and consideration of the weather data, the wind direction has been identified as the reason for the low monitored levels at M13. The Calculation of Road Traffic Noise (CRTN) prediction methodology is based on conditions when the wind is blowing from the source to the receptor, to ensure a conservative approach. The long-term monitoring at Breadsall indicates how much difference wind direction can make to the measured levels, with $L_{A10,18h}$ levels varying by 10dB or more over the course of the monitoring.

No	Question to	Reference (in bold) and Question	Applicant's Response
			Determining the magnitude of the noise change due to the Scheme against a higher Do-Minimum level than reality would result in a smaller magnitude of impact being reported. However, this assumes that the reason for the low Do-Minimum level (wind direction) is not present in the corresponding Do-Something situation. Wind direction effects apply equally both with and without the Scheme. It is not appropriate to compare a measured ambient level when the wind direction is from the receptor to the source to a predicted level which assumes the wind direction is from the source to the receptor, and conclude the predictions are not robust. The magnitude of the impact of the Scheme is likely to be similar when comparing 'like for like' in terms of weather conditions i.e. both the Do-Minimum and the Do-Something traffic noise levels will be higher when the wind is from the source to the receptor and lower when the wind is in the opposite direction. On this basis of the above discussion, it is confirmed that the noise assessment is robust. b) No significant changes in baseline conditions in the study area have been identified between 2015 and 2019, with the exception of the ongoing redevelopment of the Kingsway Hospital site. It should be noted that the validation exercise to compare the measured baseline ambient noise levels and the predicted traffic noise levels was completed using 2015 traffic data and is therefore comparing 'like with like'. The 2015 Base Year traffic model has been calibrated and validated against 2015 observed traffic data. Comparable baseline traffic data has not been collated for future years. The Kingsway Hospital site redevelopment is still ongoing. Since the 2015 Baseline Year changes in building layout and usage have occurred on the site and the Retail Park junction on the A5111 has been reconfigured. This change to the A5111, and the layout of the completed site, as provided by the developers, are included in the 2024 and 2039 traffic noise modelling, both with and without the Scheme.
6.6	Applicant	**Noise sources with distinctive characteristics** **NPSNN 5.189** Please summarise the consideration given to any noise sources with distinctive tonal, impulsive or low	With regard to operational traffic noise levels the prediction methodology adopted is the Calculation of Road Traffic Noise (CRTN), which is prescribed in both the National Policy Statement for National Networks (NNNPS) and the Design Manual for Roads and Bridges (DMRB). This methodology predicts the $L_{A10,18h}$ noise level. This is the arithmetic mean of the individual 1-hour L_{A10} levels in each of the 18 one-hour periods between 06:00 and 00:00. The L_{A10} is the highest 10% of noise readings in the measurement period. As described in DMRB, a reasonably good correlation has been shown to exist between this index and the perception of traffic noise by residents over a wide range of noise exposures. The CRTN methodology was comprehensively verified on first publication using data from other 2,000 monitoring positions. Traffic noise is not impulsive in nature and is not a particular source of tonal or low

No	Question to	Reference (in bold) and Question	Applicant's Response
		frequency characteristics, including during construction.	frequency noise. The frequency spectrum of road traffic noise was captured in the measurements of road traffic noise against which the CRTN prediction methodology was validated. With regard to construction noise levels BS 5228 (2014) BS 5228: 2009+A1: 2014 'Code of Practice for Noise and Vibration Control on Construction and Open Sites' provides the standard UK construction noise prediction methodology. Whilst not specifically identified in the NNNPS, it does state with regard to construction noise 'reference should be made to any relevant British Standards'. BS 5228 provides a methodology for predicting the $L_{Aeq,T}$ noise level which is the standard parameter for assessing construction noise. This is the sound level of a notionally steady sound which has the same energy as a fluctuating sound over a specified measurement time period. The frequency spectrum of the construction noise is included in the determination of the L_{Aeq}., BS 5228 also contains a database of noise source data for various plant and activity, this includes frequency spectrum data as well as overall L_{Aeq} levels. The construction noise predictions completed for the Scheme are based on the plant noise database in BS 5228, including the frequency spectrum. Whilst construction plant is dominated by diesel engine powered plant, it is generally not a source of distinctive tonal, impulsive or low frequency noise. For example, no impact type piling using a hammer, which could be classed as a source of impulsive noise, is proposed as part of the works. The Outline Environmental Management Plan (OEMP) **[APP-249]** requires the use of less intrusive reversing alarms (PW-NOI1 and MW-NOI1), such as broadband alarms, rather than high pitched and potentially tonal reversing alarms.
6.7	Applicant	**Vertical level differences** **ES Chapter 9 – Noise and Vibration [APP-047] section 9.3** How has the assessment has considered vertical level differences between roads, sensitive receptors and any mitigation noise barriers, including with respect to: • residential properties in the vicinity of the junction between	The traffic noise predictions for both the Do-Minimum and Do-Something scenarios have been completed using industry standard noise modelling software which implements the UK standard prediction methodology the Calculation of Road Traffic Noise (CRTN). The model includes 3-dimensional ground height information for the existing ground in the form of a topographic survey of the area around the Scheme and contours for the wider area. The new Scheme is included in the form of 3-dimensional ground height data, similar to the topographic survey of the existing ground. The modelling therefore takes account of variations in ground height between the roads and the receptors (including those identified by the ExA at Greenwich Drive North, Enfield Road, Little Eaton, Breadsall, Ford Farm Mobile Park). Noise barriers included as mitigation measures are included in the model and included in the 3-dimensional ground height data, to ensure that they are at the correct height relative to the roads and the applicable receptors.

No	Question to	Reference (in bold) and Question	Applicant's Response
		Greenwich Drive North and Enfield Road; • the relationship between the Little Eaton embankment and residential properties in the vicinity of Ford Farm Mobile Home Park, Breadsall and Little Eaton; and • the proposed heights of noise barriers.	The noise model also includes the screening effects of buildings, which are included in the noise model as 3-dimensional objects sat on the ground, with the height determined from the OS MasterMap building height dataset.
6.8	Applicant	**Re-housing** **ES Chapter 9 – Noise and Vibration [APP-047] paragraphs 9.10.6, 9.10.53** Residential buildings that may qualify for noise insulation works have been identified. The potential for temporary re-housing has also been identified. a) How would the Applicant confirm that BS5228 trigger levels had been exceeded and that noise insulation or re-housing would be required? b) How many properties might qualify for re-housing? c) What is the process for identifying that re-housing would be required and for implementation? How	a) Exceedance of the BS 5228 trigger levels for noise insulation and temporary re-housing would be confirmed by the construction contractor, once the Scheme detailed design has been completed and details of the proposed construction working methods, plant etc. are finalised. b) At this stage the number of properties qualifying for re-housing cannot be confirmed. However, based on the results of the construction noise assessment completed for the Environmental Statement (ES) (refer to ES Chapter 9: Noise and Vibration **[APP-047]**) it is likely to be limited to a small number of properties in very close proximity to the works, such as Cherry Lodge on the A52 Ashbourne Road which is adjacent to the demolition works required at Markeaton junction. c) Properties would be identified by the construction contractor based on calculations of predicted construction noise levels completed once details of the proposed construction working methods, plant etc. are finalised. This would be backed up by a programme of monitoring of construction noise at selected locations once the works are underway. The choice of monitoring locations, durations and timing would be informed by the construction noise predictions. In respect of compensation, please see the entry for d) below. d) The process for construction noise insulation and compensation is detailed in the Outline Environmental Management Plan (OEMP) **[APP-249]** in clauses PW-NOI1 and MW-NOI4.

No	Question to	Reference (in bold) and Question	Applicant's Response
		would any compensation be identified? d) How is this all secured through the dDCO?	Compliance with the OEMP is secured through Requirement 3 in the draft Development Consent Order (dDCO) **[APP-016]**.
6.9	Applicant	**Cumulative impact assessment** **ES Chapter 15 – Assessment of Cumulative Effects paragraphs 15.10.2** If the two potential designated fund projects at Markeaton junction/park projects do go ahead, what is the potential for significant cumulative impacts with the Proposed Development in relation to noise and vibration?	As detailed in the ES Chapter 15: Assessment of Cumulative Effects **[APP-053]**, Highways England is considering the possibility for two Designated Fund projects in the vicinity of the Scheme – namely: i) the feasibility of a green bridge structure at Markeaton junction rather than the 'like-for-like' Markeaton footbridge replacement which would be provided by the Scheme; ii) biodiversity enhancement works within areas of open space located adjacent to the Scheme (i.e. Markeaton Park and Mill Ponds, Ford Lane Site of Interest, noting that these areas have been identified through stakeholder engagement). Potential designated fund projects are assessed by Highways England on their merits and alignment with Designated Fund policies and may be selected for funding and progression. However, both of these projects remain at the feasibility stage and there is no defined programme for their determination and progression, and thus there remains no certainty that they will progress as they are both subject to separate Highways England funding being secured. It is noted that neither of the Designated Fund projects are included within the dDCO as they do not form part of the Scheme for which consent is being sought. If they come forward, they would be consented under the appropriate planning regime with the local authority (Derby City Council). As part of the planning application process, a key issue to consider would be any potential cumulative effects as associated with any concurrent works associated with the Scheme. It is thus considered that the routine planning application process would appropriately consider the potential for cumulative effects, including potential effects associated with noise and vibration. Nevertheless, it is anticipated that the Designated Fund project investigating the potential for biodiversity enhancements within areas of open space located adjacent to the Scheme (i.e. Markeaton Park and Mill Ponds, Ford Lane Site of Interest) would not have the ability to generate any significant construction phase cumulative noise and vibration effects due to the unintrusive nature of the proposed works (which would predominantly entail landscape enhancement planting). Similarly, the works would not result in any operational phase noise and vibration effects. With regard to the green bridge structure, this could entail additional traffic movements during the construction phase given that green bridge would likely need additional material imports, plus some additional construction activities. However, the volume of additional haulage traffic (above that associated with the Scheme) is anticipated to be minimal, whist the construction works would unlikely be very different from

No	Question to	Reference (in bold) and Question	Applicant's Response
			those already assumed to be needed for footbridge installation. Installation of the green bridge structure is not anticipated to have any significant implications with regard to operational phase noise and vibration.
6.10	DCiC DCC EBC	**Baseline conditions and surveys** Do the Local Authorities have any more comments regarding the Applicant's consideration of baseline conditions, surveys or the overall assessment methodology?	N/A
	Construction noise, vibration and working hours		
6.11	Applicant	**Receptors within 10m of the carriageway** **ES Chapter 9 – Noise and Vibration [APP-047] paragraphs 9.3.10** Are there any implications of the use of a reference distance of 10m from the nearside carriageway for the assessment of noise and vibration at any sensitive receptors within that distance, where noise and vibration levels are presumably higher than at 10m?	The use of a reference distance of 10m only relates to the consideration of affected routes beyond the 1km study area. Within the detailed noise modelling study area, the noise modelling software calculates the traffic noise level at the façade of each potentially sensitive building, taking account of the actual distance from surrounding roads. As a proportionate approach and in accordance with the Design Manual for Roads and Bridges (DMRB), outside the 1km study area a spreadsheet-based assessment is completed based on the determination of the change in the Basic Noise Level (BNL) due to the Scheme along each affected route. As stated in the question, the BNL relates to the traffic noise level at a reference distance of 10m from the road, before any consideration of topography etc. and is calculated in accordance with the Calculation of Road Traffic Noise (CRTN) methodology. As the focus of the assessment of the impact along affected routes is on the change in traffic noise level due to the Scheme, the use of a 10m reference distance is not an issue. Although absolute noise levels would be higher at closer distances, the change due to the Scheme would be comparable.
6.12	Applicant	**Construction scenarios** **ES Chapter 9 – Noise and Vibration [APP-047] paragraphs 9.3.10**	The three construction traffic management scenarios that have the potential to result in the largest traffic noise impacts were identified as being traffic management Scenarios 0, 2 and 4, as stated in the question. These three TM scenarios were chosen to represent the likely worst-case traffic noise impacts during the Scheme's construction. These TM scenarios would have either high volumes of construction traffic on the network, traffic re-routing due to the restriction of some movements at the junctions, and the

No	Question to	Reference (in bold) and Question	Applicant's Response
		The Applicant states that scenario years 0, 2 and 4 were chosen to represent the likely worst case for traffic noise impacts during construction. ES Chapter 9 concentrates on construction scenarios 0, 2 and 4. What is the potential for construction noise or vibration in excess of LOAEL or SOAEL during the preliminary works or during construction scenarios 1, 3, 5, 6 or 7?	mainline traffic using the new slip roads at Markeaton junction and Little Eaton junction thereby bringing mainline traffic closer to nearby receptors. Detailed traffic noise modelling during construction phases is not the traditional approach for a construction traffic noise assessment. A spreadsheet-based approach is normally used, based on the change in the Basic Noise Level (BNL) at 10m from the edge of each road link, with and without construction traffic. However, for this Scheme a more detailed approach was adopted for the noise assessment, primarily due to some traffic management scenarios relocating mainline A38 traffic onto the new Scheme slip roads at Markeaton junction and Little Eaton junction. The physical movement of mainline traffic from the existing road layout onto some parts of the new Scheme could not be accurately represented in a spreadsheet-based approach. Due to the considerable additional complexity of modelling the construction traffic scenarios in the noise model, and the considerable workload involved in generating traffic data for the noise model, a proportionate approach was adopted by focussing on those construction traffic scenarios with the potential to result in the largest noise and vibration (and air quality) impacts. Without considerable additional traffic modelling to generate the construction traffic data for the other traffic management scenarios, and considerable additional construction traffic noise modelling of the data once generated, it is not possible to quantify the impact on road traffic noise levels of construction traffic during the preliminary works and traffic management Scenarios 1, 3, 5, 6 and 7. However, for these five construction phases it can be intuitively inferred that the noise and vibration impacts would be comparable to or less than during traffic management Scenarios 0, 2 and 4. A brief qualitative discussion is provided below: • During the preliminary works construction traffic will utilise the existing road layout with no traffic management restricting movements at any of the junctions. The volume of construction traffic generated by the preliminary works would be considerably less than that assessed for traffic management Scenario 0, which was based on the existing road network and the period of maximum HGV construction traffic during the main works. Therefore, the potential for significant adverse traffic noise effects is considered to be limited. • During traffic management Scenario 1 the existing road layout would be utilised at Kingsway junction and Markeaton junction, whilst at Little Eaton junction the road layout would be the same as traffic management Scenario 2 i.e. southbound mainline traffic would use the new southbound merge and diverge slip roads. Therefore, the traffic noise impact at Markeaton junction and Kingsway junction

No	Question to	Reference (in bold) and Question	Applicant's Response
			would be comparable to traffic management Scenario 0 and at Little Eaton junction would be comparable to traffic management Scenario 2. • During traffic management Scenario 3 only the new Scheme roundabout would be utilised at Kingsway junction, the mainline would remain on the existing road layout, therefore the traffic noise impact would be broadly comparable to traffic management Scenario 0. At Markeaton junction the traffic management would be the same as during traffic management Scenario 2 i.e. southbound mainline traffic would use the new southbound merge and diverge slip roads. At Little Eaton junction the road layout would be also similar to traffic management Scenario 2 i.e. southbound mainline traffic would use the new southbound merge and diverge slip roads, in addition the new roundabout would be in operation. Therefore, the traffic noise impact at Markeaton junction and Little Eaton junction would be comparable to traffic management Scenario 2. • During traffic management Scenario 5, 6 and 7 the Scheme would be complete at Kingsway, junction, therefore the traffic noise impact would be comparable to that of the operational Scheme in this area. • At Markeaton junction the road layout during traffic management Scenarios 5 and 6 is very similar to traffic management Scenario 4 i.e. southbound mainline traffic would use the new southbound merge and diverge slip roads and northbound traffic would use the new northbound on slip. Therefore, the road traffic noise impact at Markeaton junction is likely to be comparable to traffic management Scenario 4. During traffic management Scenario 7 the Scheme would be largely complete at Markeaton junction with only the northbound off slip road diverted onto the mainline, therefore, the impact would be broadly comparable to that of the operational Scheme in this area. • During traffic management Scenario 5 at Little Eaton junction the road layout would be similar to traffic management Scenario 4 i.e. both northbound and southbound mainline traffic would use the new merge and diverge slip roads, therefore, the traffic noise impact would be comparable to traffic management Scenario 4. During traffic management Scenarios 6 and 7 at Little Eaton junction the Scheme would be complete, therefore, the traffic noise impact would be comparable to that of the operational Scheme in this area.
6.13	DCiC EBC	**The use of professional judgement** **ES Chapter 9 – Noise and Vibration [APP-047] paragraphs 9.3.23 and 9.3.52**	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
		The Applicant refers to the application of professional judgement for the assessment of construction effects and traffic noise effects above SOAEL. Do the Local Authorities have any comments on the judgements made?	
6.14	Applicant DCiC EBC	**Definition of significant effect** **ES Chapter 9 – Noise and Vibration [APP-047] paragraphs 9.3.23 and 9.10.5; table 9.2** The ES considers that exceeding SOAEL for less than 10 days in 15 is not significant. The figures in ES table 9.2 are equivalent to table E1 of BS5228 Part 1, which considers a significant effect, subject to the number of receptors affected and the duration and character of the impact, if the figures are exceeded. The 10 days in 15 appears to come from table E4, which relates to trigger levels for noise insulation and appears to be a different test using different trigger levels. a) Please could the Applicant clarify its' reasoning why exceeding SOAEL for less than 10 days in 15 is not significant?	a) In determining that the definition of the construction noise Significant Observed Adverse Effect Level (SOAEL) is based on the 'ABC' method set out in Table E1 of BS 5228 (2014) BS 5228: 2009+A1: 2014 'Code of Practice for Noise and Vibration Control on Construction and Open Sites'. As noted in the discussion of the 'ABC' method the duration of the impact is identified as a factor to be considered when determining if an exceedance is significant. However, the 'ABC' method does not provide any further guidance on suitable durations. Therefore, the guidance on durations provided in BS 5228 in relation to Table E.2 has been adopted. This is considered reasonable in that: • Both sections of BS 5228 relate to construction impacts; • The durations provided in relation to Table E2 relate to identifying the onset of when an impact specifically requires mitigation, which is an indication of a significant effect; • The construction noise levels in Table E2 broadly correspond to the noise levels for Category C of the ABC method and therefore the two methodologies are comparable; and • Category C relates to the highest category of construction noise levels, applying the same durations to Category A and B i.e. when construction noise levels are lower, is considered to be a conservative approach. b) As detailed in para. 9.3.23 of ES Chapter 9: Noise and Vibration **[APP-047]**, given that detailed information on the exact timing and duration of individual activities is not confirmed, a conservative approach has been taken to the likelihood of the duration criteria being exceeded. In practice, all exceedances of the SOAEL reported in the ES are identified as significant, to ensure no potentially significant effects are missed at this stage.

No	Question to	Reference (in bold) and Question	Applicant's Response
		b) Please could the Applicant advise the number of days that noise levels at properties considered not to be significantly affected are predicted to exceed SOAEL? c) Should any exceedances of SOAEL be considered significant? d) Please could DCiC and EBC comment?	c) As detailed above, a conservative approach has been adopted in the ES Chapter 9: Noise and Vibration **[APP-047]**, and all exceedances of the SOAEL have been identified as significant. However, once specific details of both the timing and duration of the Scheme construction works and the plant/working methods etc. are known, then short duration effects may be identified as not resulting in significant effects. d) Response required from the defined local authorities.
6.15	Applicant	**Number of properties significantly affected** **ES Chapter 9 – Noise and Vibration [APP-047] paragraphs 9.10.5 and 9.10-13** Please clarify the number of properties at each location where significant adverse construction noise and vibration effects are predicted and, in each case, the duration.	The construction noise assessment presented in ES Chapter 9: Noise and Vibration **[APP-047]** is based on predictions at selected representative receptors, which were agreed in advance with the local authorities. To provide an accurate count of the number of properties predicted to experience a significant construction noise effect would require the predictions to be completed for every property, which is not considered to be a proportionate approach. Therefore, in order to provide a response, an estimate of the number of properties in the vicinity of each of the selected receptors identified as exceeding the construction noise Significant Observed Adverse Effect Level (SOAEL), which are likely to experience a similar significant effect has been produced, see the table presented in Appendix E **[TR01022/APP/8.5.1]**. A conservative approach has been taken in estimating the number of properties above the SOAEL, some of the properties included in the estimate may not actually experience a significant effect, as they may benefit from slightly greater screening or be further from some construction activities. With regard to the duration of the construction noise significant effect, the number of months in which an exceedance of the SOAEL is predicted (as illustrated in ES Appendix 9.2 **[APP-219]**) has been produced. It is noted that the duration of some activities (and therefore the significant effect) will be less than a month, however, the maximum number of months in which an exceedance of the SOAEL is predicted has been provided. With regard to construction vibration, as reported in para. 9.10.13 of ES Chapter 9: Noise and Vibration **[APP-047]** a total of approximately 150 residential buildings are identified as being at risk of exceeding the SOAEL for annoyance. These are located along the mainline between Kingsway junction and Markeaton junction, the closet buildings at the Royal School for the Deaf Derby, the Ford Lane Mobile Home Park and the individual property at the southern end of Ford Lane. With regard to the duration of the exceedance, it is not possible based on the currently available information to provide a reasonable estimate. A number of activities involve the use of vibratory rollers and these activities occur in many

No	Question to	Reference (in bold) and Question	Applicant's Response
			months of the programme. However, a significant effect is only anticipated when a roller is working in close proximity, therefore at each individual property the duration will be limited.
6.16	Applicant	**ES Chapter 9 – Noise and Vibration [APP-047] paragraphs 9.9.3** Potential construction noise mitigation measures have not been included in the assessment in order to represent a worst case. The Examining Authority (ExA) welcomes the use of a worst-case assessment approach but questions what certainty the OEMP provides in mitigating noise effects below SOAEL. For example, what certainty is there that localised hoardings would be used to reduce noise impacts?	Construction mitigation measures secured by the Outline Environmental Management Plan (OEMP) **[APP-249]** apply to all of the Scheme construction works i.e. in locations where construction noise levels are above the Significant Observed Adverse Effect Level (SOAEL), and where construction noise levels are between LOAEL and SOAEL. Therefore, there is equal certainty of the mitigation being provided in all locations. With regard to the use of site hoarding to reduce construction noise impacts, the screening of equipment is identified as Best Practicable Means (BPM) (refer to PW-NOI1, MW-NOI1 in the OEMP), and therefore must be adopted by the construction contractor where it is practical and effective. Compliance with the OEMP is secured through Requirement 3 in the draft Development Consent Order (dDCO) **[APP-016]**.
6.17	Applicant	**Piling methods and sizes of drum rollers** **ES Chapter 9 – Noise and Vibration [APP-047] paragraphs 9.10.9 and 9.3.14** The ES states that "*vibration impacts due to rotary bored piling at the new bridges and retaining walls are not considered to result in significant adverse vibration effects.*" The integrity of the vibration assessment therefore	a) & b) The use of a specific piling method is not currently secured in the draft Development Consent Order (dDCO) **[APP-016]** or the Outline Environmental Management Plan (OEMP) **[APP-249]**. Some flexibility will be required by the construction contractor, however, at the next revision of the OEMP a commitment will be added to exclude the use of impact or vibratory piling in the vicinity of sensitive receptors, should such piling methods be proposed**.** If, as the design progresses, the contractor identifies that an alternative piling method would be preferred, then under the requirements of the OEMP before adopting such an approach the contractor must demonstrate that it complies with the requirement to adopt Best Practicable Means (BPM) to minimise noise and vibration. c) Highways England does not consider that the size of the rollers needs to be secured in the dDCO or the OEMP. The assessment is based on robust assumptions regarding the likely size of the rollers, but some flexibility will be required by the construction contractor in both the construction method and plant, including to allow for innovations developed during the detailed design. In addition, the OEMP requires that the construction contractor adopt Best Practicable Means (BPM) in terms of the choice of plant adopted. Therefore, minimising vibration will be a key factor in the choice of vibratory rollers.

No	Question to	Reference (in bold) and Question	Applicant's Response
		relies on rotary bored piling being used. a) Please confirm if the use of rotary bored piling at the new bridges and retaining walls is secured in the dDCO or OEMP? b) Please confirm whether there is potential for alternative piling methods to be used at the new bridges and retaining walls given that the "*exact construction methods*" would be determined during the detailed design stage? c) Similarly, the assessment relies on certain sizes of drum roller. Do those sizes need to be secured in the dDCO or OEMP?	
6.18	Applicant	**Kingsway Hospital, the Royal School for the Deaf Derby and Cherry Lodge children's residential care home** a) Please summarise the allowances made for the sensitivities to noise or vibration at receptors other than typical residential receptors, including at Kingsway Hospital, the Royal School for the Deaf Derby and Cherry Lodge children's residential care home?	a) Understanding the sensitivity of the Royal School for the Deaf Derby has been a key consideration in the noise and vibration assessment as presented in ES Chapter 9: Noise and Vibration **[APP-047]**. Detailed discussions have been carried out on site to identify the use and sensitivity of each building on the site, and for the closest and/or most affected buildings the usage of the rooms on the various facades and the position of windows/doors. Discussions have also been held with Kingsway Hospital to ensure the use of various buildings on site is understood, in particular those closest to the Scheme. Cherry Lodge has been included in the noise assessment reported in the ES as a residential property and selected as specific receptor site within the construction noise assessment. b) The circumstances of the receptor are identified in para. 9.3.52 of ES Chapter 9: Noise and Vibration **[APP-047]** as one of the factors considered in the identification of significant effects. The potential sensitivity of hearing-impaired people and people with special needs to increases in noise has therefore been included as a factor in the identification of significant effects in the assessment. In

No	Question to	Reference (in bold) and Question	Applicant's Response
		b) What allowances have been made for people with special needs or hearing impairments? c) What allowances have been made for medical treatment or teaching areas? d) What allowances have been made for any equipment that might be sensitive to vibration?	particular at the Royal School for the Deaf Derby where the sensitivity of the pupils was a supporting factor in the identification of a significant effect during both Scheme construction and operation. c) As outlined above, discussions with the Royal School for the Deaf Derby and Kingsway Hospital have established the usage of the various buildings in the vicinity of the Scheme. At the deaf school the closest buildings to the Scheme are residential (Lydia House and The Cottage, used by parents) and the Karten building contains the main reception, offices, meeting rooms and a hall (no classrooms), the main teaching building is set further back from the A38 within the school site. The school has advised that the audiology suite is soundproofed and is not a particular concern. The closest buildings to the Scheme at Kingsway Hospital are residential bungalows for patients: Cherry Tree Bungalows, and an administration building: Kingsway House (no medical treatment areas). d) No equipment which is potentially sensitive to vibration has been identified during discussions with the Royal School for the Deaf Derby. The closest buildings to the Scheme are residential and meeting rooms/offices. The closest buildings to the Scheme at the Kingsway Hospital site are residential bungalows for patients and an administration building. The Applicant is not aware of any equipment that might be sensitive to vibration within these buildings.

No	Question to	Reference (in bold) and Question	Applicant's Response
6.19	Applicant DCiC EBC	**Night-time and weekend working** **ES Chapter 9 – Noise and Vibration [APP-047] paragraph 9.8.5** **OEMP [APP-249] tables 3.2a and 3.2b** a) Please could the Applicant summarise all night-time and weekend working activities considered in the assessment, and, in each case, justify why they cannot be carried out during the core working hours? b) Should any work to be carried out outside the core hours require prior agreement with DCiC or EBC, rather than just those that are not listed in the OEMP? c) Should any night-time road closures require prior agreement with DCiC or EBC? d) Should mitigation measures or monitoring be specified for night-time or weekend working? e) Should the activities identified for outside core working hours that would be undertaken during the main construction works rather than during the preliminary works be removed from table 3.2a?	a) As detailed in the Outline Environmental Management Plan (OEMP) **[APP-249]** and in ES Chapter 2: The Scheme **[APP-040]** (para. 2.6.63), a number of works may need to be undertaken outside of core working hours. The potential for such activities has been taken into account by the noise and vibration impact assessment during the consideration of potential evening/weekend and night-time construction noise effects. Activities specified as occurring outside of core working hours are detailed below, together with reasons as to why such activities cannot be carried out during core working hours: • Night-time closures for Markeaton footbridge demolition and installation of the new footbridge: footbridge removal and installation need to take place outside of core hours when there is minimal traffic on the A38 in order to minimise disruption and delays to the travelling public, plus for safety considerations. • Junction and slip road tie-in works to existing carriageways: tie-in works need to take place outside of core hours when there is minimal traffic on the affected roads in order to minimise disruption and delays to the travelling public, plus for safety considerations. • Installation of bridge decks: bridge decks installation works need to take place outside of core hours when there is minimal traffic on the A38 in order to minimise disruption and delays to the travelling public, plus for safety considerations. • Installation of sign gantries: gantries need to be installed outside of core hours when there is minimal traffic on the A38 in order to minimise disruption and delays to the travelling public, plus for safety considerations. • Installation of temporary and permanent line markings: temporary and permanent line markings need to be installed outside of core hours when there is minimal traffic on the A38 in order to minimise disruption and delays to the travelling public.

No	Question to	Reference (in bold) and Question	Applicant's Response
			• Overnight traffic management measures; as agreed with the local highway authority: such measures would by definition need to take place outside of core hours when there is minimal traffic on the A38 in order to minimise disruption and delays to the travelling public. • Works associated with traffic management and signal changes: such changes to traffic management and signals need to take place outside of core hours when there is minimal traffic on the A38 in order to minimise disruption and delays to the travelling public, plus for safety considerations. • Any emergency works: this covers works required outside of core working hours to enable the contractor to implement essential remedial actions for any unplanned circumstances. b) DCiC or EBC can comment on the proposed works specified outside of the core working hours as detailed in the OEMP **[APP-249]**. The local highway authorities will be consulted during the preparation of the contractor's Construction Environmental Management Plan (CEMP), noting that Requirement 3 in the draft Development Consent Order (dDCO) **[APP-016]** states that the CEMP must be based on the OEMP. Requirement 3(2)(d) lists activities authorised outside of the core hours. In addition, other works outside of the core hours, or any extension to the core hours, is possible with the prior agreement of the relevant environmental health officer provided that the activity is not materially worse than the activities assessed in the Environmental Statement. Contractor discussions with the local authorities will include discussions regarding works needed outside of core working hours. c) The applicable local authorities will be consulted by the construction contractor regarding the need for any essential night-time road closures. This is secured by article 15 on the dDCO. It is anticipated

No	Question to	Reference (in bold) and Question	Applicant's Response
			that procedures for such road closures will be covered within the contractors CEMP and their Traffic Management Plan. d) Construction noise mitigation and monitoring is secured by the OEMP **[APP-249]** in PW-NOI1-5 and MW-NOI1-7, noting that compliance with the OEMP is secured through the draft Development Consent Order (dDCO) **[APP-016]**. These clauses apply to all construction works, including works carried out within the core working hours of 07:30 – 18:00 Monday to Friday and 08:00 – 13:00 Saturday, and works carried out outside of core hours during the evening, night and weekend. Therefore, the same mitigation measures, such as the application of Best Practicable Means (BPM) to minimise noise at source through the choice of quiet plant, the use of acoustic enclosures around specific plant, and use of site hoarding to screen activities, will apply to evening, night and weekend works. Similarly, the monitoring of noise levels during the works required by the OEMP will apply to evening, night and weekend works. Details of the noise mitigation and monitoring will be set out in the Noise and Vibration Management Plans required by the OEMP for both the preliminary and main works. e) Agreed – activities identified for outside core working hours that would be undertaken during the main construction works rather than during the preliminary works can be removed from Table 3.2a in the OEMP **[APP-249]**.
6.20	Applicant DCiC EBC	**Best Practicable Means and a management plan rather than specific limits and s61[2] consent** **ES Chapter 9 – Noise and Vibration [APP-047] paragraph 9.4.2**	a) There are pros and cons to setting noise and vibration limits for construction. Limits can unintentionally become a 'licence' to generate noise and vibration up to the limit, taking the emphasis away from minimising noise and vibration. Limits can provide some certainty to all parties; however, they can limit the flexibility available

[2] Section 61 Prior consent for work on construction sites, Control of Pollution Act 1974

No	Question to	Reference (in bold) and Question	Applicant's Response
		a) Please summarise any issues with setting noise and vibration limits and with requiring s61 applications for prior consent? b) Please comment on the effectiveness of the specific measures identified as BPM by the Applicant and a management plan for: • preventing limits being exceeded; • for limiting impacts to those identified in the ES; and • for encouraging the contractor to minimise noise and vibration? c) Please comment on whether the identification of noise and vibration limits in the OEMP, together with appropriate mechanisms for dealing with any exceedances, could contribute to: • preventing limits being exceeded; • limiting impacts to those identified in the ES; and • encouraging the contractor to minimise noise and vibration? d) Please could the Local Authorities specify the s61 measures, including any conditions, that would otherwise have been required?	to a contractor. For example, concentrating the works into a considerably shorter duration, but generating higher noise levels, may in some circumstance actually be perceived by the public as a better outcome, for example with regard to works that have to be completed at night. As far as Highways England is aware, no highways scheme has had noise and vibration limits imposed on it through the dDCO and the Secretary of State in approving highways DCOs has on each occasion been content to allow this aspect to be controlled through requirement 15 (noise mitigation). There is no reason to believe that a different approach should be taken on this Scheme. The Section 61 process has various pros and cons for the contractor and the Local Authority. For the contractor a significant amount of work is required to produce a comprehensive application. However, once granted, the consent provides certainty to the contractor that, as long as they abide by the terms of the consent, they are protected from enforcement action under the Control of Pollution Act 1974. For the Local Authority processing an application within the prescribed timescales can be onerous. The onus is on the Local Authority to ensure that any consent is comprehensive enough to prevent justified complaints. The granting of consent does not prevent the receipt of complaints, which must be investigated to determine if they are due to a breach of the consent, though explaining that the works are being carried out in accordance with the consent can provide reassurance to the public. The presence of a consent can restrict the enforcement actions available to the Local Authority in the event of an issue arising. b) Construction mitigation measures are identified in para. 9.9.2 - 9.9.3 in ES Chapter 9: Noise and Vibration **[APP-047]**. In addition, the requirement to adopt a Best Practicable Means (BPM) approach is provided in PW-NOI1 and MW-NOI1 of the Outline Environmental Management Plan (OEMP) **[APP-249]**.

No	Question to	Reference (in bold) and Question	Applicant's Response
			The requirement for the contractor to review the programme and methodologies with a view to minimising noise and vibration and to select quiet and low vibration plant and methodologies is an effective means of 'encouraging the contractor to minimise noise and vibration', as it requires the contractor to adopt this approach rather than simply encouraging them. It would, therefore, assist in preventing exceedances of any agreed limits. It would also potentially enable impacts to be reduced to below those reported in the ES Chapter 9: Noise and Vibration **[APP-047]**, rather than simply limiting them to those reported in the ES. The requirement to use acoustic enclosures around static plant where necessary and the requirement to use site hoarding to screen activities where practical and effective both require, rather than encourage, the contractor to minimise noise, and would therefore assist in preventing exceedances of any agreed limits. As the benefit of such enclosures and site hoarding has not been included in the assessment reported in ES Chapter 9: Noise and Vibration **[APP-047]**, they would potentially enable impacts to be reduced to below those reported in the ES. The requirement to use less intrusive reversing alarms is unlikely to make a significant contribution to preventing the exceedance of any limits or ensuring impacts are limited to those as detailed in ES Chapter 9: Noise and Vibration **[APP-047]**. However, it would require the contractor to minimise noise from what can be one of the most disturbing aspects of construction works. The limitations on the distance from sensitive receptors at which vibratory rollers can be started up and shut down (refer to PW-NOI4 and MW-NOI5 in the OEMP **[APP-249]**) would directly contribute to the prevention of exceedances of any vibration limits, limit the impacts to those reported in ES Chapter 9: Noise and Vibration **[APP-047]** and encourage the contractor to minimise vibration. Compliance with the core working hours for the majority of the works, and limiting works outside these hours to those identified in the

No	Question to	Reference (in bold) and Question	Applicant's Response
			OEMP (refer to PW-G4 and MW-G12 in the OEMP **[APP-249]**) will contribute directly to limiting the impacts to those reported in ES Chapter 9: Noise and Vibration **[APP-047]**. The need to implement a noise insulation and temporary re-housing policy would encourage the contractor to prevent any limits being exceeded to minimise the need for such works and actions, and therefore encourage the contractor to minimise noise and vibration. c) The identification of noise and vibration limits in the OEMP **[APP-249]**, and associated mechanisms for dealing with exceedances, would directly contribute to preventing the exceedance of such limits. Such limits may not act to limit the impacts to those reported in ES Chapter 9: Noise and Vibration **[APP-047]** as they would not encourage the contractor to limit noise and vibration from all activities, the focus would inevitably be on those areas at risk of exceedance. Therefore, whilst encouraging the contractor to minimise noise and vibration from the works generating the highest noise levels, they may not be so effective at minimising noise and vibration from other works. d) Response required from the defined local authorities.
6.21	Applicant DCiC EBC	**Temporary noise barriers** **ES Chapter 9 – Noise and Vibration [APP-047] paragraphs 9.9.3, 9.9.6 and 9.12.1** a) Should the dDCO secure requirements for temporary site hoardings or noise barriers or the bringing forward of the installation of permanent noise barriers at locations where significant adverse construction noise effects are predicted?	a) The Outline Environmental Management Plan (OEMP **[APP-249]** contains clauses requiring temporary site hoarding around construction compounds (MW-G25), the use of screening as part of the application of Best Practicable Means (BPM) to minimise noise (PW-NOI1 and MW-NOI1), and the early installation of noise barriers (MW-NOI7) at the Royal School for the Deaf Derby and at Little Eaton junction on the new southbound off slip. The BPM requirement to use screening to minimise noise impacts would ensure where such screening is practical and effective, it will be utilised in locations

No	Question to	Reference (in bold) and Question	Applicant's Response
		b) Is there any potential for the 4m high noise barrier adjacent to the Royal School for the Deaf Derby to be installed before the demolition of the houses on Queensway, or for additional temporary mitigation to be provided during demolition?	where significant construction noise effects are identified in ES Chapter 9: Noise and Vibration **[APP-047]**. Compliance with the OEMP is secured by Requirement 3 in the draft Development Consent Order (dDCO) **[APP-016]**. On this basis, the Applicant does not consider that the dDCO needs to include specific requirements on this topic. b) The 4m high noise barrier along the boundary with the Royal School for the Deaf Derby would be installed as early as possible during the Scheme construction phase such that it is able to mitigate construction noise and act as a security fence. In ES Chapter 9: Noise and Vibration **[APP-047]** it was assumed that the barrier would be installed prior to any temporary traffic management measures. However, further consultation with the proposed construction contractor since the completion of the ES indicates that it should be feasible to install the barrier prior to the demolition of the Queensway buildings (e.g. at the start of the Scheme construction phase). Whilst it is an aspiration to install the noise barrier earlier than assumed in the ES, this cannot currently be confirmed as it depends upon site conditions following site possession.
6.22	Applicant DCiC EBC	**Community liaison** **ES Chapter 9 – Noise and Vibration [APP-047] paragraphs 9.9.5** a) Are DCiC and EBC content with the proposals for communications with communities, liaison and measures to inform of potentially disruptive construction activities and proposals for dealing with any complaints? b) For clarity, should the measures identified in Chapter 9 be added to the OEMP?	a) Response required from the defined local authorities. b) The Outline Environmental Management Plan (OEMP) **[APP-249]** includes community liaison requirements, including the provision of a Community Relations Manager by the construction contractor. However, it is agreed that for clarify additional details as detailed in ES Chapter 9: Noise and Vibration **[APP-047]** regarding community liaison (refer to para. 9.9.5) should be included in the OEMP. c) Requirement 3 in the draft DCO **[APP-016]** requires that the contractor's Construction Environmental Management Plan (CEMP) must be substantially in accordance with the OEMP which includes

No	Question to	Reference (in bold) and Question	Applicant's Response
		c) Should a community communication and management plan be required?	community liaison provisions (noting the proposed additions as detailed in the response above). As such, community liaison will be a key component of the contractor's CEMP regardless of whether it includes a communication and management plan. As the CEMP will need to cover community liaison, it is suggested that this is left to the contractor to decide as to whether they integrate this into the main CEMP text, or whether they generate a community communication and management plan (appended to the CEMP).
6.23	Applicant	**ES Chapter 9 – Noise and Vibration [APP-047] paragraph 9.10.6** **NPSNN paragraph 5.195** The ES highlights that noise effects may be reduced in certain locations below SOAEL once a contractor is appointed and specific mitigation details are confirmed. a) Please confirm how the dDCO and OEMP ensure that the requirements of NPSNN to "*avoid significant adverse impacts on health and quality of life from noise*" in those locations are satisfied by this commitment? b) What level of certainty is there that such mitigation will be provided?	a) Requirement 3 in the draft Development Consent Order (dDCO) **[APP-016]** secures compliance with the Outline Environmental Management Plan (OEMP) **[APP-249]**. The OEMP contains a range of mitigation measures which aim to reduce the magnitude of the construction noise and vibration impacts as identified in ES Chapter 9: Noise and Vibration **[APP-047]**. In particular the requirements to adopt Best Practicable Means (BPM) to minimise noise through the selection of low noise and vibration plant and working methods, and the use of temporary screening (refer to PW-NOI1 and MW-NOI1 in the OEMP). Where mitigation at source is insufficient and levels above the relevant criteria are anticipated, the OEMP contains provisions for noise insulation and temporary re-housing (refer to PW-NOI1, MW-NOI1 and MW-NOI4 in the OEMP). Through the application of the relevant clauses in the OEMP, the requirement to avoid significant adverse effects is secured. It should be noted that the National Policy Statement for National Networks (NPSNN) requires the Applicant to avoid significant adverse effects '*within the context of Government policy on sustainable development*'. This requires a range of other factors to also be considered, including the cost of any mitigation versus the benefit, the engineering practicality of a mitigation measure, any other knock on impacts such as ecological or visual effects, and consultation and stakeholder inputs. Therefore, there may be some instances where avoiding a significant adverse construction effect is not achieved, given the requirement not to consider noise in isolation as set out in the Noise

No	Question to	Reference (in bold) and Question	Applicant's Response
			Policy Statement for England (NPSE), this is compatible with the NPSNN. The NPSE states '*the application of the NPSE should enable noise to be considered alongside other relevant issues and not to be considered in isolation. In the past, the wider benefits of a particular policy, development or other activity may not have been given adequate weight when assessing the noise implications'.* In addition, requirement 15 requires written details of proposed noise mitigation in respect of the use and operation of the development to be approved by the Secretary of State. This will ensure that noise mitigation measures are secured for when the Scheme is in operation. b) Requirement 3 in the draft Development Consent Order (dDCO) **[APP-016]** secures compliance with the Outline Environmental Management Plan (OEMP **[APP-249]**. Therefore, there is a high level of certainty that the mitigation in the OEMP will be provided during the Scheme construction phase. Again, requirement 15 requires written details of proposed noise mitigation in respect of the use and operation of the development to be approved by the Secretary of State. This will ensure that noise mitigation measures are secured for when the Scheme is in operation.
6.24	Applicant DCiC DCC EBC	**Cumulative impact assessment** **ES Chapter 9 – Noise and Vibration [APP-047] paragraph 9.7.30** The Applicant considers that other developments are not expected to affect the construction noise assessment. a) Please could the Applicant clarify how it has considered construction traffic from the other developments in its' assessment?	a) Highways England consider that the direct impact of construction noise from works on other construction sites, which may be ongoing at the same time as Scheme construction activities, are not anticipated to make a significant contribution to construction noise levels at receptors directly affected by construction noise from works at the A38 construction sites. With regard to how construction traffic from the other developments has been included in the assessment, the following comments are made: • The construction phase traffic data used to assess the potential environmental impacts associated with the Scheme includes

No	Question to	Reference (in bold) and Question	Applicant's Response
		b) Please could the Local Authorities comment?	estimated construction-generated traffic (e.g. HGVs and light construction vehicles). • The construction phase traffic data used to assess the potential environmental impacts associated with the Scheme did not specifically include construction traffic as generated by other potential developments as considered by the cumulative impact assessment, given that such flows are at this stage unknown and unquantifiable. However, the baseline traffic data collected (2015) which was used as the basis for calibrating and validating the baseline traffic model would have included traffic movements associated with construction sites ongoing at the time. Thus, the baseline traffic model already includes for economic activity and traffic delivery movements associated with the local construction industry. Construction activities that were ongoing at the time of traffic data collection are now likely to have been completed, being replaced with construction deliveries associated with new ongoing developments. Thus, on balance, the net effect of other developments' construction traffic on traffic flows on the local highway network is included within the Do Minimum (DM) traffic forecast. Taking into account the above, whilst general construction activity is included within the DM (baseline) flows, the potential for construction traffic associated with the developments scoped into the cumulative impact assessment were considered on a qualitative basis in ES Chapter 15: Assessment of Cumulative Effects **[APP-053]**. The cumulative impact assessment scoped a number of developments into the assessment, as based upon their potential temporal and spatial relationships with the Scheme. Given the general absence of details regarding construction traffic volumes and haulage routes associated with such developments, it was only possible to undertake a high level qualitative appraisal of the potential for construction phase cumulative effects taking into account the scale of the applicable developments (and thus their potential to generate

No	Question to	Reference (in bold) and Question	Applicant's Response
			HGV traffic), their location in relation to the Scheme (and thus the potential for similar HGV haulage routes along routes that could be affected by the Scheme) and the degree to which the respective construction programmes overlap (thus the potential for concurrent impacts). The results of this qualitative appraisal fed into the assessment as reported in ES Appendix 15.4 **[APP-240]** which indicated that none of the developments scoped into the assessment were considered likely to have the potential to generate likely significant noise effects (both from construction activities and construction traffic). b) Response required from the defined local authorities.

No	Question to	Reference (in bold) and Question	Applicant's Response
6.25	DCiC DCC EBC	**Construction noise and working hours assessment, impacts and mitigation** Do the Local Authorities have any more comments regarding the Applicant's consideration of construction noise and working hours, including: a) The nature of likely effects on receptors? b) Relevant mitigation measures secured in the dDCO and OEMP? c) Whether the mitigation measures are enforceable, precise, reasonable, sufficiently secured and likely to result in the identified residual impacts? d) All significant impacts?	N/A
	Operational noise and vibration		
6.26	Applicant	**Road surfacing** **ES Chapter 9 – Noise and Vibration [APP-047] paragraphs 9.3.5, 9.7.16 and 9.9.12** a) What comfort can be provided that low noise resurfacing of the A38 will have taken place before 2024? b) Very low noise surfacing has potential to further reduce noise impacts and has been employed on other national infrastructure highway schemes such as the A14 Cambridge to Huntingdon bypass. What consideration has been given to use of very low noise surfacing rather than low noise surfacing for the Proposed Development and other sections of the A38?	a) The operational noise and vibration impact assessment reported in ES Chapter 9: Noise and Vibration **[APP-047]** included information on planned resurfacing as provided by the East Midlands Asset Delivery Team. This indicated that the majority of the A38 in the study area would be resurfaced with low noise surfacing by the Scheme opening year of 2024. The exception being very short sections at junctions which require high friction surfacing for safety reasons. At such locations traffic speeds are lower and therefore the additional benefit of low noise surfacing would not be realised. In response to this question, the East Midlands Asset Delivery Team (Highways England) has been contacted again and has confirmed that the re-surfacing information assumed in ES remains valid. Some sections of low noise surfacing have already been competed, including the A38 northbound to the north of Little Eaton junction, whilst remaining sections are planned to be complete by January 2021. The works are included in

No	Question to	Reference (in bold) and Question	Applicant's Response
		c) What comfort can be provided that Highways England will have resurfaced all the roads for which they are responsible with new low noise surfacing throughout the noise study area by 2039?	the maintenance programme, and thus the Applicant has a very high confidence that these works will proceed as assumed by the ES. b) Low noise surfacing is the default surfacing used by Highways England for both new roads and the maintenance of existing roads. In recent years very low noise surfacing products have become available, however, it is not currently the default surfacing adopted by Highways England due to higher initial costs and increased maintenance requirements. Research is ongoing into solving these issues. On this basis, very low noise surfacing has only been adopted to date for specific sections on a small number of schemes. With regard to the A38 Scheme, very low noise surfacing was considered for the section at Markeaton junction in the vicinity of the Royal Derby School for the Deaf Derby. However, low and very low noise surfacing is only effective at higher traffic speeds (>75km/hr), given that at lower speeds engine noise dominates over the noise generated by the interaction of the tyres with the road. The traffic speeds on the A38 through Markeaton junction, both with and without the Scheme, are below 75 km/hr and therefore the benefit of very low noise surfacing would not be realised. On this basis, this option was not pursued further. c) As detailed above, low noise surfacing will be in place on the majority of the A38 by the Scheme opening year of 2024, therefore, the same type of surfacing will be applied for any subsequent maintenance between 2024 and 2039. In addition, low noise surfacing is the default surfacing used by Highways England for both new roads and the maintenance of existing roads. Exceptions are the use of high friction surfacing very close to junctions for safety reasons, as discussed above, and in locations remote from any potentially sensitive receptors. Thus the Applicant has a very high confidence works will proceed as assumed by the ES.

No	Question to	Reference (in bold) and Question	Applicant's Response
6.27	Applicant	**Manual adjustment of speed bands** **ES Chapter 9 – Noise and Vibration [APP-047]** Has there been any manual adjustment of speed bands? If so, please justify.	Section 9.5 of ES Chapter 9: Noise and Vibration **[APP-047]** details that speed banding has been applied to the traffic data used in the noise assessment, with the exception of two locations in the operational traffic noise assessment where the modelled/pivoted speed has been used directly, namely: • A61 south of Little Eaton junction: the Scheme would result in an increase in 18hr speeds of around 10km/hr due to a reduction in congestion. However, the speed band changes by over 30km/hr. • A38 mainline between Kingsway junction to Kedleston Road junction: the Scheme would increase the speed limit from 40mph to 50mph. However, the speed band is the same with and without the Scheme. In both these locations the modelled/pivoted speed generated by the traffic modelling has been adopted in preference to the speed banded speed. This approach ensures the changes in speed due to the operation of the Scheme in these areas are more accurately represented in the assessment than would be the case using speed banded speeds. At the A61 this approach removes an unrealistically large increase in speed, and on the A38 mainline between Kingsway junction and Kedleston Road this approach ensures the slight increase in traffic noise due to the increase in speed limit is included in the assessment and not masked by the speed banding process. In addition to the above, manual adjustments to some speed bands were made by the noise and traffic teams where modelled/pivoted speeds where close to the cut-off between speed bands. For example, in the scenario where a very small change in modelled/pivoted speeds between scenarios caused a change in speed band of around 30km/hr, thus creating unrealistic effects.
6.28	Applicant	**Traffic noise annoyance** **ES Chapter 9 – Noise and Vibration [APP-047] table 9.18**	a) As set out in para. 9.3.51 - 9.3.52 of ES Chapter 9: Noise and Vibration **[APP-047]**, the key driver to the assessment of the significance of operational traffic noise effects is the change in traffic noise level in the opening year due to the Scheme, combined with

No	Question to	Reference (in bold) and Question	Applicant's Response
		a) Please clarify the relevance of changes in traffic noise annoyance to the identification of significant effects. b) How much increase in annoyance would be significant?	consideration of the absolute traffic noise level and any other factors relevant to the receptor. The current assessment methodology set out in the Design Manual for Roads and Bridges (DMRB) also requires an assessment of the likely change in annoyance. However, as this is based on the calculated traffic noise levels it essentially gives the same overall picture, therefore, it is considered to be supplementary to the main process of identifying significant effects and would not change the decision on significance at any receptor. b) Based on the discussion above, there is no set criteria for a change in annoyance corresponding to a significant effect, though a property with a change falling into the 30 - 30% or ≥40% bands is likely to have already been identified as a significant effect based on the noise change alone.
6.29	Applicant	**Reflective or absorptive noise barriers** **ES Chapter 9 – Noise and Vibration [APP-047] paragraphs 9.9.13** **ES Figures 9.1A [APP-128] and 9.1B [APP-129]** Operational noise mitigation measures include localised noise barriers, comprising both reflective and absorptive barriers. a) Please identify the height of all existing and proposed noise barriers and whether they are reflective or absorptive. b) What would be the difference in noise levels in the vicinity of Markeaton Junction if absorptive rather than the proposed reflective barriers were used? c) Why are reflective barriers proposed in certain locations rather than absorptive barriers?	a) Para. 9.7.9 to 9.7.11 of ES Chapter 9: Noise and Vibration **[APP-047]** provide details of existing noise barriers located in the vicinity of the Scheme, as detailed below: • Two short sections of 1.8m high noise barrier located to the east and west of the A38 to the north of Kedleston Road junction. These barriers are located within the 1km study area and are identified on ES Figure 9.1a **[APP-128]**. • Two sections of 2.0m high noise barrier located on the western side of the A38 to the south of Palm Court junction - these barriers are included in the traffic noise model but are both outside the 1km study area (refer to Figure 9.1b **[APP-129]**). No changes to these existing noise barriers are planned as part of the Scheme as they are located beyond the Scheme extents. With regard to new barriers, para. 9.9.13 of ES Chapter 9: Noise and Vibration **[APP-047]** sets out the height and type of each proposed operational noise barrier as included in the Scheme design – these are detailed below:

No	Question to	Reference (in bold) and Question	Applicant's Response
		d) What would be the effect of using absorptive barriers in all locations in terms of significance of effect and scheme costs?	• 1.5m reflective noise barrier on the east side of Kingsway Park Close, which becomes a link road access onto Kingsway junction. • 1.5m absorptive barriers on both the northbound and southbound A38 mainline between Brackensdale Avenue bridges and Markeaton junction. • 4.0m reflective noise barrier on the western boundary of the Royal School for the Deaf, north-east of Markeaton junction. • 2.5m reflective noise barrier on the southbound diverge slip road to the A61 at Little Eaton junction. • 2.5m reflective/ absorptive noise barrier on the southbound A38 mainline at Little Eaton junction. • 2.5m reflective noise barrier on the northbound A38 mainline at Little Eaton in the vicinity of the Ford Farm Mobile Home Park. b) The barriers on each side of the A38 between Brackensdale Avenue bridges and Markeaton junction are specified as absorptive. The barrier at the Royal School for the Deaf Derby to the north of Markeaton is specified as reflective. An absorptive barrier in this location would have no effect on the school, a slight reduction in traffic noise levels is likely to the west at the edge of Markeaton Park, though due to the realignment of the A38, this area of the park already experiences a reduction in traffic noise due to the Scheme. c) An absorptive surface on the barrier minimises the reflection of traffic noise off the barrier towards the opposite side of the road. Therefore, the choice between reflective and absorptive is dependent on the presence of sensitive receptors on the opposite side of the road to the barrier. If sensitive receptors and barriers are located on both sides of the road, then it is common practice to use absorptive barriers. However, if sensitive receptors and barriers are only located on one side, then it is common practice to use reflective barriers. Hence the

No	Question to	Reference (in bold) and Question	Applicant's Response
			proposal for absorptive barriers between Brackensdale Avenue bridges and Markeaton junction where barriers and houses are located on both sides of the A38. d) The predicted reduction in traffic noise levels at a receptor on the opposite side of a road to an absorptive barrier, compared to a reflective barrier, are generally small. In addition, the guidance in the Design Manual for Roads and Bridges (DMRB) identifies that the predicted benefit of an absorptive barrier can overestimate what is actually achieved. On this basis, a conservative approach was adopted in the noise assessment and the additional benefit of the proposed absorptive barriers has not been included in the results reported in ES Chapter 9: Noise and Vibration **[APP-047]**. Inclusion of this benefit would slightly reduce the magnitude of the impact reported at receptors in the vicinity of absorptive barriers, although no change to the identified significant adverse operational traffic noise effects would occur. Inclusion of absorptive noise barriers at all the locations currently identified as having reflective barriers would have a very minimal effect on the magnitude of the impacts reported in ES Chapter 9: Noise and Vibration **[APP-047]** as by definition, no sensitive receptors are located on the opposite side of the road to these barriers to benefit from any reduction. Again, no change in the significant adverse operational traffic noise effects would occur. Barrier costs vary depending on the material used, the height and length, as well as costs relating to the ease of installation. As a rough guide the additional cost of an absorptive rather than reflective timber barrier is estimated to be around £100/m.
6.30	DCiC DCC EBC	**Operational noise and vibration assessment, impacts and mitigation**	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
		Do the Local Authorities have any more comments regarding the Applicant's assessment of operational noise and vibration, including the identification of: a) The nature of likely effects on receptors? b) Relevant mitigation measures secured in the dDCO? c) Whether the mitigation measures are enforceable, precise, reasonable, sufficiently secured and likely to result in the identified residual impacts? d) All significant impacts?	
	Statutory compliance, monitoring, pollution control and other matters		
6.31	Applicant DCiC EBC	**Derby Local Transport Plan, LTP3 2011-2026** The Derby Local Transport Plan identifies locations in Derby on the A38 and A52 where noise exceeds acceptable standards set by European legislation. It notes that the Highway Authority for roads generating unacceptable noise levels is responsible for mitigating the effects of the noise. DCiC is identified as being responsible for the A52 and the Highways Agency as being responsible for the A38. a) Please could the Applicant summarise the impacts of the Proposed Development where noise exceeds acceptable standards set by European legislation? b) How would any increase in noise levels be consistent with DCiC's and with the Applicant's responsibilities? c) Please comment on compliance with the Local Transport Plan.	a) It is assumed that the question relates to para. 3.38 - 3.41 of the Derby City Council (2011) Derby Local Transport Plan LTP3 2011 - 2026. This section relates to Noise Important Areas (NIAs). NIAs with respect to noise from major roads in agglomerations, are where the top 1% of the population that are affected by the highest noise levels are located, according to the results of the strategic noise mapping completed by Defra. The Applicant is unclear what is meant in the Derby Local Transport Plan by '*acceptable standards set by European legislation*'. The impact of the Scheme on the NIAs along the A38 within the study area is discussed in para. 9.10.36 of ES Chapter 9: Noise and Vibration **[APP-047]**. The NIAs on the A38 (i.e. 8006, 8005, 11628*, 11627, 7976 and 8245*) would generally experience a negligible increase in traffic noise due to the slight increase in traffic flows on the A38, although the proposed 1.5m high barriers on the A38 mainline between Kingsway junction and Markeaton junction would result in a slight reduction in traffic noise levels at the facades facing the A38 within Noise Important Area 8005. The residential properties within NIA 11628* facing onto the A38 would be demolished by the Scheme. The section of NIA 11628* on the A52 and 8245* on the A6 are the responsibility of Derby City

No	Question to	Reference (in bold) and Question	Applicant's Response
		d) Please comment on compliance with European legislation requirements to meet acceptable standards for noise.	Council. For the sections of these NIAs which fall within the noise modelling study area, a negligible increase in road traffic noise is anticipated as traffic is attracted to the A38 once the Scheme is in operation. Two NIAs are located on surrounding routes; 8004 on the A516 would experience a negligible decrease in traffic noise due to re-routing of traffic with the Scheme in operation, whilst 6004 on the A516 and A5111 would experience a mixture of negligible increases and decreases in traffic noise. b) Within the Scheme extents, traffic noise levels at the front façade of properties facing directly onto the A38 within NIA 8005 are reduced by the inclusion of noise barriers in the Scheme. The properties on the A38 within NIA 11628* are demolished by the Scheme. At other NIAs on the A38, but beyond the Scheme extents, the additional traffic on the A38 results in a negligible increase in traffic noise, noting that such a change would not be perceptible. The noise increase is a direct consequence of the success of the Scheme in transferring traffic off inappropriate local routes and onto the A38. The Applicant must take an overall view of the consequences of the adverse and beneficial effects of the Scheme and not consider noise impacts in isolation. This is a key aspect of the Noise Policy Statement for England (NPSE) which states '*the application of the NPSE should enable noise to be considered alongside other relevant issues and not to be considered in isolation. In the past, the wider benefits of a particular policy, development or other activity may not have been given adequate weight when assessing the noise implications'*. It is worth noting that separate to its responsibilities on individual schemes, Highways England has a responsibility to consider what mitigation measures could be implemented at NIAs, including insulation of properties and localised noise barriers. Therefore, NIAs beyond the Scheme extents will still be assessed as part of that process and measures applied accordingly.

No	Question to	Reference (in bold) and Question	Applicant's Response
			c) Goal 5 of the Derby Local Transport Plan is to 'Improve the quality of life for all people living, working in or visiting Derby by promoting investment in transport that enhances the urban environment and sense of place'. Noise is identified as one of the factors which influence quality of life. The Derby Local Transport Plan also identifies a number of specific transport challenges facing Derby, including Challenge 4 to 'Minimise the negative effects of travel and existing and new transport infrastructure on local communities, air quality and the wider environment'. With the operational noise mitigation in place (as secured by requirement 15), the operation of the Scheme minimises negative effects in terms of traffic noise, in the context of sustainable development, and therefore the Scheme is considered to be in accordance with the Derby Local Transport Plan. d) As outlined above, Highways England is unclear what is meant in the Derby Local Transport Plan by '*acceptable standards set by European legislation*'.
6.32	Applicant DCiC EBC	**Noise Important Areas** **ES Chapter 9 – Noise and Vibration [APP-047] paragraph 9.4.4** **NPSNN paragraph 5.200** a) Please could DCiC provide an update on its' draft plan to address the Noise Important Areas, the timescales for that being finalised and whether it envisages any conflicts with the Applicant's assessment? b) Has the Proposed Development taken opportunities to address the noise issues associated with the Important Areas, including noise mitigation in relation to Noise Important Area 8245?	a) Recent discussions between Highways England and DCiC Environmental Pollution Team (10.10.19) confirm that the Local Noise Plan is not yet publicly available, but it is unlikely to contain any actions that would conflict with the Scheme. b) Within the Scheme extents, traffic noise levels at the front façade of properties facing directly onto the A38 within NIA 8005 are reduced by the inclusion of noise barriers in the Scheme design. The properties on the A38 within NIA 11628* are demolished by the Scheme. At other NIAs on the A38, but beyond the Scheme extents, the additional traffic on the A38 results in a negligible increase in traffic noise, noting that such a change would not be perceptible. The noise increase is a direct consequence of the success of the Scheme in transferring traffic off inappropriate local routes and onto the A38. The Applicant must take an overall view of the consequences of all the adverse and beneficial

No	Question to	Reference (in bold) and Question	Applicant's Response
			effects of the Scheme and not consider noise impacts in isolation. This is a key aspect of the Noise Policy Statement for England (NPSE) which states '*the application of the NPSE should enable noise to be considered alongside other relevant issues and not to be considered in isolation. In the past, the wider benefits of a particular policy, development or other activity may not have been given adequate weight when assessing the noise implications*'. Separate to its responsibilities on individual schemes, Highways England has a responsibility to consider what measures could be implemented at NIAs, including insulation of properties and localised noise barriers. Therefore, NIAs beyond the Scheme extents are still being assessed as part of that process and measures applied accordingly. With regard to NIA 8245*, a portion of which is located on the A38, an investigation into the potential for a noise barrier on the A38 has been put forward by the local area team to be considered through the Highway England designated funds process.
6.33	Applicant	**ES Chapter 9 – Noise and Vibration [APP-047] table 9.22 and paragraphs 9.10.62-79** a) Please confirm whether the predicted future SOAEL exposure comprises new exposure or continuity of existing exposure? b) Please clarify the weighting given in the assessment to the total count of properties above SOAEL, to the number of properties experiencing SOAEL that don't currently do so, and to the increases in noise or vibration.	a) The number of residential buildings above the Significant Observed Adverse Effect Level (SOAEL) as reported in Table 9.19 of ES Chapter 9: Noise and Vibration **[APP-047]**. This is the total number of residential buildings above the SOAEL in each scenario. Therefore, for the Do-Something (DS) scenarios it includes buildings which remain above the SOAEL with the Scheme in operation, and buildings which experience an increase to above the SOAEL with the Scheme in operation. b) The number of residential buildings above the SOAEL in each scenario, residential buildings which experience an increase to above the SOAEL, and those that experience a decrease to below the SOAEL, are the key considerations in the assessment of compliance with policy and the first aim in the National Policy Statement National Networks (NPSNN) to avoid significant effects, within the context of government policy on sustainable development. The overall slight

No	Question to	Reference (in bold) and Question	Applicant's Response
			reduction in the number of residential buildings over the SOAEL with the Scheme in place is taken as a positive indication that, overall, the Scheme has a beneficial effect in terms of the local population's exposure to traffic noise levels above the SOAEL. However, each area where exceedances of the SOAEL occur with the Scheme in operation has been reviewed to determine if sustainable mitigation measures are available. Increases and decreases in traffic noise in the opening year due to the Scheme are the key consideration in the identification of significant EIA effects, in conjunction with a range of other factors, as detailed in para. 9.3.51 - 9.3.52 in ES Chapter 9: Noise and Vibration **[APP-047]**, which include the absolute noise level and the circumstances of the receptor.
6.34	DCiC EBC	**ES Chapter 9 – Noise and Vibration [APP-047] paragraphs 9.11.1-2** **OEMP [APP-249] tables 3a and 3b** The Applicant proposes that Noise and vibration surveys are identified as being undertaken by the contractor "*as is necessary*" to ensure compliance with noise and vibration commitments in the CEMP as detailed in the OEMP. The monitoring of yet unspecified mitigation measures is proposed during operation. Should more specific monitoring be secured, for example at locations of potential significant impact and where noise and vibration limits might be exceeded?	Whilst this is question for the local authorities, the Applicant makes the following comments: • Construction phase: para. 9.11.1 of ES Chapter 9: Noise and Vibration **[APP-047]** outlines that monitoring would be undertaken during the works to ensure the mitigation measures were been appropriately implemented. These would include both measurements and observational checks. Monitoring is secured through the Outline Environmental Management Plan (OEMP) **[APP-249]** (refer to PW-NOI5 and MW-NOI6), noting that Requirement 3 in the draft Development Consent Order (dDCO) **[APP-016]** secures compliance with the OEMP. At this stage before the working methods and construction plant are finalised, and the practicality and effectiveness of site hoarding confirmed, it is not considered appropriate to finalise the noise monitoring locations. • Operational phase: the Applicant is unclear what is meant by '*yet unspecified mitigation measures*'. Operational mitigation measures are set out in para. 9.9.10 - 9.9.14 of ES Chapter 9: Noise and Vibration **[APP-047]** and are secured by the OEMP **[APP-249]** (refer to D-N1 to D-N5). As detailed in para. 9.11.2 the exact specification of operational

No	Question to	Reference (in bold) and Question	Applicant's Response
			mitigation measures would be confirmed at the detailed design stage and surveys would be undertaken to ensure the measures were installed as required.
6.35	Applicant DCiC DCC EBC	**Mitigation measures** **ES Chapter 9 – Noise and Vibration [APP-047] section 9.9** **NPSNN paragraphs 5.194 and 5.198** a) Please could the Applicant summarise the consideration given to containment of noise generated; adequate distance between source and noise-sensitive receptors; specifying acceptable noise limits or times of use; optimisation of scheme layout to minimise noise emissions; and the use of landscaping, bunds or noise barriers to reduce noise transmission? b) Please could the Applicant summarise the need for the mitigation of impacts elsewhere on the road networks that have been identified as arising from the Proposed Development, according to Government policy? c) Please could the Local Authorities comment on the proposed mitigation measures?	a) A discussion of each aspect identified by the ExA is provided below for both Scheme construction and operation, where applicable: Containment of noise generated: • Construction: the requirement to adopt Best Practicable Means (BPM) as detailed in the Outline Environmental Management Plan (OEMP) **[APP-249]**, including acoustic enclosures and screening of plant and activities, would ensure construction noise is contained as much as possible. • Operation: containment of traffic noise is embedded into the design of the Scheme, for example through the use of deep cuttings (underpasses) for the A38 mainline through both Kingsway junction and Markeaton junction. Adequate distance between source and noise-sensitive receptors: • Construction: maximising the distance between plant and activities and sensitive receptors forms part of BPM. For example, locating fixed plant away from the boundary of the construction works with sensitive receptors. • Operation: At Kingsway junction siting the mainline through the centre of the existing junction maximises the distance between the mainline A38 and nearby receptors. Given the existing alignment of the A38 and the constraints along the route (with receptors on both sides of the route), there is limited potential to increase the distance between the road and sensitive receptors at other locations. Specifying acceptable noise limits or times of use: • Construction: it is not currently proposed to adopt noise limits. Instead the focus is on minimising noise and vibration through the application of BPM. As detailed in our response to question 6.20,

No	Question to	Reference (in bold) and Question	Applicant's Response
			there are pros and cons with adopted noise limits. With regard to times of use, core working hours have been agreed with the local authorities and are prescribed in the OEMP **[APP-249]** (refer to PW-G4 and MW-G12). The OEMP also sets out the small number of activities identified as needing to be carried out outside core hours. Any other works outside core hours, or any changes to core hours must be agreed with the local authorities. • Operation: noise limits or times of use are not applicable to the operation of a road scheme. Optimisation of Scheme layout to minimise noise emissions: • Construction: The layout of the construction works is essentially constrained by the Scheme layout, though where some flexibility is possible, for example, through the choice of location of the construction compounds, the proximity to sensitive receptors has been taken into account in the choice of such locations. • Operation: Traffic noise has been a factor in the choice of the horizontal and vertical Scheme alignment and was a consideration on the assessment of alternative routes (refer to ES Chapter 3: Scheme History and Alternative Routes **[APP-041]**). The Scheme design places the new A38 mainline through both Kingsway junction and Markeaton junction in underpasses (i.e. in deep cuttings below the level of the existing junctions), which would screen mainline traffic from nearby sensitive receptors. At Little Eaton junction where the mainline is on embankment due to engineering constraints, mitigation in the form of noise barriers has been included in the Scheme design to minimise traffic noise impacts. Bunds or noise barriers to reduce noise transmission: • Construction: The early installation of operational noise barriers at the Royal School for the Deaf Derby and at Little Eaton junction southbound off sliproad are required by the OEMP **[APP-249]** (refer to MW-NOI7). The barriers must be installed before the southbound

No	Question to	Reference (in bold) and Question	Applicant's Response
			off sliproads in both locations are used for mainline traffic as part of the Traffic Management Plan, to minimise the impact of construction traffic. The barriers would also provide some benefit for general construction works. As discussed in our response to question 6.21, since the completion of the ES, further discussion with the contractor indicates that it should be feasible to install the noise barrier at the Royal School for the Deaf Derby prior to the demolition of the Queensway buildings (e.g. at the start of the Scheme construction phase), although this remain subject to confirmation depending on site conditions. The use of site hoardings around construction compounds is required by the OEMP (refer to MW-G25). The use of site hoarding to screen construction works from receptors is required as part of the application of BPM (refer to PW-NOI1 and MW-NOI1 in the OEMP) where it is feasible and effective. Where appropriate, material excavated from the Scheme would be placed as bunds so as to provide screening to nearby receptors e.g. around the perimeter of compounds (refer to MW-G25 in the OEMP). • Operation: Additional noise mitigation, beyond that incorporated into the vertical alignment of the Scheme (i.e. noise barriers) have been included in a number of locations as set out in ES Chapter 9: Noise and Vibration **[APP-047]** and in our response to question 6.29. The purpose of the noise barriers is to meet the three aims of the National Policy Statement for National Networks (NPSNN) to avoid significant adverse noise effects, mitigate and minimise adverse effects and improve where possible, within the context of government policy on sustainable development. For example, noise barriers on both sides of the Scheme between Kingsway junction and Markeaton junction contribute to traffic noise levels being reduced from above the Significant Observed Adverse Effect Level (SOAEL) to below the SOAEL at some properties. The height of these barriers aims to balance noise and visual impacts and concerns raised by residents regarding both noise impacts and

No	Question to	Reference (in bold) and Question	Applicant's Response
			impacts on views from nearby properties. The noise barriers at Kingsway Park Close and at Little Eaton junction reduce the non-significant adverse effects of the Scheme in these areas. At Little Eaton junction balancing noise and landscape impacts was a key consideration. b) As reported in ES Chapter 9: Noise and Vibration **[APP-047]**, no significant adverse effects have been identified outside the extents of the Scheme on surrounding roads. The possibilities for mitigating non-significant operational traffic noise effects elsewhere on the road network, due to knock on impacts in terms of re-routing of traffic, are very limited both in practical terms and with regards to the necessary powers. Physical interventions such as noise barriers along surrounding roads are impractical if they would block access to houses and businesses. In addition, the majority of the surrounding roads are not under Highway England's control to enable any works to be completed or ensure their long-term maintenance. With regards to roads which are under highways England's control, other mechanisms exist to address Noise Important Areas, as discussed in our response to question 6.31. c) Response required from the defined local authorities.
6.36	Applicant DCiC EBC	**Mitigation measures** **NPSNN paragraph 5.196** Would the mitigation measure secured by the dDCO and OEMP ensure that the noise and vibration levels from the project do not exceed those described in the assessment?	Given the robust nature of the assumptions upon which the noise and vibration assessment is made (as reported in ES Chapter 9: Noise and Vibration **[APP-047]**), including not assuming the quietest plant is used, and the conservative approach taken to the identification of significant effects, including no inclusion of the benefit of site hoarding or consideration of the duration of the impact, it is reasonable to assume that additional significant effects beyond those identified in the ES are unlikely, and that actual significant effects may well be less than those reported in the ES. The Outline Environmental Management Plan (OEMP) **[APP-249]** provides the mechanisms necessary to minimise the noise impact of any unforeseen

No	Question to	Reference (in bold) and Question	Applicant's Response
			changes to the works, for example through the requirement to adopt best practicable means (BPM), use of screening, and provision of noise insulation and temporary re-housing. Requirement 3 in the draft Development Consent Order (dDCO) **[APP-016]** secures compliance with the OEMP. With regard to traffic noise effects during Scheme operation, whilst the detailed design is not complete, it is reasonable to assume that significant differences to the impacts reported in ES Chapter 9: Noise and Vibration **[APP-047]**) are unlikely. Through the use of detailed 3-dimensional modelling of traffic noise levels with and without the Scheme in operation, the assessment has demonstrated what the impacts would be with the mitigation measures embedded into the Scheme design, and with the additional mitigation including the various noise barriers, in place. Such noise mitigation measures included in the Scheme are detailed in the OEMP, noting that Requirement 3 in the draft Development Consent Order (dDCO) **[APP-016]** secures compliance with the OEMP.
6.37	Applicant	**Noise and vibration management plan** **dDCO [APP-016] Requirement 3** Please clarify whether the current wording of dDCO Requirement 3 will allow DCiC and EBC to comment on and/or approve the noise and vibration management plan referenced in the OEMP?	The current wording of requirement 3 in the draft Development Consent Order (dDCO) **[APP-016]** allows both DCiC and EBC to comment on the noise and vibration aspects of the CEMP as they will be consulted on the CEMP itself, which is required to include details on noise and vibration. They will not be approving the CEMP; this is for the Secretary of State to do. Requirement 4 sets out Highways England's obligations in respect of consultation with these bodies in advance of submitting the CEMP to the Secretary of State for approval.
6.38	Applicant	**Route alignment** **RR by Breadsall Parish Council [RR-001]** **RR by Simon Morris [RR-026]** Breadsall Parish Council and Simon Morris have raised concerns over the decision to choose the preferred route	A reduction in the speed limit to reduce the design standards could reduce the radius of the main curve through the junction from 225m to 180m (the next design step down). Using a 180m radius would mean the A38 could more closely follow its existing alignment and move the carriageway some 40 to 50m further from Breadsall village. I One of the alternatives assessed following the 2015 consultation 'the Southern Sweep', also had the A38 main line on an

No	Question to	Reference (in bold) and Question	Applicant's Response
		alignment (Option 3) by the Applicant. They suggest that should Option 3 be pursued it could be based on a tighter radius for the A38 with a 50mph limit, like the limit at the other two junctions. It is argued that this would keep the carriageway further away from Breadsall and mitigate its effects. The Parish Council and Simon Morris have also commented on the specification of the 2.5m high noise barrier. Please could the Applicant respond?	alignment that was close to the existing A38; the environmental appraisal of the Southern Sweep found that the impacts (in terms of noise, visual and air quality) were not much different to the preferred option but had big disadvantages in terms of buildability (a temporary road would need to be constructed off-line while the new A38 was constructed), construction programme and scheme costs, refer to Appendix 3.2 of the Environmental Statement **[APP-041]**, Options Assessment, Little Eaton. It is anticipated that, assessing it in the same way, an option with a 50mph mandatory speed limit would perform in a similar way as the Southern Sweep with the additional disadvantage of requiring a 40mph advisory speed limit (introducing economic dis-benefits as result of the reduction in overall traffic speeds). It is normal to apply the national speed limit to 'new' road schemes (i.e. 70mph for a dual carriageway). It would not be desirable to impose a 50mph through Little Eaton junction, as the A38 to the north and south of the junction operate at national speed limit and, as noted above, this option would offer no advantages over options that have been assessed and discounted previously. With regard to the noise barriers, in order to mitigate noise and visual effects, the Scheme design includes the following noise/ visual screening barriers at Little Eaton junction towards Breadsall: • 2.5m reflective noise/ screening barrier on the southbound diverge slip road to the A61 at Little Eaton junction. • 2.5m reflective/ absorptive noise/ screening barrier on the southbound A38 mainline at Little Eaton junction. Such barriers are illustrated on the Environmental Masterplan ES Figures 2.12F and G **[APP-068]**. Barriers would be made of durable material – the exact specification and colour of the barriers will be confirmed at the detailed details stage, noting the aspiration that they are coloured green. Highways England would be happy to present details of the proposed barrier specification to the Breadsall Parish Council during the detailed

No	Question to	Reference (in bold) and Question	Applicant's Response
			design stage and consult with the relevant planning authority. Following their installation, the barriers would be subject to on-going maintenance by Highways England as the East Midlands Asset Delivery team.
6.39	Applicant	**Responses to Relevant Representations** **RR by Royal School for the Deaf Derby [RR-019]** **RR by Cherry Lodge children's residential care home [RR-015]** The Royal School for the Deaf Derby has expressed concern regarding acoustic mitigation and the impact of the proposals on its financial sustainability. It suggests that loss of housing, which acts as a noise barrier, separating it from the current A38 alignment has potential to create significant noise impacts. The school proposes that a 4m high noise barrier/security fence is constructed as close as possible to the start of construction. It seeks reassurance that noise levels will not deteriorate on campus during or after the works and should it do so, adequate mitigation or compensation is agreed wherever possible in advance. Concerns are also expressed regarding the proximity of the Proposed Development and adverse impacts on sensitive resident children at Cherry Lodge children's residential care home. Please could the Applicant: a) Respond to these Relevant Representations? b) Provide an update on any recent discussions? c) Clarify the proposed mitigation or compensation measures at each location?	a) Full response to the issues raised in the Relevant Representations made by the Royal School for the Deaf and Cherry Tree Lodge are contained in the Applicant's Responses to the Relevant Representations documents (our ref **[APP-083]**). b) No further recent discussion with RSDD regard to the noise mitigation has been held however the Applicant is continuing dialogue with RSDD on the SoCG to reach agreements of the issues raised. c) **Noise mitigation proposals** **Construction** The construction noise and vibration mitigation measures set out in the Outline Environmental Management Plan (OEMP) **[APP-249]** will apply across the preliminary and main works, including in the vicinity of Royal School for the Deaf Derby and Cherry Lodge. These measures include the application of Best Practicable Means (BPM) through the selection of quiet and low vibration equipment and methodologies, the optimal location of equipment on site to minimise disturbance, the provision of acoustic enclosures around static plant and site hoarding around specific locations/activities, where necessary, use of less intrusive alarms, such as broadband vehicle reversing warnings, no start-up or shut down of large vibratory rollers within 50m of receptors (15m for medium sized twin drum rollers), implementation of a construction noise insulation and temporary re-housing policy and compliance with core working hours of 7:30am - 6pm Monday - Friday and 08:00am - 1pm Saturday, with no working on Sundays and Bank Holidays for the vast majority of the works.

No	Question to	Reference (in bold) and Question	Applicant's Response
		d) Advise whether the impacts could be reduced or avoided through alternative construction traffic measures? e) Advise what alternatives have been considered, including changes to road alignments for the A38, changes to the proximity of vehicles to local receptors in the existing route, physical means including noise barriers?	With regard to noise mitigation at the Royal School for the Deaf Derby, a 4m high noise barrier, which is required to mitigate operational traffic noise effects, would be installed along the school boundary with the Scheme as early as possible during the Scheme construction phase such that it is able to mitigate construction noise and act as a security fence. The barrier would be installed prior to any temporary traffic management measures. The assessment of construction noise completed for the Environmental Statement (ES), as reported in ES Chapter 9: Noise and Vibration **[APP-047]** assumed that the 4m high operational noise barrier was in place following the completion of the demolition of the buildings on Queensway. However, further consultation with the proposed construction contractor indicates that it should be feasible to install the barrier prior to the demolition of the Queensway buildings (e.g. at the start of the Scheme construction phase), although this is subject to confirmation of site conditions. The assessment of construction noise completed for the ES indicates that the closest school buildings to the works may qualify for noise insulation. With regard to Cherry Lodge, given its proximity to the works and the anticipated significant adverse effects, as reported in ES Chapter 9: Noise and Vibration **[APP-047]**, in addition to the mitigation measures deployed across the works as detailed above, site hoarding would be provided to reduce the magnitude of the impact. As a conservative approach the potential benefit of site hoarding was not included in the assessment completed for the ES. In addition, the assessment indicates that the property may qualify for noise insulation, and potentially temporary re-housing. Given the close proximity of both the deaf school and Cherry Lodge to the works, close communications will be maintained by the construction contractor throughout the works to ensure they are fully informed. **Operation**

No	Question to	Reference (in bold) and Question	Applicant's Response
			As discussed above, a 4m noise barrier is proposed along the boundary of the Royal School for the Deaf Derby - this is secured through clause D-N4 of the OEMP **[APP-249]**. The barrier reduces the magnitude of the increase in traffic noise at the school which is due to both the operation of the Scheme and the removal of the screening provided by the Queensway buildings. It is particularly important for the school buildings towards the north of the site which are more remote from the A52 and where the mainline cutting is less deep, compared to at Markeaton roundabout. The exact details and materials of the 4m high noise barrier will be confirmed during the detailed design stage. However, the noise barrier will conform to the current harmonised Specifications Standard BS EN 14388 (2005) and meet the B3 (DLR>24 dB) standard for airborne sound insulation as specified in BS EN 1793 part 2 (1998), or equivalent future standards approved by Highways England. Highways England has committed to discussing the noise barrier design details with the school during the detailed design process. Planting will be provided on the Scheme side of the barrier (refer to the Landscape design drawing as presented in ES Figure 7.8B **[APP-094]**, whilst there is a commitment in the ES that a section of the barrier includes features for bats (refer to ES Chapter 8: Biodiversity **[APP-046]**). With regard to Cherry Lodge, noise mitigation is embedded into the Scheme design through the location of the A38 immediately to the west in a deep cutting, with the mainline being approximately 8m below the ground level in the vicinity of the property. The operational traffic noise assessment indicates that the worst affected façade is anticipated to experience a minor increase of less than 2dB in the Scheme opening year. It should be noted that the A52 immediately to the north-east of the property is also a significant source of traffic noise at the property, the eastbound carriageway of which is relocated further from the property. On this basis additional noise mitigation in the form of a noise barrier is not proposed in this location. The initial assessment of

No	Question to	Reference (in bold) and Question	Applicant's Response
			qualification under the Noise Insulation Regulations completed for the ES indicates that Cherry Lodge is likely to qualify. d) Alternatives to reduce or avoid impacts Given the confined nature of the site and the location of these receptors adjacent to the Scheme construction site, there are very limited options with regard to traffic management that would divert traffic away from them whilst also keeping traffic moving during the Scheme construction phase. As detailed in ES Chapter 9: Noise and Vibration **[APP-047]**, a moderate increase in traffic noise is anticipated at Cherry Lodge and the closest buildings at the deaf school due to construction traffic. As detailed above, the noise and vibration assessment assumed that the 4m operational noise barrier at the deaf school was in place for the construction traffic scenarios assessed (installed following demolition of the Queensway buildings), whilst no site hoarding in the vicinity of Cherry Lodge was included in the assessment. As detailed in our response to point c) above, further consultation with the proposed construction contractor indicates that it should be feasible to install the barrier prior to the demolition of the Queensway buildings (e.g. at the start of the Scheme construction phase). Further, in addition to the mitigation measures deployed across the works as detailed above, site hoarding would be provided to reduce the magnitude of the impact on Cherry Lodge. It is noted that the detailed construction traffic management proposals will be reviewed and confirmed by the appointed construction contractor during the Scheme detailed design stage. Any alternative traffic management options will be investigated and only progressed if effects are not materially worse than the activities assessed in the Environmental Statement, although the potential for improvements will also be considered. With regard to alternatives, various options for the noise barrier at the boundary of the Royal School for the Deaf Derby have been considered and discussed with the school. For example, positioning the barrier

No	Question to	Reference (in bold) and Question	Applicant's Response
			along the roadside rather than the school boundary, which would make the barrier slightly more effective in terms of noise mitigation, however, there were concerns that this would create an enclosed area between the Scheme and the school with no natural security, which could therefore attract ant-social behaviour – as a result, this option was ruled out. Various noise barrier heights along the boundary of the deaf school have also been investigated, with a 4m high barrier being defined, in conjunction with the school, as the optimum solution. As discussed above, based on the outcome of the operational traffic noise assessment, an operational noise barrier in the vicinity of Cherry Lodge is not considered to be essential mitigation. e) ES Chapter 3: Scheme History and Assessment of Alternatives **[APP-041]** provides a review of the Scheme alignment options considered at Markeaton junction – this included options that would place the mainline A38 on an flyover through the junction (rejected on the basis of the potential high visual impact of the flyover), and placing the mainline A38 in an underpass but taking land from Markeaton Park, the petrol station and the McDonald's restaurant (rejected following the 2002 public consultation, mainly due to unacceptable environmental impacts due to the land take from Markeaton Park). It is considered that placing the A38 mainline in an underpass through the junction maximises the distance between traffic and nearby sensitive receptors, while the underpass retaining walls form effective screens/ noise barriers. ES Chapter 9: Noise and Vibration **[APP-047]** assesses the Scheme noise effects taking into account mainline traffic being in an underpass, as well as noise barriers included in the Scheme design. As such, alternative A38 road alignments have been considered that change the proximity of vehicles to local receptors, whilst placing the Scheme in an underpass aims to provide a physical barrier between mainline traffic and nearby receptors.
6.40	Applicant	**Responses to Relevant Representations**	**RR by Alan Bradwell [RR-021]**

No	Question to	Reference (in bold) and Question	Applicant's Response
		RR by Alan Bradwell [RR-021] **RR by Caron Fellows [RR-023]** **RR by Robert Frank Hancox [RR-024]** **RR by Mark Silo [RR-031]** Please respond to the Relevant Representations expressing concerns about increased noise and vibration, including in residential areas.	Mr Bradwell is proposing alternative scheme options at each junction. Response: Several alternative layouts have been considered for all of the junctions since studies into this route improvement commenced in 2002. The alternatives previously considered are included in Chapter 3 of the Environmental Statement: Scheme History and Assessment of Alternatives **[APP-041]**. The Scheme design as now presented includes a range of noise mitigation features that aim to minimise the effects on the surrounding areas – this includes a number of noise barriers as illustrated on the Environmental Masterplans **[APP-068]**. The DCO examination is the process by which the merits and appropriateness of the Scheme will be considered. **RR by Caron Fellows [RR-023]** This RR requested details of mitigation measures to be used to reduce the impact of the Scheme on the environment, including noise effects. Response: An assessment of the environmental effects of the Scheme is reported in the Environmental Statement (ES) **[APP-039** to **APP-254]** as submitted with the Development Consent Order (DCO). A summary of the ES is reported in a Non-technical Summary (NTS) **[APP-241]** as available on the Inspectorate website: https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010022/TR010022-000649-TR010022_A38_6.4_Non_Technical_Summary.pdf As illustrated in the ES and NTS, a wide range of mitigation measures have been integrated into the Scheme design, whilst a wide range of management actions would be undertaken to mitigate potential environmental effects during Scheme construction/ operation - this includes numerous noise mitigation measures. Details of the mitigation features included in the Scheme design are illustrated in the Environmental

No	Question to	Reference (in bold) and Question	Applicant's Response
			Masterplan ES Figures 2.12A to 2.12H **[APP-068]**. The mitigation and management actions to be undertaken during Scheme construction and operation are also detailed in the Outline Environmental Management Plan (OEMP) **[APP-249]**. The mitigation measures to be implemented during the construction phase would be detailed in the construction contractor's Construction Environmental Management Plan (CEMP), which would be developed from the OEMP. **RR by Robert Frank Hancox [RR-024]** This RR related to a request as to whether it is necessary to remove trees at the back of their homes. Response: It is not known which location this RR is referring to, so Highways England is unable to consider this point without further information. **RR by Mark Silo [RR-031]** This RR asked for details of mitigation measure that will be used at Little Eaton junction and reassurance that noise levels will not increase significantly. Response: A range of mitigation features have been integrated into the Scheme design at Little Eaton junction that aim to minimise potential environmental effects upon nearby residents – including measures to minimise noise effects. Noise mitigation features as illustrated on the Environmental Masterplan Drawings (refer to Environmental Statement (ES) Figures 2.12E – 12.12G) **[APP-068]** comprise the following: • **Noise and visual screening barriers**: in order to mitigate noise and visual effects, the Scheme design includes the following noise/ visual screening barriers:

No	Question to	Reference (in bold) and Question	Applicant's Response
			▫ 2.5m reflective noise/ screening barrier on the southbound diverge slip road to the A61 at Little Eaton junction. ▫ 2.5m reflective/absorptive noise/ screening barrier on the southbound A38 mainline at Little Eaton junction. ▫ 2.5m reflective noise/ screening barrier on the northbound A38 mainline at Little Eaton in the vicinity of the Ford Farm Mobile Home Park. • **Low noise surfacing:** the Scheme would be constructed throughout with a thin surfacing system (i.e. a low noise surface), which results in lower levels of noise generation than a standard hot rolled asphalt surface. The use of low noise thin surfacing can reduce noise levels by 3dB at speeds of ≥75km/hr. ES Chapter 9: Noise and Vibration **[APP-047]** presents an assessment of the Scheme effects upon traffic noise in the vicinity of Little Eaton junction, taking account of the mitigation measures as presented above. This illustrates that there would be: • Negligible traffic noise level increases at the worst affected façade of the closest properties within Breadsall; • Mainly negligible traffic noise increases in Little Eaton village, although there would be a minor increase in traffic noise levels along Duffield Road due to traffic flow increases as the reduction in congestion at Little Eaton junction would make this a more attractive route to the A38; • Properties within the Ford Farm Mobile Home Park would generally experience a negligible reduction in noise levels; In Allestree the closure of the Ford Lane access with the A38 would reduce traffic flows in the eastern half of the housing estate, although there would be a corresponding increase in traffic flows in the western half of the estate as traffic would access the A6 to join the A38 at Palm Court junction.

No	Question to	Reference (in bold) and Question	Applicant's Response
			Overall a negligible change in noise levels is anticipated in the majority of Allestree, with small areas experiencing a minor traffic noise level increase.
6.41	DCiC DCC EBC	**Statutory compliance, monitoring, pollution control and other matters** **NPSNN paragraphs 5.193 and 5.195** Do the Local Authorities have any more comments with respect to: • consideration of and compliance with local policies and plans; • the Proposed Development being undertaken in accordance with statutory requirements for noise; • regard being given to the relevant sections of the Noise Policy Statement for England, National Planning Policy Framework and the Government's associated planning guidance on noise; • whether the Proposed Development sufficiently avoids, mitigates and minimises adverse impacts on health and quality of life and contribute to their improvement; or any other aspects of the Applicant's assessment and mitigation proposals with respect to statutory compliance, monitoring, pollution control or other matters?	N/A
7	**The water environment**		
	Baseline information		
7.1	Applicant	**ES Chapter 13 [APP-051]** **ES Appendix 13.4 [APP-234]**	The drainage strategy is a high-level document. A preliminary design has been undertaken to inform the drainage strategy, ensuring suitable land

No	Question to	Reference (in bold) and Question	Applicant's Response
		RR by DCiC [RR-003] To allow comparison of drainage calculations of existing and proposed discharge rates, please provide the drainage calculations used for the drainage strategy along with titles and pipe and node references on any drawings as appropriate.	take at the DCO stage. Detailed comparison of existing and proposed flow rates will be provided during detailed design to the LLFA demonstrating how the commitments within the strategy have been achieved. The results of the preliminary design exercise can be shared with DCiC through our ongoing consultation should this be requested. The existing discharge rates have been calculated using the modified rational method, due to none or very limited information known about the existing drainage. During detailed design, a drainage survey will be undertaken to obtain missing information so that existing networks can be built using the 'MicroDrainage' software package. MicroDrainage calculations have been undertaken to ensure the validity of the preliminary design. At detailed design a copy of the calculated existing discharge rates will be included. There will be continual discussions with DCiC during the next design stage. The use of the modified rational method is appropriate for this preliminary stage of design in line with the advice for estimating peak catchment flows as described in clause 7.7 of Design Manual for Roads and Bridges4 Section 2 HD33/16 Design of Highway Drainage Systems, which states "Peak flow discharges obtained by the Modified Rational Method and Wallingford Hydrograph Method are of comparable accuracy".
	Flood risk and drainage		
7.2	Applicant	**ES Chapter 13 [APP-051]** **ES Appendix 13.1 [APP-228]** **ES Appendix 13.2A [APP229]** Please clarify how risks associated with sediment settlement at Kingsway Junction will be managed during the operation of the Proposed Development ensuring there is no impact on flood storage capacity?	The proposals at Kingsway Junction include one flood storage area within the proposed junction and three flood storage areas upstream within the Kingsway Hospital site – refer to the Environmental Masterplan ES Figure 2.12A **[APP-068]**. All four flood storage areas would be connected to Bramble Brook via a lateral weir structure located at the top of the channel bank, such that they would operate only in flood conditions. As such, flow over the weir is anticipated to only carry minor amounts of dissolved and suspended sediment. Furthermore, since the dominant flow direction is in the direction of the channel and not laterally over the weir, the proportion of that sediment load passing into the storage areas would be low. It is also noted that the flood storage areas are designed to operate only in extreme

No	Question to	Reference (in bold) and Question	Applicant's Response
			flow events, therefore, over time sediment load entering them would likely be small. In addition to the high flow weir, it is proposed that low flow inlet pipes are included in the design to maintain a small depth of water within each flood storage area in order to create ecological habitats. The base of each flood storage area would be graded such that it slopes towards an outlet, and therefore the majority of any sediment entering the storage areas would be continuously flushed through the system. It is also noted that the upstream catchment delivering flow to Bramble Brook and the associated flood storage areas is relatively small, and therefore sediment loads within the brook are limited. In summary, the impact of sediment settlement on flood storage capacity is considered to be minor, and the design of the flood storage areas is such that the likelihood of significant settlement would be minimised. As with all such flood mitigation options involving temporary storage of flood water, periodic monitoring and appropriate remediation would be undertaken as part of the Scheme maintenance regime (in accordance with the Handover Environmental Management Plan (HEMP).
7.3	Applicant DCiC	**ES Chapter 13 [APP-051]** **ES Appendix 13.2A [APP229]** The Kingsway Flood Risk Assessment (FRA) uses hydraulic modelling from the Derby Integrated Catchment Model. How suitable is this model in light of revised climate change projections from the EA?	For the purpose of the Kingsway Junction Flood Risk Assessment (FRA) **[APP-229]**, a truncated version of the Derby Integrated Catchment Model was used to assess fluvial, sewer and surface water risk sources and their interactions, and the subsequent impact both to and from the Kingsway junction, as well as downstream. This model was developed to be driven by observed or estimated design event rainfall. The original model of the existing scenario was run for the 1% Annual Exceedance Probability (AEP) event with a 20% allowance for climate change in terms of rainfall intensity. The truncated model of the proposed scenario was run for a 1% AEP event with a 40% allowance for climate change in terms of rainfall intensity. This higher allowance factor is the latest applicable climate change projection stipulated by the Environment Agency, who so far have not amended their guidelines for rainfall intensity climate change allowances despite the

No	Question to	Reference (in bold) and Question	Applicant's Response
			publication of the UKCP18 data. The model therefore remains suitable for the assessment of this revised climate change allowance. Irrespective of any current or revised climate change projections in terms of impacts on design event rainfall/ peak rainfall intensity, the model will continue to be suitable for assessing those sources of flood risk, their interactions, and their overall impacts. This includes any increases in flood extent and depth, and any changes to flow routes, that may occur as a result of variations to climate change allowances.
7.4	Applicant	**ES Chapter 13 [APP-051]** **ES Appendix 13.4 [APP-234]** **RR by DCiC [RR-003]** DCiC has raised concerns regarding flood routing and the proposed drainage collection system (kerb drainage and gullies). Among other things it is designed for a 1 in 5 year event and concern has been expressed regarding excess flows. Please clarify the extent to which these matters have been accounted for in the proposals and describe the effort they have made to agree this approach with DCiC.	The highway drainage network will be designed in accordance with DMRB HD33/16 Design of Highway Drainage Systems. Flood flow analysis will be undertaken as part of detailed design to ensure there is no flooding of third-party land for events up to and including the 100 year + CC event. There will be continual discussions with DCiC during the next design stage and in accordance with requirement 13 of the dDCO **[APP-016]**, DCiC will be consulted on the detailed drainage design before it is submitted for approval.
7.5	Applicant	**ES Chapter 13 [APP-051]** **ES Appendix 13.2A [APP229]** **ES Appendix 13.2B [APP-230]** **ES Appendix 13.4 [APP-234]** **RR by DCiC [RR-003]** DCiC has raised concerns in relation to the proposed discharge of water to watercourses which they consider could	a) Where practicable, attenuation features have been included within the preliminary design and are sized to ensure no flooding from the features for all storm return periods up to and including 100-year event with a 40% allowance for climate change. The preliminary design allowable discharge rates from the drainage systems have been calculated using the greenfield runoff rate for the new impermeable areas as agreed with DCiC and an estimate of the existing runoff rate from the site. To ensure betterment over the existing situation flow control devices have been used to restrict the discharge rates to be as low as practicable within the site constraints. This has

No	Question to	Reference (in bold) and Question	Applicant's Response
		increase flood risk to Derby. DCiC has requested that discharge rates from the Proposed Development be restricted to "*greenfield run off rates*". a) Please clarify what effort has been made to achieve these outcomes in the drainage design and if it not possible to achieve them please set out why. b) Please address the concerns raised regarding increased flood risk to Derby and describe what measures are in place to ensure this does not occur.	been checked to ensure betterment over existing is provided within the preliminary design ensuring compliance with national flooding guidance. Where providing betterment is not practicable due to site space limitations, the affected catchments are restricted to the existing discharge rate, ensuring no detriment in terms of downstream flood risk. b) Betterment has been provided within the drainage strategy and preliminary design through the specification of attenuation features and restricted discharges (where practicable). Comparison tables will be supplied at detailed design. There will be ongoing consultation with DCiC during design stage.

No	Question to	Reference (in bold) and Question	Applicant's Response
7.6	Applicant	**ES Chapter 13 [APP-051]** **ES Appendix 13.2A [APP-229]** **RR by DCiC [RR-003]** DCiC has raised concerns regarding the findings of the FRA at Kingsway junction reflecting recent data from BGS. Please clarify the extent to which these matters are addressed in the assessment of flood risk and whether the assessment and, potentially the proposed drainage design, requires further consideration having regards to this information.	The assessment of groundwater flood risk in the Kingsway Junction Flood Risk Assessment (FRA) **[APP-229]** was based on the data available at the time of production. This includes available aquifer mapping, the Areas Susceptible to Groundwater Flooding Map within the Preliminary Flood Risk Assessment (PFRA) produced by Derby City Council (DCiC), and the findings of the A38 Derby Junctions Groundwater Investigations Report **[APP-222]**. It was noted that typical groundwater levels were several meters below the current carriageway elevation. Since the proposed A38 carriageway and junction will not be lowered by the Scheme, the assessment of flood risk from groundwater, and the impacts of the Scheme on groundwater flows, is robust. BGS mapping of groundwater flooding reports 'susceptibility' to such flooding i.e. where flooding from such a source could occur. It does not indicate risk i.e. the likelihood that it will occur. Therefore, any changes to the susceptibility classification as result of updated data are not anticipated to change the assessment of flood risk or mitigation design. Notwithstanding the above, it is intended that the most recent data will be obtained from the BGS website and analysed during the detailed design stage to feed into the design of the surface water attenuation ponds and flood storage areas. This would likely form part of a series of sensitivity tests undertaken using the hydraulic model, with this particular test being used to determine the residual flood risks associated with a high groundwater condition around the junction coinciding with an extreme rainfall event.
7.7	Applicant	**ES Chapter 13 [APP-051]** **ES Appendix 13.2B [APP-230]** **RR by DCiC [RR-003]** DCiC's RR advises that it would have expected to see reference to fluvial flood risk at Markeaton junction and interpretation of the EAs fluvial flood modelling. It is concerned regarding the results of the modelling that has	A meeting was held with Derby City Council (DCiC) on the 15th October 2019 to discuss comments made in the DCiC Relevant Representations. In respect of this matter, DCiC advised that an Environment Agency (EA) approved fluvial hydraulic model of the Markeaton Brook existed that shows a different assessment of flood extents for Flood Zones 1, 2 and 3 than that reproduced in the Flood Risk Assessment (FRA). However, the latest 'Flood Map For Planning' available on the UK Government website presently shows the extents as per the submitted Markeaton Junction Flood Risk Assessment (FRA) **[APP-230]**. Due to this apparent discrepancy, it was agreed that the EA would be contacted to provide confirmation of

No	Question to	Reference (in bold) and Question	Applicant's Response
		been used by the Applicant including the apparent absence of hydraulic modelling. Please respond to the points raised by DCiC.	their latest assessment of fluvial flood risk for Markeaton Brook, and to ask why the Flood Map For Planning has not been updated to reflect this. Despite this, DCiC advised that the alternative flood extents from the EA model show reduced risk from Markeaton Brook at Markeaton junction. Therefore, there are no concerns that the Scheme will be at greater risk from fluvial flooding than the current assessment has assumed, and as such the assessment of fluvial flood risk in the Markeaton junction FRA is considered conservative.
7.8	Applicant	**ES Chapter 13 [APP-051]** **ES Appendix 13.2B [APP-230]** **RR by DCiC [RR-003]** DCiC's RR states that it is unclear from the ES whether the surface water flooding of the Markeaton junction area has been fully considered with respect to the 1 in 100 plus climate change event. a) Please clarify how you have taken into account the new climate change allowances in your assessment of potential 1 in 100 year climate event surface flooding at Markeaton junction and the other junction areas. b) Please comment on whether the new UKCP Local (2.2km) climate change projections and allowances would have any implications for the design of the Proposed Development.	a. The risk of surface flooding at all three junctions has been assessed in the applicable Flood Risk Assessment (FRAs) **[APP-229, APP-230, APP-231]** with reference to the long-term flood risk map for surface water. This map is presented in three risk 'bands', with the low risk band describing the extent of surface water flooding up to a 0.1% Annual Exceedance Probability (AEP) (1 in 1,000-year) event. This, by proxy, is a conservative estimate of the risk for a 1% AEP (1 in 100-year) event when allowing for climate change as per the 2016 current guidelines. b. Much of the current guidance stipulated by flood authorities in the UK originates from derived products based on the UKCP09 datasets. This Scheme appraisal has already utilised this guidance. Further research derived products and guidance based on the UKCP18 datasets will be necessary by the EA to provide appraisers with a suitable set of 'uplift' recommendations to be used across the UK, providing the necessary consistency that flood authorities require. These are not yet available. The latest EA advisory note regarding climate change allowances in FRAs in light of the UKCP18 projections confirms that the allowances published in 2016 are still the best national representation of how climate change is likely to affect flood risk for peak river flow and peak rainfall intensity. However, it is noted that "*High resolution (daily and sub daily) rainfall projections is due to be published in the second half of 2019. These are used to understand the impact of climate change on peak rainfall. Following this, the peak rainfall allowances in 'Flood risk assessments: climate change allowances' may need to be updated*". This update has not happened as yet. According to the Non-Technical summary from the UKCP Local Science Report:

No	Question to	Reference (in bold) and Question	Applicant's Response
			The CPM projections are expected to be the primary source of information for users interested in daily rainfall extremes in summer or changes on hourly timescales. For these the CPM projections are considered more plausible, due to the better representation of convection and local processes in storms in the CPM. However, there are still deficiencies, as many convective storms occur on scales smaller than 2.2km in reality. Further research is needed to assess the importance of these deficiencies for future projections. Projections of hourly rainfall change from conventional climate models are unreliable. Therefore, there will be some uncertainty in the local scale projections of climate change impacts on peak rainfall intensity. On the basis of the above, the Scheme design is being progressed with the climate change allowances currently applied.
7.9	Applicant	**ES Chapter 13 [APP-051]** The probability of flood risk has been considered (in ES Table 13.2 for example). However, it is not clear if the probability of impacts on groundwater, surface water or hydromorphology occurring have been fully considered in detail or reasons given to justify why this has not been summarised in the ES. Please clarify these matters.	Section 13.7 in ES Chapter 13: Road Drainage and the Water Environment **[APP-051]** describes the water environmental baseline conditions, including details of groundwater, surface water and hydromorphology and the value / sensitivity of the relevant receptors (refer to Table 13.7). Scheme impacts on groundwater, surface water and hydromorphology, and whether these would give rise to significant effects, are considered in Section 13.10 – Assessment of likely significant effects. Determination of Scheme significant effects is based on the value/ sensitivity of the receptor (as described in Table 13.7) and the potential magnitude of the impact (refer to Table 13.3). Note that there are no established criteria within DMRB or WebTAG for the determination of the magnitude of an impact on hydromorphology, therefore, we have not reported on the magnitude of impact or the significance of effects on hydromorphology. Nonetheless, as discussed in ES paras. 13.10.45 and 13.10.46, it is considered that the mitigation measures incorporated into the Scheme design are such that there will be no significant adverse effects on hydromorphology. It is also noted that the Water Framework Directive (WFD) assessments for Kingsway junction and Little Eaton junction **[APP-232** and **APP-233]** includes consideration of Scheme effects on hydromorphology. A WFD compliance assessment was screened out for Markeaton junction as the Scheme would not require any physical changes to watercourses or waterbodies which would pose a risk to WFD objectives. Table 13.8 provides a summary of the effects of the Scheme on surface water and on groundwater which have been determined following the assessment of impacts as reported in Section 13.10. For the reasons given above, impacts on

No	Question to	Reference (in bold) and Question	Applicant's Response
			hydromorphology have been omitted from Table 13.8, but are considered in the WFD assessments.
7.10	DCC	**RR by DCC [RR-004]** The RR states "*Some issues have been raised on flood risk requiring further clarification from the Applicant*." Has there been subsequent discussion with the Applicant? Please expand on any outstanding concerns.	N/A
7.11	EA, Applicant	**ES Chapter 13 [APP-051]** **ES Chapter 6 [APP-044]** The proposed flood compensation area for the Little Eaton junctions falls within the Derwent Valley Mills World Heritage Site. Are you content that this is the only suitable location? Please expand on other locations considered and why they were found to be unsuitable.	As detailed in ES Chapter 3: Scheme History and Assessment of Alternatives, Table 3.10 **[APP-041]**, a total of 13 locations for potential floodplain compensation have been considered since the initial stages of the project, with all areas being of a size suitable for providing potential flood compensation or significant parts thereof. These have all been subject to evaluation and hydraulic modelling – refer to Figure 3.2 **[APP-070]** for details of these locations. Some of the options were not considered suitable by the Environment Agency as they would entail excavations within the existing floodplain (e.g. locations A, B, C, D, E, G, H, I, J, K in Figure 3.2) – as such, these areas would not be able to provide the required floodplain compensation (e.g. extension of the existing floodplain). As such, areas where the existing floodplain could be expanded were identified for compensation works. The edge of the floodplain to the west of the River Derwent and north of the A38 is occupied by residential homes (Allestree), and so was discounted from assessment. Areas further to the north were also discounted due to the presence of Allestree Park and residential homes. Areas to the east of the River Derwent and north of the A38 were subject to consideration. However, the former landfill site (location F in Figure 3.2) is located to the west of the Midland Mainline Railway Line. Thus, creation of a floodplain compensation area in this location would result in additional flooding of the mainline railway which would not be acceptable. The Environment Agency's preference is for floodplain compensation to be provided on a 'level-for-level' (within reasonable working limits) basis. On this basis, most

No	Question to	Reference (in bold) and Question	Applicant's Response
			floodplain compensation works would need to be located within the vicinity of the floodplain loss i.e. where ground levels are similar. As such, the existing Ford Lane embankment onto the A38 was subject to investigation (also located to the east of the River Derwent and north of the A38 – location L on Figure 3.2). In theory removal of the embankment had the potential to part-deliver the floodplain compensation required on a level-for-level basis. However, hydraulic modelling indicated that removal of the Ford Lane embankment would actually have an adverse effect on local flooding patterns – the existing Ford Lane embankment appears to effectively channel flood water into the adjacent flood arch located to the west of Ford Lane and under the existing A38, and its removal would alter the local hydraulics. As such, removal of Ford Lane embankment was rejected as a suitable floodplain compensation option. With regard to areas to the east of the River Derwent and south of the A38, there is little discernible floodplain edge, whilst again these areas are located to the west of the Midland Mainline Railway Line. This left options to the west of the River Derwent and south of the A38 – namely location M on Figure 3.2. Hydraulic modelling and appraisal indicated that this location to the west of the River Derwent was the only option assessed that was able to adequately provide floodplain compensation on a like for like basis. This option has been approved by the Environmental Agency as being suitable for mitigating the Scheme effect on River Derwent floodplain losses. The proposed floodplain compensation area for Little Eaton junctions falls within the Derwent Valley Mills World Heritage Site (WHS). Given the evaluation undertaken, no other locations have been identified in the vicinity of the Scheme that are suitable for floodplain compensation. It is also noted that given that the Derwent Valley Mills WHS traverses the River Derwent, floodplain compensation options that have been investigated have largely been within the WHS core area or its associated buffer zone.
7.12	Applicant Royal School for the Deaf Derby	**ES Chapter 13 [APP-051]** **BoR [AS-002]** **RR by Royal School for the Deaf Derby [RR-019]**	a) Maintenance of any conventional pipe network or SuDS System would be required. For a conventional pipe network, access for maintenance and inspection would be provided with pipework laid to achieve self-cleansing velocities. Maintenance activities for typical SuDS components as advised in HA 103/06 Vegetated

No	Question to	Reference (in bold) and Question	Applicant's Response
		The Royal School for the Deaf Derby's RR states that they have concerns that the pond at plot reference 4/7d in the BoR which they own may "*surcharge*" with the additional flow of water from the highways and create a maintenance liability for the Royal School for the Deaf Derby. a) Please clarify what maintenance issues you anticipate arising in relation to any potential surcharge to the pond at plot reference 4/7d from the anticipated additional flow of water resulting from the Proposed Development. b) Clarify who will have responsibility for any maintenance at this plot reference.	Drainage Systems for Highway Runoff. Access tracks to all ponds would be provided as requested by HE and DCC, allowing maintenance vehicles to safely park up and undertake inspections, grass cutting etc b) DCiC will be responsible for maintaining the pond at this location.
	Water quality pollution control		
7.13	Applicant	**ES Chapter 13 [APP-051]** **RR by the EA [RR-005]** The EA's RR states that it is satisfied that there is effective water pollution prevention control in place to minimise the risk of potential runoff of sediment/silt into the watercourse from operations on the riverbanks. However, it has recommended a "*watching brief during operations, whereby water quality parameters (specifically temperature, dissolved oxygen and pH levels) are monitored using a YSI multimeter before, during and after the works*". Silt curtains are also suggested as an additional safety measure to this kind of	The EA's monitoring and mitigation recommendations during the Scheme construction phase will be taken into account during preparation of the Contractor's Water Management Plan which will form part of the Construction Environmental Management Plan secured by requirement 3 of the dDCO **[APP-016]**. The CEMP is required to be substantially in accordance with the Outline Environmental Management Plan (OEMP) **[APP-249]**). As detailed in MW-WAT7 in the OEMP "*The main works contractor shall adopt measures to prevent the deposition of silt or other material in any existing watercourse, lake, borehole, aquifer or catchment area, arising from work operations. The measures would accord with the principles set out in industry guidelines, including CIRIA's report C532: Control of water pollution from construction sites, and GPP 5: Works and maintenance on and near water*". As such, measures such as silt curtains will be considered in locations where water resources are in need of particular protection during the Scheme construction phase. A programme of water environment monitoring to be undertaken by the construction contractor will be discussed and agreed the EA prior to the start of construction works. Such monitoring may entail monitoring at appropriate locations upstream and

No	Question to	Reference (in bold) and Question	Applicant's Response
		operation, when focusing on minimising mobilisation of fine sediment and avoiding smothering eggs/asphyxiation of fish. Please respond to the EA's recommended actions on the monitoring of water quality parameters and the additional safety measure of silt curtains to minimise fine sediment build up.	downstream of the works in advance of construction activities and during the works. We do not consider that water environment monitoring following completion of the construction works is required, unless in response to specific incidents. Such post-incident monitoring requirements would be undertaken in accordance with the Pollution Incident Control Plan which forms part of the CEMP (will be converted into the HEMP) and which is linked to the Water Management Plan.
7.14	Applicant	**ES Chapter 13 [APP-051]** **RR by DCiC [RR-003]** DCiC's RR raises an issue regarding silt loading at Markeaton Brook. The Mill Ponds and Markeaton Lake are, according to DCiC, very susceptible to changes in water quality and all outfalls entering them should have some form of water treatment particularly to avoid silt loading. Please describe what measures are in place to address silt loading from outfalls at Mill Ponds and Markeaton Lake.	Markeaton Lake is upstream of the Scheme and will not therefore be affected by any drainage from the operational Scheme. As described in the Drainage Strategy, ES Appendix 13.4 Section 4.3 **[APP-234]**, attenuation features which would allow settlement of silt, have been incorporated into the design of the new highway drainage at Markeaton junction where feasible and practicable to do so. The provision of attenuation should result in a betterment over the existing situation where silt laden drainage currently enters watercourses unattenuated. At Markeaton junction, the receiving water environment, Mill Pond, is one of low flow. A Q95 of 0.001m^3/s was therefore used to undertake the Highways Agency Water Risk Assessment Tool (HAWRAT) calculation, which reflects the low flow of the receiving water environment (i.e. Mill Pond) and is considered to be a reasonable worst case. The HAWRAT calculations for Markeaton junction are presented within ES Appendix 13.1 **[APP-228]**. Outfalls 7 and 10 at Markeaton junction, would both discharge water into Mill Pond. The results of the HAWRAT Method A assessment without mitigation for Markeaton junction (refer to Table 4 in ES Appendix 13.1 **[APP-228]**) indicated that further mitigation would be required to reduce the levels of soluble pollutants such as copper being discharged into the receiving waterbody and that the low flow through Mill Pond would also encourage highway sediment and sediment-bound pollutants to be deposited and to accumulate over time. The Scheme drainage design at Markeaton was, therefore, subsequently developed to include a surface attenuation pond (designed to remain wet) and a second underground storage tank prior to highway runoff being discharged via a vegetated

No	Question to	Reference (in bold) and Question	Applicant's Response
			ditch to Mill Pond (refer to Environmental Masterplans as illustrated in ES Figures 2.12C and 2.12D **[APP-068]**). Treatment within the wet pond would reduce the levels of suspended solids entering Mill Pond as well as reducing the levels of potential soluble pollutants. The expected treatment performance of different SuDS options are based on advice in the Design Manual for Roads and Bridges (DMRB)4, Section 2, Part 3 HD 33/16. As discussed within ES Appendix 13.1 **[APP-228]**, the measures incorporated at Markeaton junction are considered likely to achieve 30% removal for suspended solids. The HAWRAT calculations for the Scheme design with mitigation in place indicates that, whilst the potential for sediment to accumulate remains (due to the low flow environment within Mill Pond), the risk of chronic impacts due to sediment-bound pollutants has been removed. As stated above, the mitigation provided by the Scheme represents a betterment over the existing situation where there is no attenuation of highway drainage nor, therefore, of silt and sediment.
7.15	Applicant EA	**ES Chapter 13 [APP-051]** Please provide an up to date position in respect of obtaining the necessary environmental permits from the EA.	The various consent and permits required from the EA are detailed in the Consents and Agreement Position Statement **[APP-019]**. Following discussions with the EA it is apparent that such permits will need to be applied for post-DCO consent during the Scheme detailed design stage when the required information will be available. As detailed in our draft Statement of Common Ground with the EA, the EA agree with the consents and permits that will be required, and that such consents and permits can be applied for prior to Scheme construction (during the detailed design stage).
	The Water Framework Directive and The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017		
7.16	EA	**ES Chapter 13 [APP-051]** **ES Appendices 13.3A [APP-232] and 13.3B [APP-233]**	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
		a) Please confirm whether the Water Framework Directive compliance assessments address all relevant waterbodies for the Proposed Development. b) Are the assessments satisfactory to demonstrate compliance with the Water Framework Directive objectives for those waterbodies?	
	Opportunities for enhancement		
7.17	Applicant DCiC DCC EA	**Sustainable Drainage Systems (SuDS)** **ES Chapter 13 [APP-051]** NPSNN paragraph 5.115 states that "*Applicants should seek opportunities to use open space for multiple purposes such as amenity, wildlife habitat and flood storage uses. Opportunities can be taken to lower flood risk by improving flow routes, flood storage capacity and using SuDS.*" Does the Proposed Development take the opportunities identified in the NPSNN? Is there anything else that could be reasonably achieved?	The Scheme design as illustrated in the Environmental Masterplans **[APP-068]** takes a considered and reasonable approach to taking opportunities to use open space for multiple purposes such as amenity, wildlife habitat and flood storage uses, as well as incorporating SuDS into the design. However, in some locations, constraints associated with available space, public safety, public open space designations, have meant that features such as buried attenuation storage tanks have been incorporated into the design (e.g. buried highway runoff storage tank located within Mackworth Park). Details of where multiple purpose opportunities have been taken are detailed below for each junction: • **Kingsway junction:** The Scheme design includes four flood storage areas adjacent to Bramble Brook (three being within the Kingsway hospital site). Rather than these just being developed as grassed over depressions, by facilitating water access into these areas from the nearby brook, they would be developed into wetland habitats of biodiversity value **[APP-046]**. In addition, a new footpath with occasional seating would be provided around the perimeter of the flood storage areas adjacent to Bramble Brook within the Kingsway hospital development site which would be available for recreational use by local residents **[APP-050]**. • **Markeaton junction:** Due to the loss of public open space associated with the Scheme, an area of replacement public open space would be provided in the area left vacant by the demolition of the Queensway buildings. This area of replacement public open space would accommodate facilities for the collection

No	Question to	Reference (in bold) and Question	Applicant's Response
			and treatment of highway runoff (e.g. two underground storage tanks, a wet attenuation pond and discharge swale), as well as a new pedestrian and cycleway link from the A52 to the new Markeaton footbridge. The area would also be landscaped with native and ornamental shrub planting to promote biodiversity and provide visual screening and amenity. • **Little Eaton junction:** The Scheme design at this junction includes a range of integrated flood alleviation, drainage, SuDS, biodiversity and amenity features. This includes the realignment of Dam Brook to create a more sinuous channel form within a vegetated corridor, a new flood alleviation channel with a native wet woodland, two ecology ponds which would provide an area for fish spawning and shelter, two highway runoff ponds, extensive lengths of swale ditches, plus a footpath diversion along the realigned brook. The area would also be landscaped with a variety of trees, shrubs and species rich grassland.
8	**Biodiversity and ecological conservation**		
	Methodology and baseline information		
8.1	DCiC EBC DCC EA NE	**ES Chapter 8 [APP-046] paragraphs 8.3.29 and 8.7.2, tables 8.9 and 8.10** **ES Appendix 8.17: Designated and non-designated sites [APP-214]** a) Do you agree with the selection of the sites which have been scoped out of further assessment in this report? If not, why not? b) Are there any sites not listed in the report which should be taken in account? c) Do you agree that the remote sites of minor highway improvement works should be scoped out of further assessment?	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
8.2	DCiC EBC DCC EA NE	**ES Chapter 8 [APP-046], ES Appendices 8.3-8.15 [APP-180-212]** Do the Councils/NE have any comments regarding the approach to the surveys undertaken for the ES?	N/A
8.3	Applicant DCiC EBC DCC EA NE	**ES Chapter 8 [APP-046]** ES Table 8.3 (Regional) refers to the "*appropriate Natural Area profile*". However, there is no reference to this in ES Sections 8.2 (legislative and policy framework) or 8.3 (assessment methodology). a) Please provide details of the Natural Area profile. The table also refers to the Highways Biodiversity Action Plan. However, ES paragraph 8.2.2 (10th bullet) confirms that this document dates from 2002 and is out of date. b) Should the reference be to the Highways England biodiversity plan? Please confirm whether the table references to the most up to date relevant information.	a) Natural Area Profile A 'Natural Area profile' (NCA) as referred to in Table 8.3 of the ES Chapter 8: Biodiversity **[APP-046]** (and as per Table 1: Resource Valuation within DMRB IAN 130/10 Ecology and Nature Conservation: Criteria for Impact Assessment by Highways England http://www.standardsforhighways.co.uk/ha/standards/ians/pdfs/ian130.pdf) is otherwise referred to by Natural England as 'Natural Character Area (NCA)' profiles (https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles). NCA profiles are guidance documents that can help communities to inform their decision-making about the places that they live in and care for. These are areas that share similar landscape characteristics, and which follow natural lines in the landscape rather than administrative boundaries, making NCA profiles a good decision-making tool for the natural environment. As per para. 8.7.15 of ES Chapter 8: Biodiversity **[APP-046]**: "The Scheme falls within National Character Area (NCA) profile '68 Needwood and South Derbyshire Claylands' at Kingsway and Markeaton junctions; and '50 Derbyshire Peak Fringe and Lower Derwent' at Little Eaton junction (refer to Chapter 7: Landscape and Visual Impact Assessment). Needwood and South Derbyshire Claylands NCA is predominantly noted for its woodlands (ancient woodland, wood pasture and parkland) and extensive hedges and pastoral landscape dominated by mixed farming. The Derbyshire Peak Fringe and Lower Derwent NCA, is noted for its rivers

No	Question to	Reference (in bold) and Question	Applicant's Response
			to be of major importance, including the River Derwent and its tributaries. Priority habitats include lowland mixed deciduous woodland, wet woodland, grazing marsh, upland heath and lowland meadows.' Reference to the NCA profile is made within Table 8.14 of the ES Chapter 8: Biodiversity **[APP-046]** and has been used together with professional judgement to assess the importance of ecological features (where applicable). b) Highways England Biodiversity Plan Reference The reference to the Highways Agency Biodiversity Plan (HABAP) 2002 within Table 8.3 is correct. The HABAP 2002 was archived on the 10th November 2010 (https://webarchive.nationalarchives.gov.uk/20101110195638/ http://www.highways.gov.uk/aboutus/1149.aspx), and although now out of date and superseded by the Highways England Biodiversity Plan 2015 (https://assets.publishing.service.gov.uk/government/uploads/system/ uploads/attachment_data/file/441300/N150146_-_Highways_England_Biodiversity_Plan3lo.pdf), the 2002 version still carries some relevance as it refers to specific species and habitats of conservation value associated with the existing road network and associated soft estate (refer to bullet point 10 in ES para. 8.2.2 **[APP-046]**). The HABAP 2002 is also referenced within Table 1: Resource Valuation within DMRB IAN 130/10 Ecology and Nature Conservation: Criteria for Impact Assessment by Highways England (link above). As per ES Section 8.3 (Assessment Methodology) **[APP-046]**, the biodiversity assessment is based on the following, including IAN 130/10: *"The method used for the ecological impact assessment as reported herein is based upon the following guidance:*

No	Question to	Reference (in bold) and Question	Applicant's Response
			• *DMRB Volume 11, Section 2, Part 1 and Part 2 Environmental Impact Assessment (Highways Agency, 2008) and associated IAN 125/15 Environmental Assessment Update (Highways Agency, 2015).* • *DMRB Volume 11, Section 3, Part 4 Ecology Nature Conservation (Highways Agency, 1993) and associated IAN 130/10 Ecology and Nature Conservation: Criteria for Impact Assessment (Highways Agency, 2010).* • *Guidelines of Ecological Impact Assessment in the UK and Ireland (CIEEM Third Edition, 2018) hereafter referred to as the CIEEM guidelines.* • *Specific species technical assessment guidance (where applicable and appropriately referenced).* • *Professional judgement."* The Highways England Biodiversity Plan 2015 does not contain specific habitat or species action plans. The Highways England Biodiversity Plan 2015 highlights Highways England's approach to halting national decline in biodiversity, including the following: • Managing its existing landholding in a more wildlife friendly manner.
8.4	Applicant DCiC EBC DCC EA NE	**ES Chapter 8 [APP-046]** ES paragraph 8.3.23 advises that the assessment considers impact avoidance measures, standard mitigation measures and additional specific mitigation measures and only provides an assessment of residential impacts. Paragraph 5.2 of the Chartered Institute of Ecology and Environmental Management guidelines advises that it is good practice to make clear the potential significant effects with and without mitigation, amongst other things, to demonstrate the importance of securing measures through the planning process.	ES Chapter 8: Biodiversity **[APP-046]** does follow the standard Chartered Institute of Ecology and Environmental Impact Assessment (CIEEM) approach in reporting the potential significance of effects on ecological features with and without mitigation, and the residual effects following mitigation. However, the Highways England Environmental Impact Assessment (EIA) approach (as per Section 2.10 Reporting of Mitigation/Ongoing Implementation & Commitments of DMRB IAN 125/15 Environmental Assessment Update (Highways Agency, 2015)) separates mitigation into: • Embedded mitigation i.e. *standard mitigation measures* (such as pollution prevention control measures); and *design impact avoidance measures* (i.e. mitigation that is included as part of the original concept design). • Additional (or further) mitigation i.e. *additional design mitigation measures* (such as replacement bat roost features or landscape planting that can be linked with specific impacts) to address significant (Moderate or above) effects once the initial assessment that includes embedded mitigation has been done.

No	Question to	Reference (in bold) and Question	Applicant's Response
		The Examination will need to consider whether the proposed mitigation measures can be secured, as well as their effectiveness. Please comment on the approach to assessment in ES paragraph 8.3.23 in the light of these considerations.	This is consistent with the EIA approach concerning the consideration of mitigation measures as detailed in ES Chapter 4: Environmental Impact Assessment Methodology **[APP-042]** para. 4.3.19 to 4.3.22. It is not considered appropriate or realistic to remove such embedded environmental mitigation measures from the assessment as they form an integral part of the Scheme. Para. 8.3.23 of the ES **[APP-046]** explains how the significance of any residual biodiversity effects and characterisation of impacts considers all mitigation measures: '*This assessment takes into account impact avoidance measures i.e. design measures that have been incorporated into the Scheme design to avoid or reduce (embedded mitigation measures) impacts, as well as standard mitigation and management activities (refer to Section 4.3). Additional specific mitigation measures are also considered, with characterisation of impacts and residual effects identified. The significance of any residual effects is assessed herein, considering any additional mitigation measures in accordance with Table 8.4. The residual effects, together with an assessment of the likelihood of success of the proposed mitigation approach, are the factors to be considered against legislation, policy and development control requirements*.' As noted above, the different forms of mitigation are defined in the assessment. Section 8.9 (Design, Mitigation and Enhancement Measures), para. 8.9.1 to 8.9.7 **[APP-046]** details the *standard mitigation measures* and *design impact avoidance measures*. Para. 8.9.8 to 8.10; and para. 8.9.11 to 8.9.12 **[APP-046]** detail the *additional mitigation measures* embedded into the design, to reduce the effects of potentially significant Scheme construction and operational phase impacts on designated and non-designated sites, habitats and species (where applicable). Section 8.10 (Assessment of Likely Significant Effects) **[APP-046]** presents the biodiversity assessment. Only where the assessment has identified significant effects

No	Question to	Reference (in bold) and Question	Applicant's Response
			(moderate or above) on a feature are *additional mitigation measure*s identified. For features where impacts have been adequately addressed by embedded design measures resulting in a non-significant (local or neutral) effects, the effect on these is presented as residual effects only. See example below of where a pre and post mitigation assessment has been undertaken (refer to text in **bold)**: Para. 8.9.10 of the ES **[APP-046]** para. 8.10.31 to 8.10.34 Grassland: *'8.10.31 The species-rich semi-improved grassland within the A38 Roundabout LWS (approximately 0.28ha) would be permanently lost due to the Scheme (as stated within the section on local non-statutory designated sites above).* ***The loss of this grassland would result in a moderate adverse significant effect (at the County or Unitary Authority scale) without mitigation****. However, mitigation would be provided by the creation of new species-rich grassland (approximately 0.28ha) within Markeaton Park through suitable translocation and planting and seeding to replace the habitats lost.* *8.10.32 Species-rich semi-improved grassland would also occur within the construction compound site to the north of Little Eaton junction – use of the site as a construction compound would result in the loss of approximately 1.2ha of species-rich semi-improved grassland. Marshy grassland within the proposed construction compound would also be lost. However, following completion of the construction works, this site would be subject to re-instatement with species-rich grassland to pre-existing conditions post construction.* *8.10.33 Additional species-rich grassland planting, to mitigate for the loss of species-poor grassland lost due to the Scheme, has been incorporated into the landscape design. This includes areas of species-rich grassland at all three junctions – refer to the landscape drawings Figures 7.8a - 7.8c [TR010022/APP/6.2] for details.* *8.10.34* ***With the provision of the mitigation measures as detailed above and in Section 8.9, it is considered that there would be a non-significant (neutral) effect on grassland from habitat loss to construction activities****. The confidence in this prediction is probable. The timing of habitat loss would consider impacts upon*

No	Question to	Reference (in bold) and Question	Applicant's Response
			other ecological species, particularly nesting-birds and terrestrial invertebrates (as detailed further in this section).' The Outline Environmental Management Plan (OEMP) **[APP-249]** identifies and provides a mechanism to secure the mitigation measures proposed by the Scheme, with implementation of the OEMP being a covered by Requirement 3 in the dDCO **[APP-016]**.
8.5	Applicant DCiC EBC DCC EA NE	**ES Chapter 8 [APP-046]** ES Table 8.4 Significance of ecological effects: Applicant - ES paragraph 8.3.20 advises that "*the ecological significance of an effect is not dependent on the importance of the feature in question*". That is consistent with paragraph 5.27 of the Chartered Institute of Ecology and Environmental Management guidelines. a) How is this taken into account in the table? b) How does the table take into account the varying potential characterisations of ecological impacts (ES paragraph 8.3.15) which may occur at each level of significance/importance? DCiC, EBC, DCC, EA, NE - Please comment on the approach to determining the significance of ecological effects used in the ES.	a) Ecological significance of effect The Chartered Institute of Ecology and Environmental Management (CIEEM) solely states in paragraph 5.27 that 'the scale of significance of an effect may not be the same as the geographic context in which the feature is considered important (Chapter 4). For example, an effect on a species which is on a national list of species of principal importance for biodiversity may not have a significant effect on its national population. Examples of other relevant scales include regional and county'. As per para. 8.3.21 in ES Chapter 8: Biodiversity **[APP-046]**, Table 8.4 (Significance of ecological effect) has been used as a guide, together with professional judgement, to determine the significance of ecological effects. Professional judgement is not presented within Table 8.4. Also note the use of the word 'generally' within the 'Typical Descriptors of Effect (Biodiversity)' column within Table 8.4, which highlights that there may be deviations in the assessment to that presented in Table 8.4. Significance of effect is qualified with reference to an appropriate geographical scale, however, the scale of the effect may not be the same as the importance of the feature in question (i.e. refer to Table 8.3 Ecological Importance **[APP-046]**). For example, veteran trees were assessed collectively as being up to County value, as per the following rationale detailed from Table 8.3 (Ecological Importance) **[APP-046]** – Table 8.14 states the following:

No	Question to	Reference (in bold) and Question	Applicant's Response
			• LBAP habitat – lowland wood pasture and veteran trees; habitat of principal importance (wood pasture and parkland); Highways Agency BAP 2002 habitat (woodland); and NCA profile. • These features are located within Markeaton Park LWS, whilst the arboricultural survey identified several isolated trees (refer to Appendix 7.2 **[APP-177]**). • Veteran trees are a particularly valuable resource in Derbyshire, and Markeaton Park LWS is specifically designated for its wood pasture and parks including veteran trees. Therefore, these features have been assessed as being of greater than Local value. • Veteran trees are of significant value to nesting birds, invertebrates and bats. However, the significance of effect on the loss of one veteran tree within the Scheme boundary by Markeaton footbridge at Mill Pond due to construction activities was assessed to be significant at a Local scale (i.e. a slight effect as per Table 8.4) and not County scale. This was based on using professional judgement. The loss of one veteran tree would not be a significant effect at the County level given the protection of other veteran trees across the Scheme and the integrity and continued functioning of the resource within Markeaton Park would be unaffected. Therefore, the ecological significance of effect (in geographical terms) is less than the assessed conservation value of the feature in question. Section 8.10 **[APP-046]** states the following: Veteran Trees 8.10.35 As detailed in Section 8.9, the Scheme design has aimed to avoid the loss of veteran trees that are located within the Scheme boundary, including avoiding the loss of veteran trees within Markeaton Park LWS, the veteran trees to the north of the floodplain compensation area and the veteran tree in the field immediately south of Little Eaton junction. Whilst this has been possible in most

No	Question to	Reference (in bold) and Question	Applicant's Response
			cases, one veteran tree located adjacent to the existing Markeaton footbridge would be lost during works to demolish the footbridge and install the replacement footbridge. Due to the tree's proximity to the existing and new footbridge, tree loss would be unavoidable. The loss of this veteran tree would be a slight non-significant adverse effect (at the Local scale). Loss of the veteran tree cannot be mitigated, although it is noted that the landscape design includes considerable tree planting across all three junctions. In addition, the veteran tree (with its potential bat roost features) would be made into a totem pole feature and installed at the edge of Markeaton Park as part of the bat mitigation strategy (refer to Environmental Masterplan illustrated in Figure 2.12c/d **[APP-068]**). ES Appendix 8.20 Summary of Biodiversity Effects **[APP-217]** provides a summary of effects during Scheme construction and operation, showing both the 'importance of ecological importance' of the feature with a geographical frame of reference (based upon Table 8.3 Ecological Importance **[APP-046]**) and the 'significance of residual effects' with a geographical frame of reference (based upon Table 8.4 Significance of Ecological Effects). b) Characterisation of ecological impacts Table 8.4 in ES Chapter 8: Biodiversity **[APP-046]** is used for assessing the *significance* of effects only. When describing ecological impacts and effects on important ecological features within Section 8.10 (Assessment of Likely Significant Effects) **[APP-046]**, reference is made to para. 8.3.15 (Characterisation of ecological impacts) (where applicable) and which is summarised within ES Appendix 8.20: Summary of Biodiversity Effects **[APP-217]**. In summary, the characterisation of ecological impacts and effects considers the following (based upon IAN 130/10 (Highways Agency, 2010) and the Charted

No	Question to	Reference (in bold) and Question	Applicant's Response
			Institute of Ecology and Environmental Management Guidelines for Ecological Impact Assessment (CIEEM, 2018)): • Positive or negative impact (SI) • Probability of occurring (PO) • Complexity (CO) • Extent (EC) • Size (SZ) • Reversibility (RE) • Duration (DU) • Timing and frequency (TF) For example, the effect of habitat loss from construction activities on the A38 Kingsway Roundabout Local Wildlife Site (LWS), a non-statutory local designated site, is assessed and described as follows within ES Chapter 8: Biodiversity **[APP-046]**: *"8.10.13 The Scheme would result in the permanent direct loss of 100% (approximately 3.8ha) of the A38 Roundabout LWS at Kingsway junction. The area of semi- improved species rich grassland habitat for which the LWS is designated, accounts for approximately 7% of the A38 Roundabout LWS (approximately 0.28ha out of a total area of approximately 3.8ha). Although mitigation would be provided for the loss of these habitats (including approximately 0.28ha of species-rich grassland within Markeaton Park through suitable translocation and planting and seeding), a permanent negative effect on the functional integrity of the LWS would remain due to permanent loss of the LWS. There would, therefore, be a moderate adverse significant effect (at the County or Unitary Authority scale) on the A38 Roundabout LWS prior to and post implementation of defined mitigation measures. The confidence in this prediction is certain/near certain. The timing of habitat loss would consider impacts upon other ecological species, particularly nesting-birds and terrestrial invertebrates (as detailed further in this section)."*

No	Question to	Reference (in bold) and Question	Applicant's Response
			This effect on the A38 Roundabout LWS is summarised within ES Appendix 8.20: Summary of Biodiversity Effects **[APP-217]** as follows: SI: Negative PO: Certain/near-certain CO: Direct EC: Approximately 3.8ha of habitat lost (100% of the LWS lost; approximately 0.28ha/7% of the LWS is species rich grassland which the site is designated). Approximately 0.28ha of the species –rich grassland lost to be mitigated. SZ: As above (note: when the ecological feature being considered is habitat itself, size (magnitude) and extent may be synonymous) RE: Permanent DU: Long-term TF: Potential for nesting birds and terrestrial invertebrates (see below). Sensitive timing to be considered when undertaking habitat removal.
8.6	Applicant, DCiC EBC DCC EA NE	**ES Chapter 8 [APP-046]** Amongst other things, ES paragraph 8.3.24 advises that aspirational enhancement measures have not been included in the ES assessment, that the No Net Loss (NNL) biodiversity assessment is reported separately and that opportunities to achieve NNL within the Scheme boundary are being sought within the Applicants internal guidelines. However, ES paragraph 8.3.25 states that that chapter details whether the Scheme has met the objective of achieving NNL in biodiversity.	a) The terms of the No Net Loss (NNL) assessment in the Ecological Impact Assessment (EcIA) of the Scheme as reported in ES Chapter 8: Biodiversity **[APP-046]**) is based on the following definition: *"The point at which the project-related impacts on biodiversity are balanced by measures taken to avoid and minimise the project's impacts, to understand on site restoration and finally to offset significant residual impacts, if any, on an appropriate geographic scale (local, landscape-level, national, regional)"* (https://www.biodiversitya-z.org/content/no-net-loss). The EcIA was based on the Chartered Institute of Ecology and Environmental Management (CIEEM) Methodology (CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland; Terrestrial, Freshwater, Coastal and Marine. Third edition), Design Manual for Roads and Bridges (DMRB) Interim Advice Note 130/10 (Highways Agency (2010) Interim Advice Note 130/10 Ecology and Nature Conservation: Criteria for Impact Assessment.), and

No	Question to	Reference (in bold) and Question	Applicant's Response
		a) Applicant - Please clarify the approach to NNL used in the submissions which are the subject of this Examination. b) DCiC, EBC, DCC, EA, NE – Please comment on the Applicant's approach to NNL in biodiversity.	professional judgement, applying the mitigation hierarchy throughout the project (avoid, minimise, restore, offsets / compensation) to aim to achieve NNL. No biodiversity metric calculations have been used or are referenced to support the conclusions of the EcIA for the Scheme, rather it considered delivery of NNL in terms of the *significance of residual effects*. The EcIA also considered other important ecological features (not just habitats) including designated sites, protected and notable species, and provided three-dimensional biodiversity mitigation and enhancement measures, for example, bat boxes, incorporation of potential bat roost features in trees and structures and vegetated screening/barriers for bats and birds. In terms of the Scheme achieving its objective of meeting NNL for biodiversity and ecosystem function, the ES states there is potential to overall achieve NNL and potential net gain based on the results of the EcIA considering all the mitigation hierarchy measures applied during the project life cycle. Refer to extract from the ES Chapter 8: Biodiversity **[APP-046]** Section 8.11 Ecosystems and No Net Loss in Biodiversity and key references to potential in **bold text**: *"An ecosystem is a dynamic complex of plant, animal and micro-organism communities (biotic) and their non-living (abiotic) environment interacting as a functional unit. Based on the likely residual effects associated with the key biotic (important biodiversity features) from the direct and indirect impacts associated with Scheme construction and operation as detailed in Section 8.10, it is considered that the Scheme is unlikely to result in an adverse impact to the integrity or function of any of the local ecosystems. The Scheme would result in the creation or reinstatement of approximately 36.56ha of semi-natural habitats as part of the landscape design (refer to the landscape design drawings Figures 7.8a to 7.8c [TR010022/APP/6.2]). Over time, the habitats that would be provided by the Scheme (and eradication and management on invasive non-native plant species) have the* ***potential to enhance the local natural environment and generate an overall no net loss and potentially net gain for biodiversity****, as well as establish coherent ecological networks that are more resilient to current and future pressures. Such benefits would be limited at the year of Scheme*

No	Question to	Reference (in bold) and Question	Applicant's Response
			opening, due to the early stage of habitat development, but are expected to increase annually up to the assessment year (15 years after Scheme opening) and beyond under appropriate management. Thus, these benefits would contribute to ***Highways England Biodiversity Plan of reducing no net loss by 2020****, and potentially delivering net gain by 2040.* *Chapter 7: Landscape and Visual Impact Assessment refers to 'green wedges', which are open areas around and between settlements that maintain a distinction between the countryside and built up areas. The designation of green wedges is non-statutory but is intended to provide an additional layer of protection to areas where it is considered development pressure exists and are noted to have some ecological value (as detailed within the Derby City Local Plan – DCiC (2017)). Existing green wedges are located within and adjacent to the Scheme boundary and the landscape design has aimed to retain and integrate these areas into the Scheme landscaping proposals (refer to Figures 7.8a to 7.8c [TR010022/APP/6.2]). This approach, together with the integration of open spaces, retained habitats,* ***and ecology mitigation design features that have the potential to deliver no net loss****, would provide a network of natural space and green corridors that would preserve and potentially enhance ecosystem functions near the Scheme. Other features that have* ***the potential to generate biodiversity gains include the use of the noise barrier at Markeaton junction for bat mitigation; provision of bat roost features within the Flood Arch bridge at Little Eaton junction, provision of badger fencing, and the creation of additional sections of open channel and ecological habitats associated with the Dam Brook realignment works****. In addition, as detailed in para. 8.5.10, Highways England is exploring biodiversity restoration and enhancement opportunities at Markeaton Park, Mill Ponds and at the Ford Lane Site of Interest. Such works may be delivered via Designated Funds and thus do not form part of the Scheme. Such aspirational enhancement opportunities would further benefit ecosystem services and the green infrastructure corridor characteristics of the Scheme."* b) Response required from the defined local authorities.
8.7	DCiC	**ES Chapter 8 [APP-046]**	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
	EBC DCC EA NE	ES Table 8.5 a) Have the mitigation measures set out in Section 8.9 been agreed? Does the Scheme make adequate provision for Green Infrastructure?	
8.8	Applicant	**ES Chapter 8 [APP-046]** ES paragraphs 8.8.2. Should changes to air quality (dust, vehicles) be identified as a potential impact during the construction phase?	Yes, where there are designated sites with habitats sensitive to changes in air quality (in terms of impacts from dust deposition from construction activities), these should be identified for assessment of potential biodiversity impacts. Dust deposition may lead to changes in plant growth and hence the composition of vegetation; however, not all ecological habitats are equally sensitive to dust. As per Section 3.45 of Volume 11 Environmental Assessment; Section 3 Environmental Assessment Techniques; Part 1 HA 207/07 Air Quality (DMRB, 2007), all sensitive designated species or habitats within Designated Sites should be identified within 200m of a scheme for potential impacts from construction dust. This is so that any above standard mitigation measures to reduce dust emissions can be rigorously applied. Bignel et al (2004) concluded that buffer zones provide physical distance, rather than remove pollutants from the atmosphere. Bignal et al (2008) also stated that roads should avoid a buffer zone of 100 – 200 m from sensitive sites (Natural England, 2016). ES Chapter 8: Biodiversity **[APP-046]** Section 8.10 (Assessment of Likely Significant Effects), para. 8.10.9 states that: 'all national and local statutory designated sites are located >200m from the Scheme (excluding the locations remote from the Scheme where there would be minor signage works and associated road restraint systems within the existing highway verges) and are therefore not anticipated to be affected by changes in air quality or dust emissions during the Scheme construction phase'. All non-statutory sites located >200m from the Scheme boundary were scoped out of the biodiversity assessment in terms of potential effects from air quality. Given the types of habitats present within those non-statutory designated sites scoped into the biodiversity assessment, it was considered that standard dust mitigation measures as detailed within ES Chapter 5: Air Quality **[APP-043]** would provide adequate dust

No	Question to	Reference (in bold) and Question	Applicant's Response
			mitigation during the Scheme construction phase. These measures are secured through the CEMP to be approved under requirement 3 of the dDCO **[APP-016]**. As per Section 3.45 of Volume 11 Environmental Assessment; Section 3 Environmental Assessment Techniques; Part 1 HA 207/07 Air Quality (DMRB, 2007), where construction is to last more than 6 months, then traffic management measures and the effect of the additional construction vehicles should also be assessed. This has been done in terms of human receptors within ES Chapter 5: Air Quality **[APP-043]**; with the implementation of appropriate traffic management mitigation measures. These measures are considered adequate to protect the types of biodiversity sites and habitats within 200m of the Scheme from impacts associated with traffic management. A traffic management plan requires to be approved pre-commencement under requirement 11 of the dDCO **[APP-016]**.
	Habitats Regulation Assessment and the screening of European Sites		
8.9	NE	**Habitat Regulations Assessment - No Significant Effects Report [APP-179]** The Applicant has concluded in its Habitat Regulations Assessment - No Significant Effects Report (paragraph 3.7.3 and Appendix D) that there are no likely significant effects on the qualifying features of any European Sites and that a Habitats Regulations Assessment / Appropriate Assessment is not required. NE was satisfied that the then scheme would not have likely significant effects. Are you still satisfied that the scheme as submitted would not have likely significant effects?	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
	Statutory designated sites		
8.10	DCiC EBC DCC EA NE	**ES Chapter 8 [APP-046]** ES paragraph 8.10.10 finds that standard pollution prevention control and best practice measures would ensure that the disturbance from construction activities would have a neutral effect. Do you agree with this finding?	N/A
	Non-statutory designated sites of interest		
8.11	Applicant EBC DCC NE	**ES Chapter 8 [APP-046]** ES paragraph 8.10.15 advises that approximately 30% of the Alfreton Road LWS would be permanently lost, but that the effect would be neutral due to the "*relatively small*" area affected. It is also stated that the area of most biodiversity interest this not affected by the "*construction works*". a) Applicant – Does the reference to the area of the "construction work" include the area permanently lost or the area temporarily affected during the construction phase? b) EBC, DCC, NE Do you agree that the effect of the Scheme on the LWS would be neutral?	a) The area affected by the Scheme construction work at the Alfreton Road Rough Grassland Local Wildlife Site (LWS) is in addition to that which would be permanently lost. Alfreton Road Rough Grassland LWS is approximately 4.08ha in size and approximately 51% (2.09ha) would be temporarily affected during the Scheme construction phase. On completion of Scheme construction, approximately 0.86ha of the 2.09ha land affected during construction would be reinstated, thus indicating that approximately 30% (approximately 1.23ha) of the LWS would be permanently lost. Section 8.10 Assessment of likely significant effects, paragraph 8.10.15 of the ES Chapter 7: Biodiversity **[APP-046]** states: *"The Scheme would result in the permanent loss of approximately 30% (approximately 1.23ha) of Alfreton Road Rough Grassland LWS at Little Eaton junction. In addition, approximately 20% (approximately 0.86ha) of Alfreton Road Rough Grassland LWS would be temporarily impacted during the Scheme construction phase but would be reinstated through suitable landscape planting post-construction. The LWS is designated for its floodplain semi-improved grassland habitat; however, it is dominated by New Zealand pigmyweed (invasive plant under Schedule 9 of the Wildlife and Countryside Act 1981) which is currently affecting its intrinsic biodiversity value. The functional integrity of this site is not considered to be affected due to the relatively small area to be permanently lost due to the Scheme. The area of most biodiversity interest (botanically and for ornithology) is the inundation area/drawdown zone which*

No	Question to	Reference (in bold) and Question	Applicant's Response
			would remain unaffected by the construction works. Therefore, it is considered that there would be a non-significant (neutral) effect on Alfreton Road Rough Grassland LWS from habitat loss. The confidence in this prediction is certain/near-certain. The timing of habitat loss would consider impacts upon other ecological species, particularly nesting-birds and wintering birds (as detailed further in this section)." The conclusion that only a 'relatively small' area would be affected is based on the reduction in value of much of the area to be lost to the Scheme through presence of New Zealand pigmyweed and that the area to be retained has the core biodiversity value of the LWS, namely the floodplain semi-improved grassland. b) Response required from the defined local authorities.
8.12	DCiC EBC DCC EA NE	**ES Chapter 8 [APP-046]** ES paragraph 8.10.21 finds that standard pollution prevention control and best practice measures would ensure that the disturbance from construction activities would have a neutral effect. Do you agree with this finding?	N/A
	Non-designated sites of interest		
8.13	Applicant Friends of Little Eaton Canal	**ES Chapter 8 [APP-046]** **RR by Friends of Little Eaton Canal [RR-014]; OEMP [APP-249]** Concern has been expressed regarding the impact of the Scheme on the biodiversity of the site of the Little Eaton construction compound.	a) The Little Eaton junction compound area and the associated access onto Alfreton Road would be required for duration of the Scheme construction phase. This location for the main construction compound was selected following the investigation of several potential alternative sites as detailed in ES Chapter 3: Scheme History and Assessment of Alternatives **[APP-041]**. The proposed construction compound area has been subject to a range of ecological surveys as detailed in ES Chapter 8: Biodiversity **[APP-046]** – this included a Phase 1 habitat survey (habitats and flora species), invasive plant

No	Question to	Reference (in bold) and Question	Applicant's Response
		a) Applicant – Please comment on this concern. b) Friends of Little Eaton Canal - • To what extent does the information provided in the ES and the OEMP address your concern? • What evidence is available to support any outstanding concern?	species survey (such as Japanese knotweed), badger survey, bird surveys, terrestrial invertebrate survey, and reptile survey. The layout of the construction compound has been defined taking advice from the ecology team in order to: • Minimise the loss of species-rich grassland of botanical and terrestrial invertebrate interest; • Retain areas of scrub and trees of interest to birds; and • Retain a buffer of vegetation around the site to enable continued foraging and commuting by badger. Following completion of the construction works, the areas affected by the compound would be appropriately reinstated - details are provided in the applicable the Environmental Masterplan ES Figure 2.12G **[APP-068]**, whilst reinstatement details are also included in the Outline Environmental Management Plan (OEMP) **[APP-249]** and will therefore form part of the CEMP to be approved under requirement 3 of the dDCO **[APP-016]**. The ecological effects of using the compound area are detailed in the ES Chapter 8: Biodiversity **[APP-046]**, taking account of the proposals to appropriately reinstate and replant the site following compound removal. With the proposed mitigation approach, it is assessed that following removal of the compound, the area would be restored to at least the same biodiversity value (ecological importance) as the existing site for flora and fauna. Such proposals are included in the Environmental Masterplan ES Figure 2.12G **[APP-068]** and also detailed in the Outline Environmental Management Plan (OEMP) **[APP-249]**. Such proposals are secured via requirement 3 and 5 in the dDCO **[APP-016]**. It is also noted that the Scheme also has the potential to generate a positive biodiversity effect where invasive plant species are eradicated locally, and this includes parts of the construction compound at Little Eaton junction. b) Response from the Friends of Little Eaton Canal.

No	Question to	Reference (in bold) and Question	Applicant's Response
8.14	DCiC EBC DCC EA NE	**ES Chapter 8, [APP-046]** ES paragraph 8.10.28 finds that standard pollution prevention control and best practice measures would ensure that the disturbance from construction activities would have a neutral effect. Do you agree with this finding?	N/A
	Veteran trees		
8.15	Derbyshire Wildlife Trust	**ES Chapter 8 [APP-046], Table 8.12** Do you agree that Tree references DWT3 and DWT20 do not qualify as Veteran Trees?	N/A
	Other habitats including grassland, trees, woodland, standing and running water		
8.16	Applicant	**ES Chapter 8 [APP-046]** **RR by the EA [RR-005]** ES Table 8.15 Standing Water – Please clarify whether new ponds to be created as part of the Dam Brook realignment would be online or free-standing. Is there potential for offline ponds to be created to benefit different species?	The proposed ecology ponds at Little Eaton junction (refer to Environmental Masterplan ES Figure 2.12F **[APP-068]**) would have a downstream connection to Dam Brook to enable success of created habitat in the long term; providing fish refugia and a route for fish to enter and exit in a flood event or if the ponds are drying out. The backwaters would also provide foraging and burrowing habitat for any water vole. Given that the Scheme would result in a net gain with regard to ponds, it is not considered necessary to create additional offline ponds, noting that at Little Eaton junction there will also be two highway runoff attenuation ponds that will develop into ecological features (refer to Environmental Masterplan ES Figure 2.12F **[APP-068]**).
8.17	Applicant DCiC DCC	**ES Chapter 8 [APP-046]**	With regard to habitat creation and biodiversity opportunities associated with the realignment and culverting of Bramble Brook at Kingsway junction and the realignment of Dam Brook at Little Eaton junction, measures to mitigate potential Water Framework Directive (WFD) impacts have been included in the design, as well as ecological mitigation measures (e.g. creation of associated riparian habitat) –

No	Question to	Reference (in bold) and Question	Applicant's Response
	EBC	ES paragraph 8.9.9 (habitat creation and biodiversity opportunities associated with watercourses features). Schedule 9 Part 3 gives the EA control over these works. Should the Councils be consulted?	refer to ES Chapter 8: Biodiversity **[APP-046]** and ES Appendices 13.3A and 13.3B **[APP-232** and **APP-233]**. Highways England would be happy to consult with Derby City Council (DCiC) regarding the design of such features associated with Bramble Brook, and with Derbyshire County Council (DCC) regarding the design of biodiversity features associated with Dam Brook. The dDCO will be amended to provide for this consultation.
8.18	Applicant	**ES Chapter 8 [APP-046]** ES paragraph 8.9.9 (wildlife corridors and ecosystem functions) advises that the Scheme aims to enable the movement of wildlife across the Scheme into the wider landscape. The examples of areas left vacant by the Scheme which are to be landscaped are separated from one another. Please clarify in greater detail how viable wildlife corridors and connectivity would be achieved.	The areas left vacant by the Scheme and that would be subject to landscape planting (in accordance with the landscape design as detailed in ES Figure 7.8A-C **[APP-094]**) are as follows: • The Brackensdale Avenue access onto the A38; • Sections of existing carriageway associated with the existing northbound A38 from Markeaton junction; • The existing access from Ford Lane onto the A38; and • Section of existing A38 mainline carriageway located to the north of Little Eaton junction. These areas are labelled and shown on the Environmental Masterplans ES Figures 2.12B, 2.12C, 2.12F, 2.12G **[APP-068]**. Although these areas are remote from one another along the Scheme, the landscaping of these areas will provide connectivity to adjacent landscape proposals as part of the Scheme design and form part of a wider 'green network' (i.e. form part of the areas of vegetation growing alongside the transport network (known as 'green corridors') which encourage wildlife to live and travel along the corridor/ transports soft estate- https://www.gov.uk/government/news/greener-transport-network-to-provide-highways-for-wildlife). Further details are provided below: • The Brackensdale Avenue access onto the A38 (shown on Environment Masterplan ES Figure 2.12B **[APP-068]** and baseline Phase 1 habitat mapping shown on ES Figure 8.7 **[APP-101]**: landscaping this area provides habitat connectivity to the proposed native woodland planting and retained vegetation along the A38 and connects to habitats in the grounds of Brackensdale Primary

No	Question to	Reference (in bold) and Question	Applicant's Response
			School. Landscaping this area would also provide additional ecosystem services benefits, forming part of replacement public open space. This area also adjoins the northern most part of one Derby City's designated Green Wedges (see details below). • Sections of existing carriageway associated with the existing northbound A38 from Markeaton junction (shown on Environmental Masterplan ES Figure 2.12C **[APP-068]** and baseline Phase 1 habitat mapping shown on ES Figure 8.7 **[APP-101]**): landscaping this area reinforces continuous habitat connectivity along the fringes of Markeaton Park (a Local Wildlife Site and one of Derby City's Green Wedges: http://maps.derby.gov.uk/Map.aspx?MapName=LocalPlan DCiC (2017)) located adjacent to the A38. • The existing access from Ford Lane onto the A38 (shown on Environmental Masterplan ES Figure 2.12F **[APP-068]** and baseline Phase 1 habitat mapping shown on ES Figure 8.8 **[APP-102]**): retained woodland habitats either side of Ford Lane would be connected by landscaping the existing access. These habitats would otherwise remain fragmented if the area was left vacant. • Section of existing A38 mainline carriageway located to the north of Little Eaton junction: landscaping this area reinforces a linear strip of vegetation comprising species-rich grassland and scattered trees, forming part of the wider 'green network' (as defined above). Given the above, landscaping these vacant areas would reinforce the linear green corridor along the A38 road network facilitating species dispersal. Further examples of how viable wildlife corridors (facilitating dispersal of known species present) and connectivity across the Scheme would be achieved include: • Enhancement of the riparian corridor at Bramble Brook, Kingsway junction: ES para. 8.9.9 **[APP-046]** (Habitat creation and biodiversity opportunities associated with watercourse features) includes measures to mitigate Water Framework Directive (WFD) effects and to improve riparian habitat, through creation of four

No	Question to	Reference (in bold) and Question	Applicant's Response
			flood storage areas adjacent to Bramble Brook to provide wetland habitat within the riparian corridor. • Enhancement of the river corridor and wetland/ floodplain connectivity at Dam Brook, Little Eaton junction: ES para. 8.9.9 **[APP-046]** (Habitat creation and biodiversity opportunities associated with watercourse features) includes a range of measures to improve river connectivity and improve bed and bank structures to facilitate riparian and fish dispersal. The reinstatement of a natural watercourse gradient would improve floodplain connectivity and create new wetland habitat; whilst the creation of backwaters (wildlife ponds) would improve habitat for coarse and salmonid fish and brook lamprey. In addition, diversion of an unnamed watercourse at Breadsall Manor (approximate grid reference SK36540) through a new multi-stage channel will allow wet woodland creation and a diverse macrophyte community. The drainage design also includes two attenuation ponds at Little Eaton junction that would develop into ecological habitats. • Retaining and integrating 'green wedges' into the landscape design: ES para. 8.11.3 ES **[APP-046]** refers to 'green wedges', which are open areas around and between settlements that maintain a distinction between the countryside and built up areas and are noted to have some ecological value (as detailed within the Derby City Local Plan). The Scheme design has integrated these areas into the Scheme landscaping proposals (refer to Figures 7.8A-C **[APP-094]**). • Hedgerow planting and woodland shelter belts to provide ecological connectivity: ES para. 8.9.10 **[APP-046]** (Bats (foraging and commuting))' explains how linear features including hedgerows have been incorporated into the landscape design ES Figures 7.8A-C **[APP-094]** to mitigate for habitats lost and ensure ecological connectivity within and across the Scheme, and into the wider landscape.
8.19	Applicant	**ES Chapter 8 [APP046]** **ES Appendix 7.2 [APP-177]** For TPO No. 160, please justify the extent of loss of trees within G361 - categorised as high quality (A1,2) as referenced by Appendices B and F of the Arboricultural Impact Assessment.	Tree loss within TPO No. 160 (G361) would be associated with Work No 13 **[APP-009]**, as well as due to area clearance needed in order to facilitate Scheme construction activities (e.g. including the demolition of the existing Markeaton footbridge and construction of the new replacement footbridge). Given the construction works needed in this area, this tree loss cannot be avoided. The area would be appropriately restored in order to provide replacement pubic open space. It is thus confirmed that the ES assesses an appropriate worst-case tree losses.

No	Question to	Reference (in bold) and Question	Applicant's Response
	Protected species and other notable fauna		
8.20	Applicant	**ES Chapter 8 [APP-046]** **OEMP [APP-249]** ES paragraph 8.9.10 Fish – The mitigation measures described in paragraph 8.9.10 do not appear to be fully reflected in the OEMP. Please comment.	Para. 8.9.10 of the ES Chapter 8: Biodiversity **[APP-046]** covers four aspects as related to fish mitigation. The first point concerns water pollution prevention control measures and standard best practice measures to control dust – these aspects are covered in the OEMP **[APP-249]** – refer to MW-WAT8 and MW-AIR1 in Table 3.2b. The second point states that "*The flood storage areas at Kingsway junction associated with Bramble Brook would be designed to prevent fish from becoming trapped in these new wetland areas*." It is agreed that this point is missing from the OEMP and should be added as applicable. The third point concerns the works associated with Dam Brook at Little Eaton junction and the works needed with regard fish mitigation. As per PW-BIO9 of the OEMP, suitable fish permits would be applied for from the Environment Agency to survey and move fish from the Dam Brook prior to the brook realignment to suitable available habitat (receptor site) downstream in Watermeadows Ditch and/or the River Derwent. The permits would detail the method of works regarding fish. The new Dam Brook realignment and suitable receptor sites are shown on the Environment Masterplan Figures 2.12E and 2.12F **[APP-068]**. The fourth point concerns the wildlife ponds located near the new Dam Brook, noting that they would be designed to provide suitable habitat for fish. As per D-B12 of the OEMP, the proposed wildlife ponds located near the new Dam Brook would have a downstream connection (otherwise referred to as 'backwaters') to improve habitat for both coarse and salmonid fish and brook lamprey. This is referenced on the Environment Masterplan Figures 2.12F **[APP-068]**.
8.21	DCiC EBC DCC EA NE	**ES Chapter 8 [APP-046]** ES paragraph 8.9.10 Bats – Are you content that enough information has been provided to properly assess the effect of the lighting	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
		proposals on bat roosting, foraging and commuting?	
	Invasive species		
8.22	DCiC EBC DCC EA NE	**ES Chapter 8 [APP-046] paragraph 8.9.9** **OEMP [APP-249] Appendix 2.1 Outline Biosecurity and Management Plan** Are you content that the measures set out in the Outline Biosecurity and Management Plan are robust and have the potential generate a positive effect?	N/A
8.23	Applicant	**ES Chapter 8 [APP-046]** **RR by the EA [RR-005]** The EA's RR (section 3) makes several points regarding the effect of construction works on fisheries. The relate mainly to timing and temperature. Please comment on whether the points raised by the EA would affect the timing of construction works?	The points raised by the Environment Agency (EA) (specifically their points 3.2 and 3.3) are not anticipated to affect the timing of Scheme construction works, beyond that which has already been considered as part of the assessment and mitigation strategy for fish. The EA's RR **[RR-005]** comment 3.2 states the following: *"3.2 Any in-channel works must not be carried out during fish spawning (closed) seasons. In this case we have both salmonids (brown trout) and coarse fish present, therefore both seasons will need to be considered. The closed season for trout is 8th October-15th March and the closed season for coarse species is 15th March-15th June. We would expect the coarse closed season rules to be applied, however the substrate in Dam Brook is unlikely to be suitable for trout spawning. We can assess the situation nearer the time if avoiding works during the trout closed season can't be avoided and ask to be contacted if this situation arises."* It is noted that the lamprey spawning season (March/ April/ May) would be avoided for the fish translocation in-channel works at Dam Brook. The timing of in-channel works would also need to consider the suitable timing of trapping and translocating water vole (if required). Optimal timing for trapping and translocating water vole is between 1st March to 15th April; with the sub-optimal time being between the 15th September to the 30th November.

No	Question to	Reference (in bold) and Question	Applicant's Response
			Suitable timing of fish translocation for Dam Brook has been advised for between July - February (ideally January/ February). This is outside the closed season for coarse species (15th March to 15th June); however not trout (8th October to 15th March), but as stated in the EA's RR comment 3.2, the substrate in the Dam Brook is considered unlikely to be suitable for trout spawning. The approach for the Dam Brook in-channel works would be discussed and agreed with both the EA and Natural England. The EA's RR **[RR-005]** comment 3.3 states the following: "*An additional area to consider when electric fishing and translocating fish is temperature. Trout are especially prone to additional stress in higher summer temperatures, therefore it is recommended to avoid these activities in air temperatures above 18oC if possible. Coarse fish can be a little more tolerant, but it is still best avoided in the interest of fish health and their ability to recover. Ideally the temperature of the donor and receiving waters should be within a couple of degrees of each other to avoid thermal shock to the fish*". It is agreed that water temperatures would be monitored before any fish translocation takes place, but based on the timing of the works, high water temperatures are not anticipated to be an issue.
	Opportunities for enhancement		
8.24	DCiC EBC DCC EA NE	**ES Chapter 8 [APP-046]** NPSNN paragraph 5.23 requires the Applicant to show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests. Are satisfied with the approach taken in the Proposed Development to the enhancement of biodiversity and geological conservation interests.	N/A
9	**Landscape and visual impacts**		

No	Question to	Reference (in bold) and Question	Applicant's Response
	Note: Pending the receipt of the further information requested below, the assessment of landscape and visual impacts is subject to further consideration.		Noted
	Baseline information		
9.1	Applicant	**ES Chapter 7 [APP-045]** **ES Figures 7.1a [APP-085] and 7.1b [APP-086]** The SoS Scoping Opinion sought justification for not extending the study area beyond 1km where the Zone of Theoretical Visibility extends beyond that distance or where there is capacity to experience significant effects. The Zone of Theoretical Visibility would appear to extend beyond this distance in a number of locations - including the Derwent Valley Mills WHS see Figs 7.1a, 7.1b. Please clarify in more detail the justification for not including within the study area the parts of Zone of Theoretical Visibility which extend beyond 1km.	From site surveys, it was identified that from locations beyond 1km of the Scheme, views of the Scheme would only form a small additional visual element within the view and would be barely perceivable if at all by eye. The Scheme will be largely centred along the existing route of the A38 and thus it is considered that views of the Scheme for receptors beyond 1km will not be significantly changed.
9.2	Applicant	**ES Chapter 7 [APP-045]** The SoS Scoping Opinion advised that the need for verified visual images should be agreed with consultees. ES paragraph 7.4.1 makes reference to representative viewpoints, but otherwise section 7.4 lacks confirmation of whether that was done.	Derby City Council (DCiC) and Derbyshire County Council (DCC) were invited to comment on the proposed representative viewpoints within the landscape character and visual amenity assessment in September 2018. Comments were received back from DCC and consultation was carried out with their Landscape Architect regarding representative viewpoints around Little Eaton junction. No comments were received from DCiC when they were asked to comment in September and October 2018 so the DCC approved viewpoints were used. Consultation activities undertaken are detailed in ES Chapter 7: Landscape and Visual **[APP-045]** Section 7.4.

No	Question to	Reference (in bold) and Question	Applicant's Response
		Clarify how the visual images used for the assessment were consulted on and confirm whether these have been agreed and verified with the relevant consultees.	
9.3	Applicant	**ES Chapter 7 [APP-045]** Tables 7.10 to 7.19 (Assessment of susceptibility and sensitivity of landscape character) and ES Appendix 7.1 (Visual Effects Schedule). Please clarify how the measures of susceptibility and value have been derived when the sensitivity criteria in Table 7.2 do not distinguish between them. Specifically, in each case, the susceptibility measure is predicated on the presence of the existing A38 and the proximity of the Proposed Development resulting in assessments of low and medium value. Is the proximity of the Proposed Development a valid criterion to measure the baseline value of the Landscape Character Area?	Para. 7.3.16 to 7.3.20 in ES Chapter 7: Landscape and Visual **[APP-045]** provides details regarding the relationship between susceptibility, value and sensitivity. This is derived from the Guidelines for Landscape and Visual Impact Assessment (Third Edition) (GLVIA3) (Landscape Institute and the Institute of Environmental Management & Assessment, 2013), whilst Table 7.2 (Criteria for Landscape and Visual Sensitivity) as taken from IAN135/10 provides additional information regarding the consideration of sensitivity as applied by the assessment. The proximity of the existing A38 has been considered during the assessment of susceptibility for both the landscape character and representative viewpoints. Given that the nature of the Scheme consists of improvements to the existing A38 corridor, it is considered that this approach is appropriate to measure baseline value as per Table 7.5.
9.4	Applicant	**ES Chapter 7 [APP-045]** There appears to be inconsistency of terms used for magnitude of landscape impacts in Table 7.3 and Tables 7.20-7.29/7.31-7.40. How do "*Major*" and "*Minor*" in Table 7.3 equate to "*Large*" and "*Slight*" in Tables 7.20-7.29/7.31-7.40?	Tables 7.20 - 7.29/ 7.31 - 7.40 of ES Chapter 7: Landscape and Visual **[APP-045]** have an incorrect heading in the right-hand column (states "magnitude of landscape effect" but should state "significance of landscape effect"). Potential significant effects on landscape and visual receptors are rated on a seven-point scale, ranging from Neutral, Neutral/Slight, Slight, Slight/Moderate, Moderate, Moderate/Large to Large/Very Large - see Table 7.5 as taken from IAN 135/10. The magnitude of the impact is derived by cross referencing the sensitivity of the receptor towards change against the predicted magnitude of impacts – see Table 7.3 magnitude of landscape impact criteria and Table 7.4 magnitude of visual impact

No	Question to	Reference (in bold) and Question	Applicant's Response
			criteria, to give the overall impacts rated major, moderate, minor, negligible and no change. The magnitude of impact and the level of sensitivity give rise to the significance of effect for each receptor as per Table 7.5.
	Assessment methodology		
9.5	Applicant	**ES Chapter 7 [APP-045]** ES Table 7.2 Landscape and visual sensitivity - does not distinguish between measures of susceptibility to change and value. Guidelines for Landscape and Visual Assessment 3rd Edition advises that these are considered separately before being combined to assess landscape sensitivity (paragraphs 3.26 and Figs 3.5, 5.1 and 6.1) in order to provide transparency and because there can be close complex relationships between the two measures (para 5.46). Please comment.	Refer to para. 7.3.16 - 20 of the ES Chapter 7: Landscape and Visual **[APP-045]** which relates to the relationship between susceptibility, value and sensitivity. Neither GLVIA3 nor IAN 135/10 explain how these combine, therefore, professional judgment has been used together with Table 7.2 as taken from IAN135/10, which provides additional information regarding landscape and visual sensitivity.
9.6	**Viewpoints and visualisations**		
9.7	DCiC EBC DCC	**ES Chapter 7 [APP-045]** ES paragraph 7.5.3 provides some justification of the choice of representative viewpoints. Are you content that the selected representative viewpoints capture the full effects of the Proposed Development?	N/A
9.8	Applicant	**Viewpoints (VP)** **ES Chapter 7 [APP-045]**	Photomontages for the selected locations are in the process of being prepared. These will be submitted to the ExA for Deadline 2 (19 November 2019).

No	Question to	Reference (in bold) and Question	Applicant's Response
		Figure 7.5 [APP-091] **Works Plans [APP-009]** In order to properly understand the landscape and visual effects of the Proposed Development, verified visual montages at the following locations are requested: a) VP2 b) VP17 c) VP22 d) VP24 e) A38 on the railway bridge looking toward the Little Eaton junction f) Greenwich Drive North adjacent and looking towards the Work 10a gantry	
9.9	Applicant	**Figure 7.5 [APP-091]** Several the photographs in Figure 7.5 appear to be distorted. Please supply photographs which comply with Guidelines for Landscape and Visual Assessment standards.	The viewpoint photographs in ES Figure 7.5 **[APP-091]** were taken in accordance with Photographs and Photomontages in Landscape and Visual Impact Assessment, Landscape Institute advice note 01/11. The photographs were taken at a standard height/angle of view (approx. 60 degrees) that equates to a 300mm viewing distance. New guidance was released September 2019 after the photographs were taken for this assessment. Weather constraints have affected some of the photographs, whilst some appear to have been distorted through the photo stitching software. It is proposed that photographs from Viewpoint 8, 10 and 12 will be re-taken and submitted to the ExA. As these are winter viewpoints, tree leaf drop will need to have occurred which is estimated to have occurred by mid-November. As such, the retaken photographs will be re-issued after this date (Deadline 2 (19 November 2019)).
	Landscapes and Landscape Character Areas		
9.10	Applicant	**ES Chapter 7 [APP-045]**	a) Response required from DCiC.

No	Question to	Reference (in bold) and Question	Applicant's Response
	DCC	**RR by DCC [RR-004]** DCC has suggested that the Little Eaton embankment should be replaced by an elegant viaduct. a) DCC - please expand on the justification for this suggestion b) Applicant – please comment on the merits and implications of this suggestion.	b) It is considered that the Scheme design for Little Eaton junction adequately mitigates the Scheme effects on the visual impact on the openness of the Green Belt, landscape and landscape character and Outstanding Universal Value (OUV) of the Derwent Valley Mills World Heritage Site (DVMWHS) (refer to the Heritage Impact Assessment provided as ES Appendix 6.1 **[APP-173]**. If the A38 mainline at Little Eaton junction was placed on a viaduct, it is considered that the design would inevitably become more urban in nature and reduce opportunities for landscape planting, and thus reduce the potential to integrate the Scheme into the surrounding landscape, whilst also significantly increasing Scheme costs. An elevated viaduct carrying the A38 mainline over Little Eaton junction would make a bold statement within the landscape and it is assumed the intention would be that the structure would be clearly visible from surroundings areas. In terms of visual amenity, a viaduct solution would be most visible from the open floodplain that constitutes part of the DVMWHS. Therefore, the design of such a structure would need to be very carefully considered in order not to have adverse landscape/ visual effects. Viaducts are difficult to screen due to their height and form, and therefore it is unlikely that there would opportunities to provide adjacent screen planting. Without adjacent landscape planting/ screening, views of vehicles and highways infrastructure would be obtained. Whereas planting of the proposed A38 mainline embankment provides opportunities for screen planting in order to screen views of tall vehicles and highways infrastructure.
9.11	Applicant DCC	**ES Chapter 7 [APP-045]** **RR by DCC [RR-004]** **Works Plans [APP-009]**	a) Response required from DCiC. b) Environmental Statement (ES) Figure 2.10 **[APP-066]** shows the proposed floodplain compensation area to the west of the River Derwent. The area is required in order to compensate for the volume of floodplain lost due to Scheme

No	Question to	Reference (in bold) and Question	Applicant's Response
		DCC has suggested that the flood storage area would be unsympathetic to the landscape of the WHS. a) DCC - please expand on the justification for this suggestion. b) Applicant – please expand on the options for the design of this facility and the rationale for the chosen design.	construction. Provision of appropriate floodplain compensation is deemed to be essential mitigation, as required by the Environment Agency. As detailed in ES Chapter 3: Scheme History and Assessment of Alternatives, Table 3.10 **[APP-041]**, a total of 13 locations for potential floodplain compensation have been subject to evaluation and hydraulic modelling. The appraisal indicated that the location to the west of the River Derwent was the only assessed option that was able to adequately provide floodplain compensation on a like for like basis. Given that this location is within the Derwent Valley Mills World Heritage Site (WHS), this option was only taken forward for inclusion within the Scheme design on the basis that the landform created by excavations could be naturalised, such that it would not have a significant effect on the WHS. It is not considered possible to find another location for the floodplain compensation area that is outside the WHS given that the WHS traverses the River Derwent and given that the Scheme is mitigating the loss of River Derwent floodplain. The landform design of the compensation area has been developed with input from landscape, ecological and cultural heritage specialists with the aim that it creates a naturalistic profile that blends in with the surrounding valley profile, as well as enabling the land to be returned to agricultural use. Works to create the compensation area would be undertaken at the start of the Scheme construction phase, with the excavation works taking approximately 10 weeks to complete. Following completion of the excavation works, the reprofiled land would be reinstated as grassland and returned to the landowner for continued agricultural use. Following re-establishment of agricultural grassland, it would not be apparent that any works had taken place on the site. The area would have no engineering structures and would not require any form of ongoing maintenance. The potential effects of the floodplain compensation area, and the wider Scheme, on the OUV (Outstanding Universal Value) of the Derwent Valley World Heritage Site has been assessed in ES Chapter 6 **[APP-044]**, taking into account the findings of the Heritage Impact Assessment (HIA) ES Appendix 6.1 **[APP-173]** undertaken in accordance with ICOMOS guidance. The HIA concluded that "*The effect of the Scheme on the overall OUV of the Derwent Valley WHS, taking into account the mitigation measures embedded within the Scheme design and that*

No	Question to	Reference (in bold) and Question	Applicant's Response
			the Scheme is concerned with a small section of the overall WHS, is assessed as Slight adverse (i.e. no more than a Negligible impact upon an asset of Very High value). The Scheme is, therefore, considered to align with the aims and policies outlined in the WHS Management Plan. It also aligns with national planning policy set out within the National Planning Statement for National Networks (NPSNN) and the National Planning Policy Framework (NPPF)". This conclusion is consistent with the consultation response received from Historic England in relation to the WHS. As stated in ES Chapter 6, Tables 6.7 and 6.8 **[APP-044]**, it is the opinion of Historic England that there is unlikely to be a significant effect on the OUV of the WHS. Specific advice on the flood compensation area from Historic England stated that the area should be blended back into the landscape and spoil heaps should not be leftover. This advice has been incorporated into the Scheme design. There remains flexibility in the design of the flood compensation area slopes in order to make them more organic – as such, Highways England would be happy to work with the applicable heritage statutory consultees (through DCiC, DDC) during the floodplain compensation area detailed design in order to create a suitable profile.
9.12	Applicant	**ES Chapter 7 [APP-045]** **Works Plans [APP-009]** Please comment on how the embankment gradients and profiles integrate into the landscape. How would the design of the embankments be affected if the carriageway moved to the extremes of the proposed limits of deviation.	The embankments gradients and profiles are designed to flow with the landscape as far as is practicable and allowed for within the safety limits of the design standards. The scheme has been designed to minimise any visual impacts on the landscape; refer to ES Chapter 7 section 7.9 **[APP-068]**. The carriageway is positioned within the limits of deviation to maximise the use of the existing carriageway footprint and to minimise the need for CA and compensation areas, there would therefore be little benefit in moving the carriageway to the extremes of the proposed limits of deviation as this could require additional land take and further mitigation.
9.13	Applicant	**ES Chapter 7 [APP-045]** **RR by Breadsall Parish Council [RR-001]**	a) Response to be provided by Breadsall Parish Council.

No	Question to	Reference (in bold) and Question	Applicant's Response
	Breadsall Parish Council	Breadsall Parish Council has suggested that the tree belt on the east side of the Little Eaton junction should be made wider and use evergreen species a) Breadsall Parish Council - please expand on the justification for this suggestion. b) Applicant – please comment on the merits and implications of this suggestion.	b) Woodland planting to the eastern side of the A38 has been included for visual screening and ecological purposes (refer to Environmental Masterplan ES Figures 2.12F/ 2.12G **[APP-068]**). It is not possible to move the highway drainage ponds further to the east as these features need to be located where water can naturally drain to. It is considered that with the provision of the noise/ screening barriers along the mainline and the off-slip to the A61, together with woodland planting on the A38 mainline embankment (approximately 10m wide), that appropriate landscape screen mitigation planting has been included in the Scheme design. Provision of additional woodland planting elsewhere would increase permanent land take of adjacent land which we consider cannot be justified. At present the landscape design specifies that the tree belt on the east side of Little Eaton junction would comprise 10% evergreen species. Given the ecological function of the woodland planting, it would not be appropriate for the whole woodland to comprise evergreen species. However, Highways England confirms that the evergreen mix in the woodland planting can be reviewed during the detailed design.
	Townscape and visual impacts		
9.14	Applicant	**ES Chapter 7 [APP-045]** **Works Plans [APP-009]** Kingsway junction northern dumbbell – please provide more detail (including a cross section) showing the relationship between new carriageway and adjoining open space, existing and proposed tree planting and houses on Greenwich Drive South.	*A cross section will be produced and submitted to the ExA for Deadline 2.* Environmental Masterplan as included in ES Figure 2.12B **[APP-068]** illustrates the relationship between the Kingsway junction northern dumbbell, embankment planting, the adjoining public open space, existing vegetation and the houses on Greenwich Drive South. Reference should also be made to the landscape design drawing as detailed in ES Figure 7.8A **[APP-094]**. These plans illustrate that moving from the northern dumbbell, the roundabout embankment would be planted with shrubs and intermitted trees (landscape planting mix LE2.5) – such shrub and intermitted tree planting on the embankment would be over the area defined as constituting loss of public open space (refer to ES Figure 2.8 **[APP-064]**). At the base of the embankment woodland edge planting (LE2.1) would be provided, through which the realigned footpath/ cycleway would pass (on areas designated as existing public open space). Areas beyond the woodland edge planting would retain

No	Question to	Reference (in bold) and Question	Applicant's Response
			existing vegetation which comprises open grassland as well as a belt of trees that traverse Greenwich Drive South. A cross section confirming these details will be prepared which will be submitted to the ExA for Deadline 2 (19 November 2019).
9.15	Applicant	**General Arrangement Plan [APP-010]** **Environmental Masterplans [APP-068]** Kingsway junction - GA drawing shows access to a (buried?) drainage feature adjacent to the northbound diverge slip (Works No 2a). The access is not shown on Environmental Masterplan. a) Should the access be directly off of the slip road? b) Please clarify and expand on the design of the access and the storage facility.	a) Access directly off the slip road is the only realistic option – any alternative would require a lengthy detour and the provision of an access track (and associated rights) across Mackworth Park. The access is purely for maintenance and as such its use would be limited and strictly controlled. The slip road is lightly trafficked and has a hard shoulder, so the access offers a safe, easy and most direct access to the drainage feature. b) The access will be a gated feature beyond the highway boundary. Outside the highway boundary the track surface will be a 'grass concrete' pavement feature, this will help blend the drainage infrastructure into the park space. The buried storage tank has been included in the design to ensure the drainage attenuation features do not impact on the Public Open Space. The buried feature will be grassed over allowing public access across it. The outfall from the tank will release water a controlled rate into an open swale ditch feature.
9.16	Applicant	**Figure 7.5 [APP-091]** VPs 3 and 4. The existing planting at the Kingsway junction effectively screens views across the A38 to the area to the west. Please comment on whether the proposed dumbbell would create a gap in the planting and open a view across the road?	The proposed dumbbell arrangement at Kingsway junction will open up views through the existing planting across the junction from the east and west. Views of the proposed larger junction will be obtained by receptors at viewpoints 3 and 4 (refer to ES Chapter 7: Landscape and Visual **[APP-045]**) e.g. vehicle travellers on the A5111 and pedestrians using the footpaths on the A5111. Such receptors are not considered to have a high sensitivity, due to their current low value view of the A38. Residents in this location are located further away from the Scheme and will not have views to the full extent of the larger junction due to the existing intervening vegetation and mitigation planting once it has matured.
9.17	Applicant	**Figure 7.5 [APP-091]** **Figure 7.1A [APP-085]** VPs 7 and 8.	a) Viewpoint 7 provides a panoramic vista towards Markeaton junction in the left of the photograph. The right of the photograph is directed towards Greenwich Drive North in a southerly direction. The arrow has been drawn in the direction of the Markeaton junction as that is intended to be the focus of the shot. b) Viewpoint 8 is considered to be low susceptibility and low value as it is a direct view of the A38 and its signage and lighting. Viewpoint 7 is largely located

No	Question to	Reference (in bold) and Question	Applicant's Response
		a) Figure 7.1A arrow for VP7 appears to be in the wrong direction? b) Please clarify why VP8 is considered to be of low value/low sensitivity whereas VP7, which is from essentially the same location and has the same receptors, is considered to be of medium value/moderate sensitivity? c) Please clarify why the impacts in VP7 are considered to be greater than VP8 when more of the Proposed Development is likely to visible in VP8?	behind a belt of existing mature trees that provides seasonal screening of the A38. This results in the A38 not being as dominant in the view from the viewpoint resulting in it being more susceptible and being a higher value view. c) The view from viewpoint 8 will not be significantly changed in nature, where as in viewpoint 7 the vegetation that currently screens views of the A38 will be removed such that views of the new A38 and associated noise barrier will be opened up – this will significantly change the nature of the view at viewpoint 7. Therefore, the magnitude of impact at viewpoint 7 is considered to be greater than the impact at viewpoint 8.
9.18	Applicant	**Figure 7.5 [APP-091]** VP9. a) Please comment on how the Park and its boundary planting contribute to the value of this view? b) The Proposed Development would bring the roundabout closer to this VP and limited tree planting is proposed on the east side of the roundabout. In this context, to what extent would the planting mitigate the visual impact of the Proposed Development?	a) Mature trees along the boundary of Mackworth Park sit within the background of this view and are beyond the existing Markeaton roundabout. Whilst these mature trees provide seasonal change and screening during the summer months, they do not form the dominant element in the view. The dominant view is of the A52 Ashbourne Road and Markeaton junction, along with highway signage and lighting. The boundary planting is more evident in the summer months when in full leaf, but it is still within the background of the view. b) With the Scheme, the new A38 will pass below Markeaton junction within cutting. Planting within this constrained location will aim to integrate and partially screen the Scheme, providing some mitigation to visual receptors. Landscape planting proposals are illustrated in ES Figure 7.8B **[APP-094]** and includes tree planting within the junction roundabout, as well as tree planting where the A38 off-slip joins the A52 and to the south of the junction adjacent to the A38 northbound on-slip from the A52.
9.19	Applicant	**Figure 7.5 [APP-091]** **Figure 7.1A [APP-085]** **Appendix 7.1 [APP-176]**	Viewpoint 10 is located on the pedestrian footpath (looking towards the reinstated park gates) to the west of the vehicle entrance road and east of the vehicle exit road. The arrow has been incorrectly drawn in ES Figure 7.1A **[APP-085]** – as such this figure will be amended and re-issued for Deadline 2 (19 November 2019) with the correct location shown.

No	Question to	Reference (in bold) and Question	Applicant's Response
		VP10. The arrow on Figure 7.1A appears to be in the wrong place. a) Would a VP from the position of the arrow in Figure 7.1A be more representative since it would allow the effects of the revised access into the Park to be assessed in Appendix 7.1? b) Summer and winter photos in Appendix 7.1 appear to be taken from different positions. Please comment.	a) It is felt that this viewpoint is an appropriate location and was determined under consultation. This representative location is closest to the junction and has the potential to be affected by the Scheme development proposals. b) Please see revised ES Figure 7.1A **[APP-085]** with the location arrow amended.
9.20	Applicant	**Figure 7.5 [APP-091]** **Environmental Masterplans [APP-068]** VP12. The Environmental Masterplan indicates a single row of new trees between this VP and the widened road. To what extent would the new trees filter views?	Landscape planting proposals are illustrated in ES Figure 7.8B **[APP-094]** and includes tree planting within the junction and to the south of the A38 northbound on-slip from the A52. These areas of new tree planting will be in locations where there are no existing trees. Such planting will thus provide additional partial screening of the widened road (which will be in cutting) from this footpath which currently has a direct view of the existing A38. Such trees will increasingly filter the view as they mature.
9.21	Applicant	**Figure 7.5 [APP-091], Environmental Masterplans [APP-068], Appendix 7.1 [APP-176]** VP13. The Environmental Masterplan indicates that there would be no new planting to replace the existing trees to be removed in the vicinity of the footbridge. However, the assessments at Appendix 7.1 and Table 7.42 imply that there would be replacement planting at this location.	Landscape planting proposals are illustrated in ES Figure 7.8B **[APP-094]** and includes a belt of tree planting along the boundary of the new A38 within Markeaton Park. The replacement planting referred to within the assessments at Appendix 7.1 **[APP-176]** and ES Table 7.42 (ES Chapter 7: Landscape and Visual **[APP-045]**) comprises a row of individual trees to the south of the footbridge. Planting in this location is limited due to services and visibility splays, therefore, more extensive planting in this area has not been possible. The retained boundary trees around the park, including by the footbridge will contain most of views of the Scheme from viewpoint 13. However, there may be some increased views of the footbridge as detailed in the assessment for viewpoint VP 13.

No	Question to	Reference (in bold) and Question	Applicant's Response
		Please clarify whether replacement planting is proposed at this location. If, as the Environmental Masterplan indicates, none is proposed, would this open up views to the road?	
9.22	Applicant	**Figure 7.5 [APP-091]** **ES Chapter 12 [APP-050]** VPs 14 and 15. ES Table 12.13 (Sensitivity of PEC routes) finds the sensitivity of the Bonnie Prince Charlie National Trail to be high. Should the value of these views reflect that sensitivity?	The sensitivity of the Bonnie Prince Charlie National Trail was defined as being high within ES Chapter 12: People and Communities, Table 12.13 **[APP-050]** on the basis that this is a "National or regional trails and routes likely to be used for recreation that record high use" in accordance with Table 12.2 **[APP-050]**. The sensitivity of the route is judged to be high because of the number of people affected by the effects upon regional leisure, and not on the basis of the associated views. Landscape and visual sensitivity are judged upon a different set of criteria, combining the value of the view and its susceptibility to change. It has been assessed that viewpoints from Markeaton footbridge do not have a high sensitivity as the value of the existing view of the A38 is low and the susceptibility to change is low. The use of the footbridge is to access areas on either side of the footbridge and not specifically for the enjoyment of a view.
9.23	Applicant	**Figure 7.5 [APP-091]** VPs16, 17, 18, 22, 23 and 24. a) To what extent would the elevated section of the road appear on the horizon in these views? Irrespective of the proposed planting, please comment on the extent to which it would it alter the character of the landscape? b) Given that most of new tree planting would be on the embankments below the elevated carriageway, how effective would it be in screening views?	a) Landscape planting proposals are illustrated in ES Figure 7.8C [APP-094]. The proposed planting is considered an integral part of the Scheme design – such planting is embedded mitigation and has been included in the assessment as stated in the methodology – para. 7.3.28 of the ES Chapter 7: Landscape and Visual [APP-045]. Commentary is provided below on the various viewpoints located in the vicinity of the junction: • VP 16 and 17: The elevated mainline A38 over Little Eaton junction and the southbound on-slip will be visible in the far distance from these viewpoints and will be more evident within the views than at baseline. This will therefore increase the amount of highway infrastructure within the view, whilst the highways infrastructure will also affected the landscape character of this area. However, it is considered that the Scheme proposals will only slightly change the character of the views from these viewpoints. • VP 18: The elevated mainline A38 over Little Eaton junction will be more visible in the middle ground of this view located on the A61 looking north and

No	Question to	Reference (in bold) and Question	Applicant's Response
			will increase the percentage of highway infrastructure visible within the view. The Scheme will further increase the highway infrastructure character that is already currently heavily affecting the view and landscape character of this area. • VP 22: The elevated mainline A38 over Little Eaton junction will be located behind a noise/ screening barrier at this location (located on Ford Lane in front of the Ford Farm Mobile Home Park). The barrier will form a new and dominant feature within views obtained from this location. The amount of highway infrastructure within the view will decrease. • VP 23: The elevated mainline A38 over Little Eaton junction will be more visible in the middle ground of this view and will increase the presence of highways infrastructure visible within the view (located on Breadsall Footpath FP3). The Scheme will further increase the highway infrastructure character that is already currently slightly affecting the view and landscape character of this area. • VP 24: The elevated mainline A38 over Little Eaton junction will be more visible in the middle ground of this view (located on Breadsall Footpath FP2) and will increase the amount highway infrastructure visible within a view that is already currently slightly affecting the view and landscape character of this area. b) Landscape planting proposals are illustrated in ES Figure 7.8C **[APP-094]**. Planting includes woodland and woodland edge traversing the off-slip onto the A61 and along the A38 mainline southbound embankment. By year 15 after Scheme opening it is considered that the trees planted will have reached approximately 6m in height, given a conservative minimum growth rate of approximately 0.3m a year, although the actual growth rate may be more. The new A38 mainline will be located on embankment with a height of approximately 11m above ground level and approximately 9m above existing carriageway. The tallest vehicles using the mainline are considered to be HGVs at approximately 4.5m high. As trees will be planted on the entirety of the embankment to within 5m of the carriageway as per DMRB Volume 10 Section 1 Part 2 HA 56/92 Chapter 12 (Highways England 2001), it is considered that trees at the top of the embankment would provide adequate screening from surrounding areas. It is

No	Question to	Reference (in bold) and Question	Applicant's Response
			also noted that the mainline A38 and the A61 slip road would also be provided with a 2.5m high noise/ screening barrier, which would be effective in screening views of traffic (other than HGVs).
9.24	Applicant	**Figure 7.5 [APP-091]** VP20 - given the relatively small contribution which the A38 currents makes to this view, please comment on whether its susceptibility should be greater than low?	Given the impacts of the Scheme at construction, year 1 and year 15 are assessed to be no change due to the distance between the Scheme and the viewpoint, the resulting effect would remain neutral regardless as to whether the viewpoint sensitivity is amended from low to moderate.
9.25	Applicant	**Figure 7.5 [APP-091]** **Works Plans [APP-009]** VP22 – please comment on how the height and proximity of the elevated carriageway have been considered in the assessment of impact, irrespective of the screening effect of planting and noise barriers?	The height and proximity of the proposed elevated carriageway at Little Eaton junction have been considered as part of the assessment of impact, noting that the proposed landscape planting forms an integral part of the Scheme. In addition, the noise/ screening barrier also forms an essential component of the Scheme design in this location. Thus, the physical characteristics of the Scheme engineering design as well as the integrated environmental mitigation features have been taken into consideration during the impact assessment process. As detailed in ES Chapter 7: Landscape and Visual **[APP-045]**) para. 7.3.28 "when assessing the potential significance of landscape and visual effects, impact avoidance measures embedded in the Scheme design have been taken into account, as have standard environmental management activities (refer to Section 7.9)". Para. 7.3.29 also states that "*All embedded, standard and additional mitigation measures have been developed as part of an iterative design process within the Scheme design team*." This approach is consistent with the EIA approach concerning the consideration of mitigation measures as detailed in ES Chapter 4: Environmental Impact Assessment Methodology **[APP-042]** para. 4.3.19 to 4.3.22. It is not considered appropriate or realistic to remove such environmental mitigation measures from the assessment as they form an integral part of the Scheme. It is also noted that the Outline Environmental Management Plan (OEMP**) [APP-249]** identifies and provides a mechanism to secure the mitigation measures proposed by

No	Question to	Reference (in bold) and Question	Applicant's Response
			the Scheme, with implementation of the OEMP being a covered by Requirement 3 in the dDCO **[APP-016]**.
9.26	Applicant	**Figure 7.5 [APP-091]** **Environmental Masterplans [APP-068]** Markeaton junction – there would be a loss of tree planting at the junction of Greenwich Drive North and Enfield Road. Please comment on the adequacy of its replacement with shrub planting – particularly having regard to the impact on outlook for the occupiers of adjacent dwellings.	Landscape planting proposals are illustrated in ES Figure 7.8C **[APP-094]**, whilst the Environmental Masterplan ES Figure 2.12C **[APP-068]** provides details of environmental mitigation features and their associated objectives. It is recognised that the Scheme would result in the loss of existing trees that traverse Greenwich Drive North and trees at the junction of Greenwich Drive North and Enfield Road, all of which provides some screening of the existing A38. Due to the limited amount of space available at the junction of Greenwich Drive North and Enfield Road, an area of shrub planting will be provided. In addition, a 1.5m high absorptive noise barrier would be provided that traverses the northbound A38 mainline between Brackensdale Avenue bridge and Markeaton junction. This noise barrier would be planted with climbing species in this location, which collectively will aid the screening of vehicles from nearby residential properties, thereby reducing visual effects. Noise barriers in this location will be 1.5m in order not to overly obscure views from nearby properties. It is also noted that the new A38 at this location will be moving into cutting in order to pass beneath the new Markeaton junction, whereas at present the A38 passes this location at approximately the same height as the adjacent buildings. With provision of the shrub planting, the noise barriers and associated climbing vegetation, together with the A38 mainline descending into cutting, it is considered that the environmental mitigation proposals have been optimised given the available space constraints.
9.27	Applicant	**ES Chapter 7 [APP-045],** **Works Plans [APP-009]** **RR by DCiC [RR-003]** Markeaton Park – please provide further details on the proposals to replace the Park boundary walls and gates, including the potential to re-use the existing materials.	As stated in Highways England's response to the relevant representation **[APP-083]**, details regarding the heritage importance of the Markeaton Park boundary wall are detailed in ES Chapter 6: Cultural Heritage (refer to para. 6.9.33) **[APP-044]**. As detailed in Section 6.14, the section of the Markeaton Park boundary wall which would be impacted by the Scheme would be carefully dismantled and rebuilt on a new alignment that is sympathetic to the significance of Markeaton Park. The Outline Environmental Management Plan (OEMP) **[APP-249]** MW-CH1 in Table 3.2b states that: "*The main works contractor shall ensure that Markeaton Park boundary wall is carefully dismantled and rebuilt on a new alignment according to an approved design that is agreed with the DCiC conservation officer*". It is anticipated that this will involve the removal and re-use of stone from the existing wall. The OEMP is a

No	Question to	Reference (in bold) and Question	Applicant's Response
			requirement of the draft DCO. The DCiC conservation officer has requested that a Method Statement is prepared covering the Markeaton Park boundary wall relocation and reconstruction details (e.g. mortar details etc.). Such a Method Statement will be prepared (forming part of the contractor's Construction Environmental Management Plan (CEMP)), which will be discussed and agreed with the DCiC conservation officer. The Method Statement will also consider the relocation and reconstruction details associated with the Deaf School boundary wall. As detailed in ES Chapter 6: Cultural Heritage, Table 6.11 **[APP-044]**, the renovated park gates and pillars at Markeaton Park would not be affected by the Scheme construction works, although construction activities would take place in close proximity. As detailed in ES Chapter 6: Cultural Heritage, Table 6.11 **[APP-044]**, mitigation would entail "*Protective fencing to ensure that the gates and pillars are not damaged during construction activities*". Such measures are also stated in the OEMP **[APP-249]** (refer to PW-CH4 in Table 3.2a) which are subject to agreement with the Derby City Council conservation officer.
9.28	Applicant	**ES Chapter 7 [APP-045]** **Works Plans [APP-009]** **RR by Royal School for the Deaf Derby [APP-019]** a) Please provide further details on the proposals for boundary walls and gates at the Royal School for the Deaf Derby, including the potential to re-use the existing materials. b) Please provide further details and comment on the visual effect of the proposed 4m high acoustic barrier.	a) The "Mundy" wall forms the perimeter of the RSDD with the A52 Ashbourne Road. The section of the wall between the proposed Markeaton junction and the RSDD's access from Ashbourne Road will be taken down and relocated to form the new boundary creating the visibility splay for the school's access. The salvageable stone in the existing wall will be reused and any stone not suitable for reuse will be replaced. It is noted that as requested by the Derby City Council (DCiC) conservation officer, a Method Statement will be prepared by the construction contractor covering the Deaf School boundary wall relocation and reconstruction details (e.g. mortar details etc.). Such a Method Statement will be prepared (forming part of the contractor's Construction Environmental Management Plan (CEMP)), which will be discussed and agreed with the DCiC conservation officer. The alterations to the RSDD's access will require the replacement of the existing steel gates and fence. The proposed alterations will widen the access to permit two vehicles to pass one another when using the access. This arrangement requires the replacement of the existing gates as they would be no longer suitable in the new arrangement. The design of the access and gates will be finalised during the Detailed Design stage.

No	Question to	Reference (in bold) and Question	Applicant's Response
			b) When viewed from the A38 the 4m high acoustic barrier will be partially screened and softened by the proposed planting within the public open space, the barrier itself will also be screened with climbing species planted in front of it From the Royal School for the Deaf the climbing plants in front of the barrier will also aid the integration of the barrier into the landscape and the view.
9.29	Applicant	**ES Chapter 7 [APP-045]** **Works Plans [APP-009]** Little Eaton - Some of the windows in the Ford Lane mobile homes face the elevated section of the road. Please comment further on the effect of the Proposed Development on the outlook from these windows.	Mobile homes within the Ford Farm Mobile Home Park off Ford Lane with windows facing the direction of the Scheme will have limited views of the elevated section of new A38 mainline, with its associated 2.5m high noise/ screening barrier. This is the case given that the new A38 mainline will be further from the park than the existing A38, whilst the existing screening vegetation along both sides of Ford Lane will be retained – refer to Environmental Masterplan ES Figure 2.12F **[APP-068]** and the landscape design drawing ES Figure 7.8C **[APP-094]**. In addition, proposed woodland planting on the new embankment will further filter the views from these properties.
	Artificial light		
9.30	Applicant	**ES Chapter 7 [APP-045]** ES paragraph 7.9.2 3rd bullet. a) Does this mean that there would be lighting columns at ground level at the Little Eaton junction? b) Would there be lit signage of the elevated section of the carriageway?	a) The design includes for lighting to be provided on the ground-level roundabout below the A38 main carriageway, including the A38 northbound diverge slip road and southbound merge slip road. The lighting provision here is to provide continuity for the drivers; this conforms with design standard TD34/07 (para 3.13, 3.14, 3.15 and 3.19) b) Due to the area being lit, it is envisaged that signs will be lit on the slip roads and roundabout with the potential for other signs to be individually lit on the mainline if they are within a lit zone or within 50m of a street light (TSM Ch 1 para 11.2.3 and 11.3.1-11.3.5, Ch 3 para 1.12.1, Ch 4 para 1.13.2, TSRGD 2016 Reg. 8). Lighting on the mainline will require site checks to ensure adequate visibility during the hours of darkness (TSM Ch 1 para 11.2.7). All signs will be reflectorised following best practise using the UK National Annex to BS EN 12899-1 as how and the level of lighting for signs is not regulated.
9.31	Applicant	**ES Chapter 7 [APP-045]**	The existing A38 through Kingsway and Markeaton junctions is currently illuminated as will be the corresponding length of the Scheme. The surrounding urban streets and connecting roads are illuminated. The Scheme will utilise LED lantern

No	Question to	Reference (in bold) and Question	Applicant's Response
		Please provide light spill diagrams for the Scheme.	equipment and CRD system to control light levels during less busy periods of darkness so it is anticipated that light spillage from the A38 will reduce once the Scheme is implemented. For Little Eaton junction it is only proposed to illuminate the roundabout and the southbound merge and northbound diverge slip roads so again, it is anticipated that light spillage from the A38 will reduce once the Scheme is implemented. Refer to ES Chapter 7 **[APP-045]** Sections 7.8, 7.9 and 7.10 and to Requirement 16 Schedule 2 of the dDCO **[APP-016]**. At this stage light spillage diagrams have not been produced for the Scheme; Highways England would be happy to provide such diagrams if the Examining Authority could clarify for what purpose they would need to serve (e.g. are they required for a specific location or receptor?). Selective lux contours plans can be produced if requested. Lux contours (and indeed other measures of calculating light intrusion) should only be undertaken for specific locations or receptors in order to provide meaningful information for analysis. Contour plans can demonstrate the lux level (amount of light falling on a surface) in a particular area and how far it extends from the source of light. These lux contours usually demonstrate lighting on the horizontal plane at ground level. However, even with the most sophisticated lighting simulation programs it is not possible to model the full impact of the lighting contours. In addition, these contours do not model the impact of lighting in the vertical plane or illustrate glare.
	Potential impacts, mitigation, opportunities for enhancement		
9.32	Applicant	**ES Chapter 7 [APP-045]** There are inconsistencies between the assessments of susceptibility of the Landscape Character Areas in Tables 7.10-7.19 and Tables 7.20-7.29/7.31-7.40. Please clarify.	The tables in ES Chapter 7: Landscape and Visual **[APP-045]** have been check**ed** for inconsistencies regarding defined Landscape Character Area susceptibility, and some errors have been found. Baseline susceptibility details as provided in ES Tables 7.10 to 7.19 are correct. As such, the following corrections are required: • Table 7.21 LCA 2 states moderate sensitivity and moderate susceptibility, whereas it should read moderate sensitivity and low susceptibility. • Table 7.24 LCA 5 states moderate sensitivity and high susceptibility, whereas it should read moderate sensitivity and low susceptibility.

No	Question to	Reference (in bold) and Question	Applicant's Response
			• Table 7.25 LCA 6 states moderate sensitivity and high susceptibility, whereas it should read moderate sensitivity and medium susceptibility. • Table 7.26 LCA 7 states moderate sensitivity and low susceptibility, whereas it should read moderate sensitivity and medium susceptibility. • Table 7.27 LCA 8 states moderate sensitivity and high susceptibility, whereas it should read moderate sensitivity and medium/low susceptibility. • Table 7.29 LCA 10 states moderate sensitivity and high susceptibility, whereas it should read moderate sensitivity and medium susceptibility. • Table 7.32 LCA 2 states moderate sensitivity and low susceptibility, whereas it should read moderate sensitivity and medium susceptibility. • Tables 7.35, 7.36, 7.37, 7.38, and 7.40 should refer to moderate sensitivity rather than medium sensitivity. However, it is noted that these changes do not change the overall assessment of the significance of the effects. Such tables will be resubmitted for Deadline 2 (19 November 2019).
9.33	Applicant	**ES Chapter 7 [APP-045]** ES Tables 7.31-7.40 set out the assessments of impact on landscape character. However, they appear to concentrate on the effect of the proposed planting and say little about permanent land-take and increases in built area and height (at Little Eaton in particular) created by the Proposed Development. DCC has also expressed concern that the assessment of landscape impact is too simplistic. Please comment.	The landscape and visual assessment is appropriate, proportionate and has been undertaken in accordance with guidance in both DMRB and GLVIA 3. With respect to the assessment of the Scheme on Landscape Character Area (LCA) 10 Little Eaton and Breadsall Greenbelt, permanent land-take and increases in built area and form and the height of the A38 mainline embankment have been considered. The assessment states that the inclusion of the A38 on an elevated embankment would create new noticeable features within the landscape at Year 1, creating a greater influence on the LCA than at the baseline year (noting that lighting columns would not be placed along the new A38 mainline), resulting in a moderate adverse effect which is significant. However, with maturing planting on the embankments by Year 15 (as per the landscape design as illustrated in ES Figure 7.8A-C **[APP-094]**), it is assessed that the effect on the LCA would decrease, given that the planted embankments would be consistent in character within the existing and adjacent sections of the A38, which both to the north and south is located on planted embankments, and have associated highways infrastructure including signage and lighting.

No	Question to	Reference (in bold) and Question	Applicant's Response
9.34	Applicant	**ES Chapter 7 [APP-045]** **ES Figures 7.8a-c [APP-094]** How has the existing landscape character been considered in: a) The profiles and gradients of embankments - particularly at Little Eaton? b) The layout and mix of species used for woodland tree planting?	a) As detailed in ES Chapter 7: Landscape and Visual **[APP-045]** *"Environmental considerations have been taken into account during the development of the Scheme design, to avoid and reduce potential impacts on the prevailing landscape and visual receptors. This iterative approach has led to a range of mitigation measures capable of reducing the magnitude of impacts being embedded within the Scheme design."* With regard to Little Eaton junction embankment, the landscape team fed into discussions regarding the gradient of the proposed embankment, namely to ensure that the gradient selected would be suitable for tree and shrub planting, as with a greater than a 1:2.5 slope, establishing planting becomes more difficult. The landscape team also fed into the assessment of options as covered in ES Chapter 3: Scheme History and Assessment of Alternatives **[APP-041]** e.g. during the consideration of options such as Option 3A and the Southern Sweep, both of which use retaining walls, which would locally restrict the ability to use tree planting as a landscape/ visual mitigation technique. b) The layout of new planting, as per the landscape design as illustrated in ES Figure 7.8A-C **[APP-094]**), has been developed to integrate with the existing vegetation in the area, to promote biodiversity and habitat links, create visual cohesion between the Scheme and the surrounding landscape, as well as providing local visual screening. The species selection process has been informed by a combination of site surveys and published data from Natural England within the landscape character descriptions, in combination with target species information as requested by ecological specialists working on the Scheme. We have also sought to include some evergreen species in the mix to afford some additional winter screening.
10	**Land use, social and economic impacts**		
	Open space and recreational land		
10.1	Applicant DCiC	**ES Chapter 12 [APP-050]** **ES Figure 2.9 [APP-065]**	Attention is drawn to the Planning Statement **[APP-252]** paragraphs 5.1.16- 5.1.39 which include a comparison of the existing open space land and the proposed

<table>
<tr><th>No</th><th>Question to</th><th>Reference (in bold) and Question</th><th>Applicant's Response</th></tr>
<tr><td></td><td></td><td>The Planning Act 2008 S131(12) requires replacement open space to be "no less advantageous". The replacement open space is dealt with at ES paras 12.10.85 (construction) and 12.10.99 (operation). However, there is little comparative assessment of the existing and replacement areas.
Please comment further on the respective spaces in terms of:
• function/utility;
• convenience and accessibility;
• the fact much of the open space which would be lost is contiguous with Markeaton Park; and
the relatively narrow, linear shape of the replacement space to the east of Queensway.</td><td>replacement land, in the context of the Planning Act 2008. Highways England would wish to make the following supplementary comments as set out in the table below.

<table>
<tr><th>Parameter</th><th>Existing Open Space to be acquired</th><th>Replacement Open Space</th></tr>
<tr><td>Function/utility</td><td>Land adjacent to Mackworth Park/Part of Greenwich Drive South (Special Category Land Plans – Sheet 2). The land within Greenwich Drive South mostly consists of a landscape buffer to the edge of the A38 acting as a visual screen between the road and the remaining open space. The land adjacent to Mackworth Park comprises in part a planted wooded area, adjacent to the footpath. It is outside the formal public open space designation that covers Mackworth Park (although it is proposed as a formal designated open space within Derby City Council's emerging local plan). It supports accessibility to the formal public open space at either side, but as such is</td><td>Brackensdale Avenue (noting that this alone does not replace the full extent of the land to be lost at Kingsway, with the Queensway Land also being replacement land in part).
Following works, including the closing off of the link with the A38, the land would lie adjacent to an existing area of informal open space. This combined open space land is a more open area of land with greater flexibility for different types of recreational use. It encourages the formal designation of the adjacent land as public open space as a new enhanced larger area of land, that is not impacted by passing traffic along Brackensdale Avenue.</td></tr>
</table></td></tr>
</table>

No	Question to	Reference (in bold) and Question	Applicant's Response		
				not considered to be a destination in its own right.	
			Convenience and accessibility	The collective land has good accessibility from various points along Greenwich Drive South and is convenient and highly accessible to the residential population to the west of the Kingsway Junction.	The land lies to the west of the Kingsway junction and would serve and be highly accessible to the existing residential population along Brackensdale Avenue, Greenwich Drive South and the surrounding interconnecting roads.
			Function/utility	**Land (various) to the periphery of Markeaton Park (Special Category Land Plans – Sheets 3 and 4)** The land comprises various linear strips to the outer edges of Markeaton Park, adjacent to both the A38 and the A52, which has limited function as actively useable public open space, given its proximity to these roads. Has the appearance of highway verge and in this regard offers a degree of separation from the main open areas of the park and the surrounding highway infrastructure.	**Queensway** The land lies adjacent to an existing area of public open space to the north-east (on the south eastern side of the A38). Its overall linear nature reflects the characteristics of the land it is proposed to replace forming direct links with this surrounding public open space. The land will be a larger more consolidated open space in its own right, with associated landscaped features. With its links to surrounding land the replacement land is considered to represent a

No	Question to	Reference (in bold) and Question	Applicant's Response		
				Functions as a means to access the park, rather than being a destination in its own right for public recreational purposes. Although Markeaton Park is a high value recreational space, the areas to be lost perform more poorly in their functionality and in this respect, their loss is considered unlikely to erode the functional value and quality of the park.	destination in its own right, rather than being an area to pass through as a means to access other areas.
			Convenience and accessibility	Performs highly in respect of accessibility and convenience as much of this land lies adjacent to various routes into Markeaton Park and in this respect, it forms the means to access the park, albeit that it is an area whereby users of the open space pass through based on its functionality and appearance.	As one of only two City Parks within the Derby Area and being a significant and flexible public open space, Markeaton Park has a local and a regional draw in respect of visitation. Whilst the replacement land lies to the other side of the A38, the land will be highly accessible and convenient for users via the replacement Markeaton footbridge and through other public footpath links; both existing and those that would form part of the

No	Question to	Reference (in bold) and Question	Applicant's Response
			new public open space land. It is considered to compliment and enhance both Markeaton Park and the existing public open space land that lies adjacent.
10.2	Applicant DCiC	**ES Chapter 12 [APP-050]** **ES Figure 2.9 [APP-065]** Markeaton - Part of the replacement open space is land below the existing footbridge. a) Please confirm the status of this land. b) Does it amount to open space? If so, can it count as replacement land?	a) The land in question is part of the footprint of the existing footbridge, including the land underneath it, which would be demolished as a result of the Scheme. b) Whilst the land has a policy designation as public open space, it is not actively used for this purpose, being land underneath a structure that seeks to facilitate and provide access to the surrounding public open space and is also largely inaccessible, forming part of the supporting structure (pillars) and landing ramps for the existing footbridge. Highways England have approached the issue of public open space loss and replacement in a precautionary way, in order that the worst-case scenario is reported. Accordingly, for the purposes of calculating the loss of public open space, account has been taken of all parts of the new replacement footbridge (including the supporting parts of the structure), particularly where they form part of formally designated open space. Conversely, the same principle has been applied in respect of gains to be secured through the demolition of the existing structure, which will introduce some new unhindered areas of open space, once the structure has been demolished. Accordingly, in the circumstances, Highways England considers that the land in question is appropriate replacement land for the POS that will be lost for the scheme.
	Acceptability of land issues and compliance with development plans		
10.3	Applicant	**ES Chapter 12 [APP-050]** **Planning Statement [APP-252]**	The development plan and local transport plan policies are referred to within the Planning Statement **[APP-252]** at paragraphs **2.1.16 - 2.1.21** (in summary only) and in greater detail within paragraphs **6.41 - 6.4.42**. The reference points to the source

No	Question to	Reference (in bold) and Question	Applicant's Response
		Please provide the full text of the development plan and Local Transport Plan policies relied upon in support of the Proposed Development (Planning Statement paras 2.1.16-2.1.21).	documents as they are referred to within paragraphs **2.1.16 - 2.1.21** are clarified below. Derby City Local Plan – Part 1 Core Strategy (2017), attached in Appendix F **[APP 8.5.1]**. Please refer to policy CP24 (Transport Infrastructure) and paragraph 5.24.4 on page 71. Derby Local Transport Plan (LTP3) (2011) Please refer to paragraph 2.23 on page 15 and paragraph 4.13 on page 35. Derbyshire County Council Local Transport Plan (DLTP) (2011) Please refer to page 65 under the heading of 'A453 and A38 Derby Junctions.' City of Derby Local Plan Review (CDLPR) (2006) Please refer to page 12.6 Chapter 12 Transport. For the avoidance of doubt, please find enclosed a PDF document containing the full extent of the development plan and Local Transport Plan policies as referenced above.
10.4	DCiC EBC DCC	**ES Chapter 12 [APP-050]** **Planning Statement [APP-252]** a) Do the Councils agree that the policies referred to in Planning Statement paragraphs 2.1.16-2.1.21 amount to full list of the relevant policies? b) If not, what other policies are relevant and why? c) Please supply the full text of any additional policies.	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
10.5	Applicant EBC	**ES Chapter 12 [APP-050]** **Planning Statement [APP-252]** **National Planning Policy Framework (NPPF)** **NPSNN** The Little Eaton junction falls within the Green Belt. Framework paragraph 146c says that local transport infrastructure which requires a Green Belt location is not inappropriate development, subject to its effect on openness. Leaving the question of openness to one side, given that the Proposed Development is a nationally significant project, does this exemption apply, in principle?	The Planning Statement **[APP-252]** submitted with the Development Consent Order (DCO) application **[Paragraph 6.2.19**] considers whether the Scheme constitutes appropriate development within the Green Belt as summarised below. *Paragraph 5.178 of the NPSNN states that when located in the Green Belt, National networks infrastructure projects may comprise inappropriate development which there is a presumption against. Notwithstanding this, it should also be noted that the NPPF acknowledges at paragraph 146 (c) that local transport infrastructure that can demonstrate a requirement for a Green Belt location can be considered as appropriate development. Whilst the Scheme by its nature is an NSIP, and thus there is a national basis in respect of need, it is also considered that the same principles of paragraph 146(c) equally apply to the Scheme, in that it comprises improvements to an existing highway located within the Green Belt and there is therefore a clear requirement for a Green Belt location. As such, there is no sequential alternative for the Scheme to be located outside of the Green Belt. Accordingly, the scheme is considered to represent appropriate development within the Green Belt.* Highways England acknowledge that by definition the exemption as stated within Paragraph 146 (c) of the NPPF does not apply, as the Scheme is an NSIP and therefore cannot reasonably be described as local transport infrastructure. Notwithstanding this, as stated in the Planning Statement, it is contended that the principles of paragraph 146(c) of the NPPF can equally apply to the A38, as the Scheme is the alteration to existing local transport infrastructure and there is a clear requirement for the Scheme to be located in its Green Belt location, because it is pre-existing infrastructure. In this regard, it is an existing and long-established road infrastructure corridor and there are no reasonable and viable alternatives to providing the necessary improvements to the Little Eaton junction in a location outside of the Green Belt, which 'washes' over the junction in its entirety. The likelihood of such schemes being located within the Green Belt, is in itself acknowledged by the NPSNN which is referred to in **[Paragraph 6.2.10**] of the planning statement which states in summary:

No	Question to	Reference (in bold) and Question	Applicant's Response
			'The identification of a policy need for linear infrastructure will take account of the fact that there will be an impact on the Green Belt and as far as possible, of the need to contribute to the achievement of the objectives for the use of land in Green Belts. ' Highways England contend that the Scheme does not materially conflict with the fundamental objectives of Green Belt policy. Moreover, there are otherwise very special circumstances, that in themselves carry significant weight and demonstrate overall compliance with the thrust of Green Belt policy as set out within both the NPSNN and the NPPF. In addition, whilst it is noted that EBC are invited to respond to this question, Highways England would refer to section 3.1.22 (under the title of Green Belt Land) of the (agreed) Statement of Common Ground between the two parties, which confirms agreement that the Scheme does not conflict with Green Belt policies as set out within the NPSNN, NPF and EBC Core Strategy and in the event that the Scheme is judged to be 'inappropriate' development, very special circumstances exist, which outweigh any perceived harm to the Green Belt. Finally, in respect of whether the Scheme represents 'inappropriate' development Highways England would also refer to the relevant representations of Derbyshire County Council which states: "A detailed assessment has been carried out by DCC of the potential environmental impacts of the scheme, especially the Little Eaton junction improvements. This assessment has concluded that the scheme would not constitute inappropriate development in the Green Belt, particularly as there is a clear need for the scheme to be provided within a Green Belt location."
10.6	Applicant EBC	**ES Chapter 12 [APP-050]** **Planning Statement [APP-252]** Openness is an essential characteristic of the Green Belt. The Applicant considers that the	a) Highways England accept that the new junction at Little Eaton will have an impact on the openness of the Green Belt, but this this would not result in material harm to the openness of the Green Belt as set out in the Planning Statement **[APP-252]** and for the reasons further explained below. Green belt is a designation of landscape value related primarily to openness between settlements rather than an indication of landscape quality. The openness is commonly referred to as the absence of built development, however it should be noted that the existing A38 corridor travels through the green belt

No	Question to	Reference (in bold) and Question	Applicant's Response
		Proposed Development would not affect the openness of the Green Belt. a) Applicant - please clarify in greater detail, having regard to the spatial and visual components of openness, why the elevated section of road, associated slip roads, structures and signage would not affect openness. b) EBC – please clarify your position regarding the effect of the elevated section of road, associated slip roads, structures and signage.	designation, severing it in a north south direction and includes; junctions, signage and large planted embankments in its current form. Where the Scheme is situated, on the southern edge of this green belt designation, openness is less due to the proximately of further built form. This includes Breadsall Village itself and whilst the village is inset from the Green Belt and the areas of Oakwood to the east and Chaddeston to the west lie outside of the Green Belt (the latter two areas falling within the administrative boundaries of Derby City Council) they set a context of denser built development, that extends in parallel at either side of the Little Eaton junction. The spatial context of this part of the Green Belt is therefore different in the extent of existing built form, in comparison to the more open and rural parts of the Green Belt that extend beyond the Scheme area to the north east, such as the area that lies between Little Eaton and Morley and beyond. The Scheme, although more elevated, has the same characteristics as the current A38 and it is considered that it does not significantly increase the extents of the A38 into the surrounding area. In addition, the Scheme design has also been carefully considered so as to minimise the extent of intrusion into the Green Belt, so far as has been reasonably possibly, whilst also delivering a Scheme design that meets with highway safety standards. To further protect against intrusion into the openness of the Green Belt, the Scheme includes the implementation of various mitigation measures within the landscape design and includes woodland and tree planting on the A38 mainline embankment and associated slip roads; amenity grassland planting on closed sections of the A38; and planting associated with the 2.5m high noise and screening barriers. Whilst this planting will need to mature and establish to its full effect, over time, this would assist in the further integration of the Scheme within the landscape. At full maturity of this planting, the changes to the landscape character would reduce to negligible, thereby further reducing the impacts on openness. This has also been considered through the assessment of visual effects at representative viewpoints 18, 20, 21, 23, 24 - residential and recreational locations as detailed in the Environmental Statement Figure 7.5 **[APP-091]**. In this respect, it is

No	Question to	Reference (in bold) and Question	Applicant's Response
			considered that the Scheme would not give to significant visual effects in the Green Belt, taking into account the maturing landscape, intervening landscape and distance from the Scheme. Taking all of these factors into account, it is the judgement of Highways England that no demonstrable and unacceptable harm would result to the openness of the Green Belt and as such there would be no material conflict with Green Belt policy objectives as set out within the NPSNN and the NPPF. In addition, whilst it is noted that EBC are invited to respond to this question, Highways England would refer to section 3.1.22 (under the title of Green Belt Land) of the (agreed) Statement of Common Ground between the two parties, which confirms agreement that the Scheme does not conflict with Green Belt policies as set out within the NPSNN, NPF and EBC Core Strategy and in the event that the Scheme is judged to be 'inappropriate' development, very special circumstances exist, which outweigh any perceived harm to the Green Belt. b) Response required from the defined local authorities.
10.7	Applicant DCiC	**ES Chapter 12 [APP-050]** **Planning Statement [APP-252]** The Planning Statement says that the "*Scheme is critical to facilitating further housing growth to the west of Derby*" and that the Scheme will release land for development in and around the city. a) Please provide details of the housing growth and development land releases, including the scale, location and planning status of the sites in question.	a) As has already been detailed in relation to question 2.4, The Derby City Local Plan - Part One (Adopted January 2017 (**Chapter 4 The Strategy for Derby – Paragraph 4.1 – 4.4**)) sets out that over the plan period (2011-2028), provision is made within the City for a minimum of 11,000 new homes and 199 hectares (gross) of new employment land. Of the planned housing, the biggest proportion is in the Littleover, Mackworth and Mickleover areas (2420 dwellings) which lies close to the A38 corridor to the west of Derby. It is therefore clear that the balance of development to come forward over the plan period will be focussed around the A38 corridor. In order to respond to this planned growth, the Scheme is essential to provide more capacity (as well as addressing an existing traffic congestion problem and conflict between local traffic and strategic traffic movements) without which the growth aspirations are likely to be adversely affected over time.

<table>
<tr><th>No</th><th>Question to</th><th>Reference (in bold) and Question</th><th>Applicant's Response</th></tr>
<tr><td></td><td></td><td>b) What evidence is there that this development would not come forward without the Proposed Development?</td><td>There are a number of development allocations within the Local Plan; some of these have already been identified in response to question 2.4. The most relevant within the A38 corridor are referred to below with details of allocations and the current status in respect of whether a planning application has been submitted.
<table>
<tr><th>Site</th><th>Local Plan Allocation</th><th>Planning Status</th></tr>
<tr><td>Manor Kingsway</td><td>AC19</td><td>Planning permission granted for 550 homes (Planning application reference 19/00677/VAR). Numbers of units contingent on offsite highway improvements to the A511 Kingsway Junction.</td></tr>
<tr><td>Hackwood Farm</td><td>AC21</td><td>Planning permission granted for the Erection of up 390 dwellings. The Hackwood Farm development, Mickleover straddles the South Derbyshire District Council/ Derby City (Planning Application reference 09/18/01415)</td></tr>
<tr><td>Rykneld Road</td><td>AC20</td><td>Residential development of up to 800 dwellings. (Planning Application reference 01/11/00023). The application has a resolution to grant planning permission subject to completion of</td></tr>
</table></td></tr>
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No	Question to	Reference (in bold) and Question	Applicant's Response

		a Section 106 Agreement.
Mickleover and Mackworth (Onslow Road)	AC22	Application for 202 dwellings (Planning application reference 19/00763/FUL – currently pending a decision).

Highways England would also draw attention to the fact that Derby City Council as local planning authority may also be aware of other development schemes that are either in the pre-application stages (and therefore not within the public realm) or other planning application and may wish to advise the ExA of other specific development opportunities.

b) Highways England acknowledge that the ExA will particularly wish to receive the comments of Derby City Council as local planning authority on this matter but would also wish to make the following comments.

As a NSIP, the Scheme is a significant project in scale and remit. In this regard, as an enabling form of linear structure it seeks to bring about benefits, in increasing the capacity of the highway network over the longer term. Given the Scheme is being delivered in a differing consenting regime (Planning Act 2008 rather than the Town and Country Planning Act 1990) Derby City Council as local planning authority are not able to secure the delivery of the Scheme in association with new development over the short or medium term. In this respect, it would be inappropriate to place direct reliance on the Scheme in supporting specific individual or small groups of development proposals. As such, this is reflected by the Derby City Local Plan – Part One, with the explanatory text associated with Policy CP24 (paragraph 5.24.1) stating that a range of transport measures are needed to support growth and that the City Council will need to work with partner organisations such as Highways England, in order to deliver schemes including the A38 Derby Junctions.

No	Question to	Reference (in bold) and Question	Applicant's Response
			As such, there is no explicit evidence that suggests the developments identified in response to part a) above will not come forward in the absence of the Scheme, but equally, it is clear that the Scheme will assist other developments that are not specified above and or are not yet committed developments (local plan allocations or planning permissions). The benefits of the Scheme will also be felt beyond the short and medium term and arguably have a greater impact over the longer term and beyond the current plan period. It is also relevant to note that in the absence of the Scheme, individual developments will need to account for their own traffic impacts, often requiring offsite highway improvements on local connecting roads linked to the A38. This in turn increases the potential to impact development viability as an additional development cost that needs to be met by the developer. Whilst there is no direct evidence presented to suggest this, it is noted that there have been a number of planning applications submitted on the Manor Kingsway site, seeking to increase the upper limit of housing permitted on this site before highway improvement works connected to the A38 Kingsway Junction are carried out. In this respect, if the Scheme was operational before these improvements were implemented, it is clear that they may no longer be needed. It is also of note that Derby City Council are still in the process of preparing the Derby City Council Local Plan Part Two and are currently at the Issues and Options consultation stage. Part two of the plan will also allocate additional residential and other development sites needed to support growth over the plan period in addition to those set out in part one of the plan. In this regard, the implementation of the Scheme is likely to continue to play a supporting role as the local plan preparation continues at the local level and Highways England would maintain bringing the Scheme forward would increase the flexibility of new development growth and support the conditions that are likely to encourage new development to come forward.
	Agricultural land, soil quality and ground contamination		

No	Question to	Reference (in bold) and Question	Applicant's Response
10.8	Applicant	**ES Chapter 10 [APP-048]** a) Table 10.3 What is the basis for the criteria used to assess the magnitude of impacts on agricultural soil resources? b) Table 10.4 How does this table consider the varying sensitivities of different type of agricultural operations described in paragraph 10.3.14? c) Table 10.5 What is the basis for the criteria used in this table? d) Table 10.12 What evidence is available to support the assessments of the impacts on severance, infrastructure and disruption?	a) Table 10.3 in ES Chapter 10: Geology and Soils **[APP-048]** provides criteria for assessing the magnitude of impact upon features/ attributes of geology and soils, which includes criteria for assessing impacts upon agricultural soils. Given the absence of any nationally agreed methodology or appropriately structured criteria for assessing levels of impact upon agricultural soils, the criteria included in the table have been developed through professional judgement, taking advice from our specialist agricultural subconsultants – Reading Agricultural Consultants (RAC). RAC have over 50 years of professional agricultural experience and regularly provides specialist agricultural inputs to EIAs for major infrastructure development projects. The levels of impact upon agricultural soils principally focuses upon the losses of soils based upon their Agricultural Land Classification (ALC), where ALC grades 1, 2 and 3a are deemed to be the best and most versatile agricultural land. The thresholds for the magnitude of impact adopted in this assessment have had regard to the statutory consultation procedures in the Town and Country Planning (Development Management Procedure) Order 2010 (Schedule 5) in which the Secretary of State for the Environment, Food and Rural Affairs has to consider proposals which individually or cumulatively involve more than 20ha of best and most versatile land. This 20ha threshold for the loss of ALC grades 1, 2 and 3a is also referenced in DMRB Volume 11 Section 3 Part 6 – Land Use. As detailed in Table 10.3, the loss of greater than 50ha ALC grades 1, 2 and 3a is defined as being a High magnitude of impact, whilst the loss of between 20ha and 50ha of ALC grades 1, 2 and 3a is defined as a Medium magnitude of impact. Losses of less than 20ha of ALC grades 1, 2 and 3a is deemed to be Low impact, whereas the loss of no agricultural soils is defined as a Very Low magnitude of impact. It is also noted that these criteria have been applied to other major highway infrastructure development projects, most recently used for the M42 Junction 6 assessment (refer to ES Chapter 10, Table 10.2). It is also noted that these assessment criteria were consulted upon via the submission of the EIA Scoping Report (refer to Table 10.5 therein). b) Table 10.4 How does this table consider the varying sensitivities of different type of agricultural operations described in paragraph 10.3.14?

No	Question to	Reference (in bold) and Question	Applicant's Response
			Table 10.4 in Chapter 10: Geology and Soils **[APP-048]** has been used to assess the significance of effects upon geology and soils by taking account of the importance or sensitivity of the receptor (refer to Table 10.2) and the magnitude of the predicted impact (refer to Table 10.3). This assessment focuses upon Scheme impacts and effects upon geological and soil resources rather than the types of agricultural practices. Thus Table 10.4 does not consider the varying sensitivities of the different types of agricultural operations as described in paragraph 10.3.14. Rather, the sensitivities of agricultural operations have been taken into account as part of the assessment of Scheme effects upon farm holdings (in accordance with Table 10.6). c) Table 10.5 What is the basis for the criteria used in this table? Table 10.5 in Chapter 10: Geology and Soils **[APP-048]** provides criteria for assessing the magnitude of impact upon farm holdings, taking account of land take, severance, impacts upon farm infrastructure and disruption to farming practices. Given the absence of any nationally agreed methodology or appropriately structured criteria for assessing levels of impact upon farm holdings, the criteria included in the table have been developed through professional judgement by our specialist agricultural subconsultants – Reading Agricultural Consultants (RAC). These criteria have been developed by RAC over many years and have been applied to numerous major infrastructure development projects e.g. during the assessment of the A303 Stonehenge scheme of farm holdings (refer to ES Chapter 13, Table 13.8) and the M42 Junction 6 assessment (refer to ES Chapter 13, Table 13.6). It is also noted that these assessment criteria were consulted upon via the submission of the EIA Scoping Report (refer to Table 13.9 therein) and no comments regarding the proposed methods of assessment were received. d) d) Table 10.12 What evidence is available to support the assessments of the impacts on severance, infrastructure and disruption? Table 10.12 in Chapter 10: Geology and Soils **[APP-048]** provides an analysis of Scheme impacts upon farm holdings, taking account of land take, severance,

No	Question to	Reference (in bold) and Question	Applicant's Response
			infrastructure and disruption. As detailed in ES Chapter 10, Section 10.7, paras. 10.7.70 through 10.7.72 **[APP-048]**: "*10.7.70 Farm assessment interviews with the affected landowners via face-to-face meetings were carried out in March 2015 to establish baseline conditions and agricultural circumstances of the land potentially affected by the Scheme. The baseline conditions and agricultural circumstances were updated with telephone calls with affected landowners, including two additional landowners, in October 2018.* *10.7.71 The interviews and resultant discussions were based around a standard questionnaire designed to establish the agricultural circumstances of the land affected by the Scheme, identify the main impacts of the Scheme on agricultural land holdings and identification of potential means of mitigating impacts.* *10.7.72 Questions asked included the nature of the agricultural business run from the holding, the total land area farmed by the affected party, whether the land affected is managed under any environmental stewardship schemes, how the Scheme would affect the farm business and any necessary mitigation measures*." The information gained during the 2015 and 2018 farm interviews enabled Scheme effects upon the defined farm holdings to be defined, including impacts related to land take, severance, infrastructure and disruption (as detailed in Table 10.12).
10.9	Applicant	**ES Chapter 10 [APP-048]** **ES Appendix 10.1 [APP-222]** **RR by the EA [RR-005]** The EA's RR expresses concern that the use of statistical analysis at Section 6 of the Ground	We have reviewed the EA RR comment regarding these issues and have provided a suitable commentary in our RR response. Further details are provided below. Within the Ground Investigation Report (GIR) **[APP-222]** we have assumed that groundwater encountered at each junction is all part of the same water body at that particular junction. As an initial tier of assessment this is considered to be a conservative approach. We have taken a similar approach for leachate and surface

No	Question to	Reference (in bold) and Question	Applicant's Response
		Investigation Report may not be appropriate, that any assessment should be made in the context of potentially complete pollutant linkages and that it does not provide an account of the spatial distribution of the results. There is also concern that the not all of the data in the screening tables has been assessed. Please respond to these concerns.	water where sufficient sample numbers are available. This approach results in UCL95 values which are generally more protective of the main groundwater bodies at each of the junctions. We note the EA's comments and thus we have separated out the groundwater chemical data into different groundwater bodies at each junction. Copies of these tables have been provided to the EA, together with a Tier 1 assessment and plans showing the location and screened horizon of each determinand recorded at the three junctions. With regard to the screening tables, we acknowledge the oversight that the determinands 4-Bromofluourbenzene and Dibromofluoromethane were not removed from the assessment tables. BK14 is located (and is screened within fill) within the historic landfill and is screened within fill adjacent to the eastern side of the cutting that will extend through the former landfill. The chemical Data Test Reports from the chemical laboratory are included in the Ground Investigation Factual Report [ESG A6067-16 A38 Derby Junctions Ground Investigation Factual Report on Ground Investigation Issue 3 HAGDMS NO 30195 (2017)] which has been provided to the EA for their review.
10.10	Applicant	**ES Chapter 10 [APP-048]** **ES Appendix 10.3 [APP-224]** **RR by the EA [RR-005]** The EA's RR expresses concern regarding Table 7.1 of ES Appendix 10.3. It presents a Geotechnical Risk Register which highlights contamination risks which need to be further investigated. However, the EA considers that the table does not identify potentially complete pollutant linkages using the Source-Pathway-Receptor framework or provide a clear	We have reviewed the EA RR comments regarding these issues and have provided a suitable commentary in our RR response. Further details are provided below. It is noted that the Preliminary Sources Study Report (PSSR) **[APP-224]** does not provide a Conceptual Site Model (CSM) as set out in the Environment Agency's CLR11 guidance document. However, the PSSR does identify potential sources of contamination associated with the Scheme that may impact receptors, which includes human health, controlled waters and Scheme infrastructure and does note pathways between the identified sources and receptors. The Geotechnical Risk Register contained within the PSSR also sets out a qualitative assessment of identified contaminant linkages. It is accepted that this information could have been provided in a clearer and easier layout to follow as noted and commented by the EA.

No	Question to	Reference (in bold) and Question	Applicant's Response
		Conceptual Site Model as set out in our CLR11 guidance. The ExA notes that the EA has not commented on the Detailed Quantitative Risk Assessment until these matters have been addressed. Please respond to these concerns.	In order to assist the EA undertake a review of the Detailed Quantitative Risk Assessment, further information has been supplied to the EA, including the following reports: • Ground Investigation Factual Report • Annex A to Preliminary Sources Study • Preliminary Sources Study Link Road K2 Kingsway • Annex A to Preliminary Sources Study Link Road K2
10.11	Application	**ES Chapter 10 [APP-048]** The EA's RR notes that the proposals would affect the historic landfill materials associated with the former Rowditch tip. The tip is understood to have a passive gas system in place. Please clarify what measures would be put in place to ensure that the proposals do not disrupt this system.	The EA note that the proposal involves works within historic landfill materials associated with the former Rowditch tip. The EA understand that a passive gas system is in place for this landfill site on the adjacent site, and therefore proposals must ensure they do not disrupt this system. Therefore, the EA recommend that the Local Authority Environmental Health Department is made aware of this proposal. Highways England has discussed this issue with the Derby City Council (DCiC) Environmental Protection Team (10.10.19) and have agreed that whilst the Scheme works are not anticipated to impact upon the landfill passive gas system on the adjacent site, the construction contractor will liaise with the DCiC during the preparation of their Construction Environmental Management Plan (CEMP) and during the design of the site remediation strategy/ works at Rowditch tip to ensure that the adjacent passive gas system is not impacted or where the landfill materials are to be removed, that the gas venting system is not compromised. Measures to allow landfill gases to vent to the atmosphere will be considered in the detailed design of the scheme at this location following completion of further ground investigation works.
	Non-motorised users, public rights of way and accessibility		
10.12	Applicant	**ES Chapter 12 [APP-050]** **RR by Patric Harting [RR-025]**	Highways England can confirm that where signal-controlled pedestrian/cycle crossings of slip roads are proposed, each crossing will be a single phase and the 'green-man phase' will be activated in response to push button demand by users. The pedestrian crossings of the slip roads at the Markeaton junction would be coordinated with the traffic phases.

No	Question to	Reference (in bold) and Question	Applicant's Response
		Please confirm whether the controlling crossings at each of the slip roads be single phase and responsive?	

No	Question to	Reference (in bold) and Question	Applicant's Response
10.13	Applicant Breadsall Parish Council	**ES Chapter 12 [APP-050],** **RR by Breadsall Parish Council [RR-001]** The community appears to place greater value on Breadsall FP3 than the "*Low*" sensitivity ascribed in ES table 12.13. Please comment on: • the sensitivity of this footpath; • the length and convenience of the proposed diversion; and • whether a better alternative route is available.	The low sensitivity category of the Breadsall FP3 as reported in ES Chapter 12: People and Communities **[APP-050]** Table 12.13 was based on the number of users, as established by the 2018 survey results (refer to ES Appendix 12.1 **[APP-226]**). The survey found no visible line of the path and only one pedestrian movement on the footpath. This is consistent with a low sensitivity definition as per parameters defined in Table 12.2. The proposed diversion to the footpath has been discussed and agreed with Derbyshire County Council's Rights of Way team. The proposed diversion to Breadsall FP3 would permanently extend the footpath by a length of approximately 370m, with the diversion following the realigned Dam Brook. The footpath currently terminates at the edge of the existing A38, and thus there are no safe opportunities for crossing the A38 to access Little Eaton village. The proposed footpath extension would create a circular route, with the diversion joining Breadsall FP1. It is expected that the extension of this route has the potential to encourage the use of this PRoW. Given the safety aspects associated with facilitating a crossing point for the diverted footpath where it emerges from the fields to the south-east corner of the junction (thus over the A61), it was considered that making this into a circular route to link with the footpath leading from Croft Lane would be preferable. This particular route has little observed use and safer crossing facilities are being provided by Highways England (separate to the A38 Derby Junctions scheme) at the existing crossing of the A61 from Croft Lane. The Scheme aims to include as a minimum the existing level of footpath provision with enhancements where appropriate and reasonable as detailed in ES Chapter 12: People and Communities **[APP-050]** [para 12.9.4 - 12.9.5. No better alternative routes have been identified.
10.14	Applicant	**ES Chapter 12 [APP-050]** **Works Plans [APP-009]** The east ramp of the rebuilt Markeaton footbridge appears to cut across the existing	a) The Local Cycle routes (RR66 & Bonnie Prince Charlie Walk) that runs north/south on the east side of the A38 will be impacted by the widening of the A38 carriageway and the introduction of the grade separated junction and the slip roads, this requires the route to be repositioned within the new verge area. The replacement footway/cycleway bridge also has a minor impact on the route, however, this can be safely routed under the spiral ramps. The ramp access to the bridge will connect directly to this route as it currently does.

No	Question to	Reference (in bold) and Question	Applicant's Response
		footpath/cycleway linking Markeaton Street and Queensway. a) How would it affect that route? b) Is a diversion needed?	b) The footway/cycleway in its new position will be uninterrupted by the position of the replacement footway/cycleway bridge. The replacement bridge has only a minor impact of the route as it can be safely routed under the spiral ramps. In addition to this, the existing links to the footway/cycleways, leading to Markeaton Street, will be maintained. During construction the route will be subject to diversion for the safety of the users, the details of which will be finalised in the Contractors Traffic Management Plan.
10.15	Applicant	**ES Chapter 12 [APP-050]** Table 12.3. How does the fact that the Derwent Valley Heritage Way passes through the WHS contribute to its sensitivity?	ES Chapter 12: People and Communities **[APP-050]** Table 12.13 assigns Derwent Valley Heritage Way/ Breadsall FP7 a medium sensitivity, whilst Scheme effects upon the footpath are predicted to be minor adverse during the construction phase, and no change during the Scheme operational phase (refer to ES Table 12.19). The medium sensitivity rating takes into consideration the prominence of the route, including the fact that it passes through the World Heritage Site and its link to a wider network of paths. The status and prominence of the route is considered along with the number of observed users (c. 15 - 35 people per day - refer to ES Appendix 12.1 **[APP-226]**) which shows a local level of recreational usage. As a result, a medium sensitivity rating has been assigned. It is noted that had this footpath been assigned a high level of sensitivity, the overall effects of minor adverse during Scheme construction and no change during the Scheme operational phase would still be applicable.
10.16	Applicant	**ES Chapter 12 [APP-050]** ES paragraph 12.10.2 - 1st bullet refers to a route of very high sensitivity and a substantial increase in journey times. Does this equate to more than a moderate adverse impact?	This relates to the temporary severance of a shared footway and cycleway to the east of Kingsway junction during construction of the link road between Kingsway junction and Kingsway Park Close as detailed in ES Chapter 12: People and Communities **[APP-050]** para. 12.10.2 (1st bullet point). The footpath has been assigned a very high sensitivity, with the temporary footpath diversion increasing journey lengths (>500m) and potentially dissuading users from making this journey. While the route will be temporarily affected by the Scheme construction works at the link road, the effect would not amount to large adverse effect according to the criteria detailed in Table 12.4 given that the Scheme would not result in a "*substantial and permanent loss of amenity and use*". The defined moderate effect is still significant, whilst the mitigation approach remains as detailed in the ES (i.e. pedestrian and cyclist access during construction would be planned and programmed to minimise disruption and access restrictions, whilst temporary diversions would be agreed with Derby City Council prior to construction).

No	Question to	Reference (in bold) and Question	Applicant's Response
10.17	Applicant	**ES Chapter 12 [APP-050]** ES paragraph 12.10.5. Please explain why the crossings on the Kingsway slip roads are uncontrolled, when most other crossings are controlled?	In the design year (i.e. 15 years after the Scheme is open to traffic) the traffic flow on the Kingsway southbound merge slip road is forecast to be around 5200 vehicles AADT (annual average daily traffic) and for the northbound diverge slip road is forecast to be 4200 vehicles AADT. These are relatively low flows and Highways England's design standard CD 195 states that for flows below 6,000 vehicles (or 10,000 vehicles for a single lane crossing), the preferred crossing type is an uncontrolled crossing. The other crossings on the Scheme have higher traffic flows hence controlled crossing have been included for these.
10.18	DCiC DCC	**dDCO [APP-016] provisions for public rights of way; Part 3 Article 14; Schedule 3 Part 7** Do DCiC or DCC have any comments in addition to those provided in their RRs on the provisions to be secured in the dDCO in their area for public rights of way?	N/A
	Severance and local access		
10.19	Applicant	**ES Chapter 12 [APP-050]** **RR by Haven Care Group [RR-015]** ES paragraph 12.10.47 refers to the new access to serve properties at Sutton Close. It would also serve Cherry Lodge Children's Home and result in the loss of parking at the front of that property. However, no assessment is made of that effect. Haven Care considers that the loss of parking would have a significant impact on the operation of the children's home.	a) It is likely that a large portion of the land required for the Scheme will only be required temporarily and can be returned to the land owner on completion of the Scheme. The parcel labelled as 3/15a is likely to be required only temporarily whilst 3/15b is required permanently. b) Bearing in mind the above statement, it should be possible to stop the new access at the boundary of this property to allow the retention of the car parking (subject to minor works at the property owner's agreement to facilitate this).

No	Question to	Reference (in bold) and Question	Applicant's Response
		a) Please comment on Haven Care's comments b) Would it be possible to stop the new access at the boundary of this property to allow the retention of the car parking?	
10.20	Applicant McDonald's Restaurants Limited	**ES Chapter 12 [APP-050]** **RR by McDonald's Restaurants Limited [RR-016]** McDonald's Restaurants Limited considers that the Proposed Development would result in congestion at the new traffic signalled junction on Ashbourne Road. a) McDonald's Restaurants Limited – Is there technical evidence to support this position? b) Applicant – Please comment on this concern and its potential for affecting the McDonalds business.	a) McDonald's Restaurants Limited to respond b) The proposed exit on the A52 will be able to perform better than the existing exit due to the introduction of traffic signals. A Technical Note on the design of the signals has been prepared and issued to McDonald's along with an invitation to meet and discuss. This invitation has not yet been taken up.
10.21	Applicant	**ES Chapter 12 [APP-050]** The Proposed Development would result in the loss of direct access from A38 for Esso and McDonalds. ES paragraph 12.10.44 describes this as a minor detour and a slight adverse effect. Does this assessment take into account the loss of visibility/presence on A38 mainline	ES Chapter 12: People and Communities **[APP-050]** concerns impact on private assets and identifies properties which are at risk of demolition and land take, as well as indirect effects through changes to access to the assets. This approach is in line with guidance with the Design Manual for Roads and Bridges (DMRB) Volume 11, Section 3, Part 6 Land Use (Highways Agency, 2001). The ES Chapter acknowledges that although existing access would be lost to Esso and McDonalds, an alternative access would be provided. It is assessed that the revised access off the A52 incorporating a signalised junction with the new Markeaton Park access would constitute a slight adverse effect, as per the criteria detailed in Table 12.7. The assessment does not take account of the potential Scheme effects upon the viability of the businesses, as this is a consideration separate to the environmental assessment.

No	Question to	Reference (in bold) and Question	Applicant's Response
		and its implications for the viability of the businesses?	
10.22	McDonald's Restaurants Limited Tim Hancock Associates on behalf of Euro Garages Limited	**ES Chapter 12 [APP-050]** **RR by McDonald's Restaurants Limited [RR-016],** **RR by Tim Hancock Associates on behalf of Euro Garages Limited [RR-013]** Please clarify in greater detail your concerns regarding the effects of the Proposed Development on deliveries, the shared use of access and the weakness of part of the car park.	N/A
10.23	Applicant	**ES Chapter 12 [APP-050]** **RR by DCC [RR-004]** Concerns have been raised about the closure of Ford Lane and its impact on local businesses, particularly relating to proposed weight restrictions on the Ford Lane bridge. Please clarify when the assessment of the bridge and any necessary works will be undertaken.	The assessment work has been completed. Subject to Derbyshire County Council agreement with the assessment methodology, the bridge will be able to carry a 40T HGV (subject to a single vehicle being on the bridge at any one time). A report has been submitted to the County Council for their agreement. It is envisaged that the only work required to the bridge will be to install some means of ensuring the flow across the bridge is restricted to one direction at a time (e.g. by repositioning the kerbs to narrow the road).
10.24	Applicant	**ES Chapter 12 [APP-050]** ES paragraphs 12.6.5 and 12.10.72 are based on the rationale that community severance can be assessed by reference to Ward boundaries.	The community severance assessment presented in ES Chapter 12: People and Communities **[APP-050]** has considered the availability of alternative routes and the location of community facilities within the various wards surrounding the Scheme. The assessment of community severance considers to what extent the Scheme acts as a barrier between different parts of the community, as well as whether the Scheme affects the ability of the community to access services that they regularly use. The Scheme concerns an existing road, and so the assessment focuses on the changes in

No	Question to	Reference (in bold) and Question	Applicant's Response
		a) This appears to assume that each affected Ward is reasonably self-sufficient. b) Is there evidence for that? c) The A38 bi-sects Mackworth ward. Please comment.	journey patterns that would result from the closure of a number of accesses from local roads onto the existing A38 (refer to para. 12.10.72). It is acknowledged that the defined wards shown in ES Figure 12.2 **[APP-227]** are interconnected, and that applicable residents will access community facilities within their ward, as well as other local wards and the wider Derby area. It is expected that the existing travel patterns to access community facilities will largely be maintained during the Scheme operational phase, given that such patterns generally do not rely on access to the A38. However, it is recognised that the closure of local accesses onto the A38 has the potential to cause some severance for users and is assessed as such. With regard to the Mackworth ward, it is acknowledged that the A38 bi-sects the ward, and that the Scheme would result in the closure of access from this ward onto the A38 – it is considered that the severance issued caused by this are appropriately covered in the assessment.
10.25	DCC DCiC EBC	**ES Chapter 12 [APP-050]** Do you have any further comments/concerns regarding the assessment and impacts of severance set out in Chapter 12?	N/A
	Socio-economics and local impacts		
10.26	Applicant	**ES Chapter 12 [APP-050]** **Planning Statement [APP-252]** Planning Statement - Very limited information has been provided on the methodology and assumptions used in the economic assessment. Please provide a full version of the assessment used to establish the economic effects of the Proposed Development.	As stated in the Planning Statement **[APP-252]** the Economic Case overview is a summary only. This summary has been drawn together using a number of different (transport led) economic reports, that have previously been prepared to support the business case for the project. These reports have been generated as part of the Project Control Framework Process (PCF) for use by Highways England, reflecting its internal governance procedures. As such, the collective assessment work drawn together over a number of years, is split across a variety of documents. For the convenience of the ExA further details are provided below and as an update to the details provided in the Planning Statement: The transport economic efficiency (TEE) appraisal used the outputs from the traffic forecasting model. The traffic forecasting model represented six distinct weekday hourly periods and made traffic growth projections for three future years. The results were then annualised to provide an appraisal for the 60-year period (2024 to 283). This

No	Question to	Reference (in bold) and Question	Applicant's Response
			'Stage 3' TEE analysis was completed in March 2018 and was used by Highways England to confirm that the Scheme should progress to Stage 4. An analysis (using Highways England's COBALT method) of the personal injury collisions, which data were extracted from the road traffic accident statistics, was combined with the outputs from the traffic forecasting model to calculate the network-wide accident benefits that would result from the Scheme. Monetised values for Noise, Air Quality and Carbon impacts were calculated from the modelling and appraisals prepared in order to support the Environmental Statement. In September 2018, the Department for Transport published a revised Road Traffic Forecasts (RTF18). Compared to the previous road traffic forecast, RTF18 projected lower growth of light goods vehicles and heavy goods vehicles. To validate the Stage 3 TEE valuations, updated traffic forecasts were prepared that incorporated these lower RTF18 growth values for light and heavy goods vehicles. The following table presents the Analysis of Monetised Costs and Benefits (AMCB) of the Scheme. The revised TEE results from the RTF18 forecasts are presented alongside the Stage 3 results. The social economic benefits, that would be delivered by the Scheme over a 60-year appraisal period, is calculated in the rightmost column.

No	Question to	Reference (in bold) and Question	Applicant's Response

AMCB Table	Stage 3	RTF18	Combined
Noise	-3.2	-	-3.2
Local Air Quality	3.2	-	3.2
Carbon Benefits	-6.7	-	-6.7
Accident Benefits	54.8	-	54.8
Consumer User Benefits - Commuting	84.9	78.3	78.3
Consumer User Benefits - Other	146.4	150.1	150.1
Business User Benefits	120.5	97.1	97.1
Private Sector Provider Impacts	0.0	-	0.0
Other Business Impacts	0.0	-	0.0
Indirect Tax Benefits	17.7	-	17.7
Net Present Value of Benefits (PVB)	**419.0**	**-**	**391.3**
Local Government Funding	0.0	-	0.0
Central Government Funding	163.1	-	163.1
Net Present Value of Costs (PVC)	**163.1**	**-**	**163.1**
Net Present Value (NPV)	**255.9**	**-**	**228.2**
Benefit Cost Ratio (BCR) (no units, rounded)	2.6	-	2.4
Notes: All entries are in market prices, at present values discounted to 2010, at 2010 market prices, in £ millions; except for the BCR figures as noted. Summary does not include monetised journey time reliability benefits.			

The calculated Net Present Value (NPV) is the summary of this AMCB calculation. The unadjusted NPV of the Scheme is £228.2 million *(in 2010 market prices and discounted to a 2010 present value year)*.

An adjusted NPV would include the assessment of reliability benefits plus the wider economic benefits from supplementary modelling. See also, Applicant's response to Question 2.4(b) above.

No	Question to	Reference (in bold) and Question	Applicant's Response
10.27	Applicant	**ES Chapter 12 [APP-050]** ES paragraph 12.10.44. The Army Reserves centre would experience permanent loss of 47% of its open space. a) How is the land currently used? b) Would the Army Reserves Centre need to change its operations as a result?	a) The large majority (>90%) of the land to be permanently acquired lies outside of the inner security fence of the centre. It is understood from discussions with the Army Reserves that this land is seldom used for anything. Periodic grass cutting is carried out on the land. b) The Army Reserves Centre has not suggested there will be any need to change its operations as a result
10.28	Applicant	**ES Chapter 12 [APP-050]** ES paragraph 12.10.46 deal with the loss of 17 houses at Queensway/Ashbourne Road which is assessed to be slight adverse at the neighbourhood scale. Please clarify whether an assessment has been made in respect of the individual occupiers.	ES Chapter 12: People and Communities **[APP-050]** para. 12.10.46 concerns the loss of 17 residential properties (15 detached properties on Queensway and two semi-detached properties on the A52 Ashbourne Road). The assessment considers the effects on two separate scales – firstly with regard to the individual occupiers, and secondly in the context of the neighbourhood area. Para. 12.10.46 states that due to the high sensitivity of residential properties, the loss of these properties would result in a locally large adverse (significant) effect on directly affected parties (i.e. the individual occupiers). The assessment also considers the effects of property loss at neighbourhood level – this considers that the loss of these residential properties would not affect the quality of life in the neighbourhood and the loss could be replaced in the locality. The loss of residential properties on a neighbourhood scale is, therefore, considered to be a permanent slight adverse effect.
	Human health		
10.29	Applicant	**ES Chapter 12 [APP-050]** ES paragraph 12.10.86 deals with construction phase effects on access to nature and open space. Please clarify why the effect on Markeaton footbridge would be neutral when it would not be available for 18 months?	ES Chapter 12: People and Communities **[APP-050]** para. 12.10.86 assesses the construction phase effects on access to nature and open space. There would be no Markeaton footbridge for approximately 18 months (time between the demolition of the existing bridge and construction of the replacement bridge (noting that this is subject to review during the construction planning detailed design stage, with the aim of minimising the duration without a footbridge). However, access to Markeaton Park would be maintained for the duration of the Scheme construction phase through the provision of mitigation measures such as temporary diversions (noting that park access for pedestrians will be available at both Markeaton junction and the Kedleston Road

No	Question to	Reference (in bold) and Question	Applicant's Response
			junction). It is, therefore, concluded that there would be a neutral effect on human health as associated with access to open and natural spaces.
10.30	Applicant	**ES Chapter 12 [APP-050]** ES paragraph 12.10.92 deals with human health effects during the construction phases and finds that it would be "*negative for closest receptors*". Please provide more specific information regarding: a) the significance of the impacts; b) the identity of receptors, e.g. with reference the health profiles for the affected wards (Table 12.15) and potentially more vulnerable receptors such as the Royal School for the Deaf Derby and Cherry Lodge children's residential care home?	a) The assessment of effects on human health as presented in ES Chapter 12: People and Communities **[APP-050]** does not follow significance criteria. The assessment is necessarily qualitative approach due to the diverse nature of health determinants and health outcomes which are assessed. The impact categories used to assess human heath are presented in ES Table 12.10. ES Chapter 12: People and Communities **[APP-050]** para. 12.10.92 states that the effect of the Scheme on air quality, noise and neighbourhood amenity *as a determinants of human health* during Scheme construction is assessed to be negative for the receptors closest to the Scheme. It is important to note that whilst this indicates that Scheme construction has the potential to have a negative effect upon some health determinants, it does not follow that Scheme construction is assessed as having a negative effect upon human health. For example, of these determinants, air quality is considered to have the greatest potential to affect human health - the specifics regarding the significance of potential Scheme effects as associated with air quality are detailed within ES Chapter 5: Air Quality **[APP-043]**. ES Chapter 5: Air Quality indicates that properties within 200m of the Scheme construction site boundary are expected to experience a slight adverse impact from dust soiling and increased PM_{10} concentrations due to dust emissions from Scheme construction activities. In addition, some receptors would also experience an increase in nitrogen dioxide (NO_2) and PM_{10} concentrations, whilst others would experience a decrease, however, overall, there would be a slight deterioration in local air quality at properties within the air quality study area, but this deterioration would be temporary during the Scheme construction phase. Although there is a predicted slight deterioration in local air quality, air quality concentrations would remain within applicable air quality standards which have been set to protect set to protect human health of the most vulnerable members of society, which includes children and the elderly. Thus, whilst there is a predicted temporary negative effect on air quality as a determinant of human health during the construction phase, adverse air quality effects upon human health would be avoided. b) The assessment of effects on air quality, noise and neighbourhood amenity draws on the findings of related assessments, namely ES Chapter 5: Air Quality **[APP-**

No	Question to	Reference (in bold) and Question	Applicant's Response
			043] and ES Chapter 9: Noise and Vibration **[APP-047]**. The findings identify potential air quality effects for properties and facilities within 200m of the Scheme, and noise and/or vibration effects at receptors closest to the works between Kingsway junction and Kedleston Road junction (which includes the Royal School for the Deaf and Cherry Lodge), at the Ford Farm Mobile Home Site, the northern edge of Breadsall and adjacent to the Scheme works at the floodplain compensation area to the west of Little Eaton junction. It is considered that during the Scheme construction phase, temporary negative effects on air quality, noise and neighbourhood amenity as determinants of human health would be experienced by these closest receptors, but that such effects would be reduced at the ward level. Also as indicated in the response to a) above, whilst Scheme construction has the potential to have a negative effect upon some health determinants, it does not follow that Scheme construction is assessed as having a negative effect upon human health. With regard to potentially more vulnerable receptors, such as the Royal School for the Deaf Derby and Cherry Lodge children's residential care home, ES Chapter 5: Air Quality **[APP-043]** indicates that air pollutant concentrations at the school and Cherry Lodge are currently achieving the national and European air quality criteria set to protect human health and will continue to do so during both construction and operation of the Scheme. The air quality criteria have been set to protect the most vulnerable members of society which includes children and the elderly.
10.31	Applicant Public Health England	**ES Chapter 12 [APP-050]** ES table 12.15. a) Applicant - What is the date and source of the information in this table? b) Public Health England - are you content that the table provides an up to date satisfactory profile of human health in the wards identified?	a) The information presented in ES Chapter 12: People and Communities **[APP-050]** Table 12.15 is sourced from Public Health England's local area health profiles in 2018. The health profiles provide access to the latest available data, presenting a range of indicators in one place. The references section provides further details on the source and location of data: Public Health England, Local Health. Available online at: **http://www.localhealth.org.uk**. b) Response required from Public Health England.
10.32	Applicant	**ES Chapter 12 [APP-050]**	

No	Question to	Reference (in bold) and Question	Applicant's Response
		ES paras 12.7.35 - 12.7.43 refer to baseline environmental conditions, not human health conditions. Please justify this approach or provide an amended version, clarifying any implications for the assessment of effects undertaken.	ES Chapter 12: People and Communities **[APP-050**] para. 12.7.35 - 12.7.43 set out the future baseline environmental conditions in order to assess effects of the Scheme on people and communities as well as health and wellbeing. With regard to human health baseline conditions, it is not possible to accurately predict how these may change in the future. However, it is considered that the human health profiles as presented in Table 12.15 will remain representative of future baseline health conditions in 2020 and 2024. Human health conditions 15 years after Scheme opening (i.e. 2039) cannot be specified given the uncertainties and complexities involved. However, there is a general anticipated improvement in human health profiles due to improvements in health care and environmental conditions. Thus, assuming that future human health baseline conditions are similar to those as detailed in Table 12.15 is considered valid for assessment purposes.
10.33	Applicant	**ES Chapter 12 [APP-050]** ES paragraph 12.8.11. Should the permanent changes to the access arrangements for McDonalds and Esso and the changes to the Royal School for the Deaf Derby also be considered under the operational phase since they would affect the on-going activities of these facilities?	ES Chapter 12: People and Communities **[APP-050]** para 12.8.11 highlights that no new direct impacts upon private assets are anticipated to occur during Scheme operation given that the operational Scheme would not generate any new impacts as associated with land take. Permanent land take and access impacts due to the Scheme, including changes to the access for McDonalds and Esso, and land take from the Royal School for the Deaf are considered in the assessment of construction effects in ES Chapter 12: People and Communities **[APP-050]** para. 12.8.4 and 12.8.7. This is due to the fact that these permanent changes would occur during construction, and thus would represent a permanent construction effect (and that would continue during Scheme operation). Assessing the same land take effects during Scheme operation would be double counting the effects. Thus, impacts associated with land take that occurs during Scheme construction are defined as either being temporary or permanent in Table 12.19. However, where there are changes to site access, these have been assessed for both Scheme construction and during Scheme operation. Table 12.19 considers the impacts upon Esso and McDonalds due to the permanent closure of the existing entry from the A38 northbound carriageway (being replaced with a revised access off the A52 incorporating a signalised junction with the new Markeaton Park access) during both Scheme construction and operation (slight adverse effect).
10.34	Applicant	**ES Chapter 12 [APP-050]**	a) The reference refers to a discussion paper on Lifetime Neighbourhoods, published by Department for Communities and Local Government (DCLG) in 2011. The report

No	Question to	Reference (in bold) and Question	Applicant's Response
		ES paragraph 12.10.97 a) What is the significance of the reference to "*Department for Communities and Local Government, 2011*"? b) How does that establish that the effect of the Proposed Development on social cohesion and lifetime neighbourhoods would be neutral?	places importance on lifetime neighbourhood and their connection to feelings of safety and social interaction, which in turn supports the health impact evidence. The report found that street design and road maintenance is important to old people's ability and confidence in going outside – this is one of the elements which is supported by the Scheme. b) Further to response to point a), the assessment has established that any potential temporary severance affecting the community would be mitigated through temporary diversions and/or safe and appropriate alternative means of access. The implication is that the Scheme avoids severance and any physical barriers, encouraging social interaction and cohesion within the community. Table 6 in ES Appendix 12.2 **[APP-227]** provides further details regarding the assessment of social cohesion impacts.
10.35	Applicant	**ES Chapter 12 [APP-050]** ES paragraph 12.10.110 What evidence is there that the Proposed Development would lead to improvements in street design and maintenance of the adjoining neighbourhoods?	ES Chapter 12: ES para. 12.10.110 **[APP-050]** states the following: *"The Scheme also has the potential to address lifetime neighbourhood principles. Street design and road maintenance has been found to be crucial to old people's ability and confidence in going outside. Whilst levels of social interaction can be influenced by a number of other factors, including the availability and quality of community facilities, open and play space, the influence of the Scheme on social cohesion and lifetime neighbourhoods as a determinant of human health during Scheme operation is assessed to be positive (+) for residents in the study area."* The paragraph aims to illustrate that the Scheme has the ability to support lifetime neighbourhood principles, where lifetime neighbourhoods are places designed to be inclusive regardless of age or disability, and where the environment is accessible and inclusive, aesthetically pleasing and safe (in terms of both traffic and crime). The reference to street design and road maintenance is made to highlight that aspects of highway design and their ongoing maintenance are key considerations that influence old people's ability and confidence in using outside spaces. Aspects of the Scheme which support such lifetime neighbourhood principles include those as detailed below: • The Scheme's highway design is based on good practice, as embodied in the Design Manual for Roads and Bridges (DMRB), whilst Scheme facilities would be subject to ongoing maintenance by the East Midlands Asset Delivery team

No	Question to	Reference (in bold) and Question	Applicant's Response
			(Highways England) (in accordance with a Handover Environmental Management Plan (HEMP). • The Scheme reduces severance at Kingsway junction, with a new shared footpath and cycleway being provided across the junction from Mackworth Park, linking Mackworth from Greenwich Drive South to the A5111 Kingsway. • The Scheme would provide a new footpath with occasional seating around the perimeter of the flood storage areas adjacent to Bramble Brook within the Kingsway hospital development site which would be available for use by local residents. • At Markeaton junction footpath and cycleway crossings would be signal controlled or grade separated, the replacement footbridge would be Disability Discrimination Act compliant, a new area of public open space would be provided between the A52 and the new footbridge, whilst the existing unsafe Markeaton Park access would be replaced with a safer one. • At Little Eaton junction provisions for pedestrians and cyclists have the potential to encourage more use of facilities due to improved amenity and convenience, and perception of safety.
	Mitigation and opportunities for enhancement		
10.36	Applicant	**ES Chapter 12 [APP-050]** ES paragraph 12.9.2, 5th bullet. Please expand on how the Community Relations Manager and Highways England Customer Contact Centre would operate and be accessible to all member of the affected communities.	As detailed in the Outline Environmental Management Plan (OEMP) **[APP-249]**, the Community Relations Manager would be employed by the construction contractor and would be responsible for leading engagement with affected communities. The use of a Community Relations Manager is common to many major Highways England infrastructure commissions and aims to provide local interested parties with direct access to the Scheme construction contractor such that information can be provided, and issues resolved in a manner that is consistent with Highways England's customer service strategy. In accordance with Table 2.1 of the OEMP, the Community Relations Manager would have overall responsibility for communications with the public, stakeholders and other interested parties, outreach and education, where appropriate. The role would include the following responsibilities:

No	Question to	Reference (in bold) and Question	Applicant's Response
			• Working with the community to identify key concerns or issues and, with the contract's project manager, finding ways to mitigate against these as much as possible. • Identifying and delivering on opportunities for local community investment. • Responding to any concerns or complaints raised by the public in relation to the works. • Liaising with the contractor's Project Manager and the contractor's Environmental Manager (EM) on landowner and community concerns relating to the works and act as the main interface with these stakeholders. • Maintain a log of complaints relating to the environment and other issues. • Ensuring that the Project Manager and the EM are informed of any complaints relating to the environment. • Keeping the public informed of project progress and any construction activities that may cause inconvenience to local communities. • With the Skills and Inclusion Manager engaging with local schools and colleges to inform pupils and students about the Scheme, advise on careers within the construction industry and provide site safety education. • Ensuring that the needs of groups with protected characteristics as identified within the Equality Act 2010 are considered during the construction process. Whilst the contractor's Community Relations Manager would be the principal point of contact with the public, as detailed in ES Chapter 12: People and Communities **[APP-050]** the Highways England Customer Contact Centre (HECCC) is the 24/7 service which would deal with the majority of queries from the public. This service handles emails, phone calls and letters with a response target of ten working days. The response will either be given directly by the HECCC adviser or sent on to the Community Relations Manager for them to answer. A complaint management system would be in place, in line with systems used by Highways England on other major infrastructure projects. Any complaints would be investigated, and appropriate action taken as required. The complainant would be provided with a response outlining the results of the investigation and any action taken. It is envisaged that the HECCC and the Community Relations Manager will work

No	Question to	Reference (in bold) and Question	Applicant's Response
			together such that all members of the affected communities have the ability to contact Highways England and the contractor.
10.37	Applicant	**ES Chapter 12 [APP-050]** ES paragraph 12.9.2, 6th bullet. a) Is an agreement in place with Derby University to allow alternative access to the Royal School for the Deaf Derby if required? b) How is the replacement sensory garden for the Royal School for the Deaf Derby to be secured?	a) Access to the school will be required to be kept open during the construction of the scheme - any short-term closures that may be necessary will be timed to cause minimum disruption (night time or school holidays) - details will be provided once the Contractor has been appointed and the detailed TMP is produced. The RSDD have a right of access to the rear of their site from Markeaton Street, the need to utilise this alternative route will be avoided if possible. Access to the school's car park and entrance on Kniveton Close should remain unaffected. b) The relocation of the sensory garden will be covered by the compensation payment to RSDD.
10.38	Applicant	**ES Chapter 12 [APP-050]** ES paragraph 12.10.21. Please expand on the basis for concluding that temporary impact on driver stress would be minor adverse.	Refer to the responses provided to question 4.18 and 4.19 which provides a justification for the defined temporary impact on driver stress during the Scheme construction phase.
10.39	Applicant	**ES Chapter 12 [APP-050]** **Works Plans [APP-009]** ES paragraph 12.10.66 and 12.10.69. Please clarify in more detail how/whether the ecological mitigation proposed in Markeaton Park, Mackworth Park and Mill Pond would affect the amount of open space assessible to the public.	The Scheme boundary includes sections of Markeaton Park, Mackworth Park and Mill Pond for ecological mitigation purposes as follows. • With regard to Mackworth Park, the area included in the Works Plans **[APP-009]** Work No 8a is to enable the installation of approximately 20 bird boxes, plus the installation of 10 bat boxes - such details are included in the Environmental Masterplan as presented in ES Figure 2.12A **[APP-068]**. These ecological mitigation works within Mackworth Park would not affect the amount of open space accessible to the public. • With regard to Markeaton Park, the area included in the Works Plans **[APP-009]** Work No 20 is to enable the creation of suitable bat roost features in ten trees within the park, plus the creation of an area of species rich grassland - such details are included in the Environmental Masterplan as presented in ES Figure 2.12D **[APP-**

No	Question to	Reference (in bold) and Question	Applicant's Response
			068]. These ecological mitigation works within Markeaton Park would not affect the amount of open space accessible to the public. • With regard to Mill Pond, the area included in the Works Plans **[APP-009]** Work No 20 is to enable the installation of log piles for amphibian refugia - such details are included in the Environmental Masterplan as presented in ES Figure 2.12D **[APP-068]**. These ecological mitigation works within Mill Pond would not affect the amount of open space accessible to the public.
v11	**The historic environment**		
	Policy and methodology		
11.1	Historic England	**ES Chapter 6 [APP-044]** Table 6.2 sets out the criteria to determine the value of heritage assets. Do you have any comments regarding the values placed on the designated heritage assets in this table?	N/A
11.2	Applicant	**ES Chapter 6 [APP-044]** **ES Appendix Heritage Impact Assessment for the WHS [APP-173]** **NPSNN** **NPPF** Heritage Impact Assessment paragraph 8.4.1 finds the that Proposed Development would cause less than substantial harm to the WHS. ES Table 1 summarises several "*slight adverse*" impacts to other heritage assets. NPSNN paragraph 5.134 and NPPF paragraph 196 require public benefits of the	In respect of paragraph 196 of the NPPF and paragraph 5.134 of the NPSNN, Highways England suggests that this policy guidance is principally designed to relate to buildings and structures that are designated heritage assets, particularly when considered in the context of paragraph 195 of the NPPF and paragraph 5.133 of the NPSNN. This is evidenced by the reference to "*securing optimum viable use*". As such, the policy test is designed to weigh up the circumstance whereby the heritage asset itself is the subject of an application for development and where there is a need to weigh a viable re-use against the consequential harm to the asset. This does not apply in the case of the Scheme. Notwithstanding this, reference is made to the Heritage Impact Assessment para. 8.4.1 **[APP-173]** which identifies less than substantial harm to the WHS as a result of the Scheme. Table 6.11 in ES Chapter 6: Cultural Heritage **[APP-044]** summarises several "slight adverse" effects to a number of other heritage assets. These are considered to constitute less than substantial harm in accordance with the NPSNN paragraph 5.131 and the NPPF paragraph 193.

No	Question to	Reference (in bold) and Question	Applicant's Response
		scheme to be considered and weighed against less than substantial harm to heritage assets. NPSNN paragraph 1.2 also requires the adverse impacts of the development to be weighed against its benefits. Please consider the public benefits of the scheme and weigh them against the identified harms as required by these parts of the NPSNN and NPPF.	In respect of the public benefits of the Scheme, these are outlined in the Statement of Reasons **[APP-020]** and are considered to clearly outweigh the level of harm (in this case which is judged to be less than substantial) that will result to the identified heritage assets. In coming to this conclusion, it noted that paragraphs 5.133 and 5.134 of the NPSNN emphasise that it is for the decision maker, in this case the Secretary of State, to make this judgement rather than an applicant.
11.3	Applicant Historic England DCC	**ES Chapter 6 [APP-044]** **NPSNN** a) Having regard to the advice at paragraphs 5.130 and 5.137 of the NPSNN and paragraph 200 of the NPPF, does the Proposed Development take any opportunities to enhance heritage assets or their settings? b) Is there anything else that could be reasonably achieved?	a) Paragraph 5.130 of the NPSNN states that the design of a proposed development should take into account the desirability of sustaining and, where appropriate, enhancing the significance of heritage assets and their setting. As set out in the ES Chapter 6: Cultural Heritage, Section 6.14 **[APP-044]**, the Scheme has been designed to minimise impacts on the Derwent Valley Mills World Heritage Site (WHS), including the minimising of works within the WHS. The landform design of the floodplain compensation area to the west of the River Derwent has been developed with input from landscape, ecological and cultural heritage specialists in order to create a naturalistic profile that blends in with the surrounding valley profile, as well as enabling the land to be returned to agricultural use. With regard to the potential impacts on the setting of the WHS as a result of the Scheme, mitigation measures have been embedded within the Scheme design including landscape planting. With regard to the Scheme taking opportunities to enhance heritage assets and their setting, the following points are made: • With regard to Markeaton Park, the ES Chapter 6: Cultural Heritage para.6.15.28 **[APP-044]** states that there will be a beneficial effect as a result of the demolition of the disused toilet block at the existing Markeaton Park entrance. The disused toilet block detracts from the setting and experience of Markeaton Park. The loss of the building and the restoration to parkland would be beneficial to the significance of the park and would improve the approach and experience of the park to users.

No	Question to	Reference (in bold) and Question	Applicant's Response
			• Paragraph 5.137 of the NPSNN and para. 200 of the NPPF relate to conservation areas and WHS. The ES Chapter 6: Cultural Heritage para. 6.14.3 **[APP-044]** states that beneficial effects on the WHS will be achieved through the closure of the existing carriageway associated with the left in/left out access onto the A38 from Ford Lane which is located within the WHS. This area would be closed to prevent vehicle access, appropriately landscaped and provided with pedestrian and cyclist facilities to enable continued access to adjacent pedestrian and cyclist routes. b) It is considered that the Scheme has taken opportunities to enhance heritage assets where possible, and thus Highways England do not think that anything else can be reasonably achieved.
11.4	**Derwent Valley Mills World Heritage Site (WHS)**		
11.5	Historic England DCC	**ES Chapter 6 [APP-044]** **ES Appendix Heritage Impact Assessment for the WHS [APP-173]** Table 7.3 of the Heritage Impact Assessment (page 65) and paragraphs 7.2.5 7.2.13 deal with the impact of the Proposed Development on the Historic Landscape. Amongst other things, they find that the Little Eaton junction is within the setting of the WHS. Reference is made to the visual impact of the embankment. a) Are you content that the Heritage Impact Assessment provides a robust assessment of the effect of the embankment on the character of the "*relic landscape*" which contributes to the Outstanding Universal Value of the WHS?	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
		b) Comment on whether the Heritage Impact Assessment provides a robust assessment of the effect of the Proposed Development from relevant viewpoints?	
11.6	Applicant Historic England DCiC	**ES Chapter 6 [APP-044]** **Additional Submission by DCiC [APP-017]** **ES Figure 2.10 [APP-66]** Concern has been expressed regarding the effect of the flood compensation area on the Outstanding Universal Value of the WHS. a) DCiC – Please clarify what aspect of the flood compensation area gives rise to your concern. How could it be improved? b) Applicant – The sections in Figure 2.10 indicate that the proposed ground profile would be formed by straight or flat surfaces. Is there scope to make the shape of the profile more organic to reflect local topography? c) Historic England – Do you have any concern regarding this element of the Scheme?	a) Response required from DCiC. b) The landform design for the flood compensation area has been developed with input from landscape, ecological and cultural heritage specialists with the aim that it creates a naturalistic profile that blends in with the surrounding valley profile, as well as enabling the land to be returned to agricultural use (refer to ES Figure 2.10 **[APP-066]**. Following re-establishment of agricultural grassland, it would not be apparent that any works had taken place on the site. There remains flexibility in the design of the flood compensation area slopes in order to make them more organic – as such, we would be happy to work with the applicable heritage statutory consultees (e.g. through Derby City Council and Derbyshire County Council) during the floodplain compensation area detailed design in order to create a suitable profile. c) Response required from Historic England.
11.7	Applicant	**ES Chapter 6 [APP-044]** **ES Appendix 6.1 Heritage Impact Assessment for the WHS [APP-173]** **NPSNN** **NPPF**	Please refer to the answer to Question 11.2.

No	Question to	Reference (in bold) and Question	Applicant's Response
		NPSNN paragraph 5.134 and NPPF paragraph 196 require public benefits of the scheme to be considered and weighed against less than substantial harm to heritage assets. Heritage Impact Assessment paragraph 8.4.1 finds the that Proposed Development would cause less than substantial harm to the WHS. NPSNN paragraph 1.2 also requires the adverse impacts of the development to be weighed against its benefits. Please consider the public benefits of the Proposed Development and comment on of the Proposed Development against these parts of the NPSNN and NPPF.	
	Settings of Conservation Areas and listed buildings		
11.8	Historic England DCC EBC	**ES Chapter 6 [APP-044]** ES paragraphs 6.15.33 and 6.15.34 summarise the effects of the proposal on the settings Breadsall Conservation and the Church of All Saints. Are you content that the effects of the embankment in terms of its height and siting, associated slip road and signage and the lighting at the junction Little Eaton junction have been adequately considered?	N/A
12	**Other policy and factual issues**		

No	Question to	Reference (in bold) and Question	Applicant's Response
12.1	Applicant	**Climate change adaptation and carbon emissions** **Increases in CO_2** **ES Chapter 5 – Air Quality [APP-043] tables 5.7 and 5.8** Are the predicted increases in CO_2 due to the Proposed Development, and particularly those predicted for 2039 consistent with the target for a zero net UK carbon account by 2050[3]?	Highways England does not consider that the latest carbon reduction target will affect the assessment of annual CO_2e impacts as presented in Chapter 14: Climate of the ES **[APP-052]** which, in brief, identified no likely significant effects on climate change at either construction or operational stage as a result of the Scheme. It will not be possible to update the assessment of the CO_2e impact of the Scheme against the new net zero carbon target until the revised carbon budgets are published. Please refer to the response provided to ExA question 2.1 for a more detailed response.
12.2	Applicant	**Climate change adaptation and carbon emissions** **Assessment methodology** **ES Chapter 14 – Climate Change Table 14.7; paragraph 14.3.33** a) Where are low, moderate and major "*significance of the effect*" noted under the consequence criteria in table 14.7 defined? b) Should the consequence of in-combination impact relate to how much the likely significance changes, e.g. should there be a difference between the significance of effects increasing from no impact to moderate, compared with from low to moderate?	a) The low, moderate and major "significance of the effect" provided under the consequence criteria in Table 14.7 in Chapter 14: Climate of the ES **[APP-052]** are as defined within the methodology of each environmental discipline's assessment included within the ES as applicable. For example, the Climate 'significance of effect' criteria can be referred to in Table 14.5. b) Highways England considers the eventual significance of effect to be the driver of the consequence i.e. if the significance becomes moderate or major, rather than how much the significance of effect changes as a result of in-combination impact. Therefore, for the purposes of defining consequence, it is considered that there should not be a difference between the significance of effects increasing from no effect to a moderate effect, compared with from a low to moderate effect. c) The "significance of the effect" used in Table 14.7 in Chapter 14: Climate of the ES **[APP-052]** relates to the "significance of the effect of the Scheme on the resource/ receptor, as defined by the topic", while the level of significance referred to in para. 14.3.33 is referring to the significance of in-combination effects.

[3] The Climate Change Act 2008 (2050 Target Amendment) Order 2019

No	Question to	Reference (in bold) and Question	Applicant's Response
		c) How does the "*significance of the effect*" used in table 14.7 relate to the references to significant effects in paragraph 14.3.33?	
12.3	Applicant	**Climate change adaptation and carbon emissions** **Nitrogen trifluoride** **ES Chapter 14 – Climate Change paragraphs 14.3.4 and** Nitrogen trifluoride is identified as one of the seven Kyoto Protocol gases. However, the footnote to Table 14.14 notes that this gas is not accounted for using the Highways England Carbon Reporting Tool. Please clarify the consideration given to nitrogen trifluoride in the assessment.	Nitrogen trifluoride (NF_3) emissions are commonly released from the manufacturing of electronics and microelectronics. It is used in a small number of industrial processes primarily for semi-conductors, liquid crystal displays (LCD) screens, solar panels and chemical lasers. Emissions of nitrogen trifluoride as a result of the Scheme are therefore not considered to have a material impact on the overall footprint given the material requirements of the Scheme (refer to Table 11.9 in ES Chapter 11: Material Assets and Waste **[APP-049]**).
12.4	Applicant	**Climate change adaptation and carbon emissions** **Study area** **ES Chapter 14 – Climate Change paragraph 14.6.2** **Transport Assessment Report [APP-253]** It is stated that "*the spatial coverage of the assessment is, therefore, the area of construction works falling within the Scheme boundary*".	In relation to the construction phase, the assessment of Greenhouse Gases (GHG) emissions considers indirect vehicle emissions arising outside the "Scheme boundary", such as from the transportation of materials, waste and construction workers (refer to para. 14.6.1 in ES Chapter 14: Climate **[APP-052]**). In relation to the Scheme operational phase, the assessment of GHG emissions from road traffic presented in ES Chapter 14: Climate **[APP-052]** was based on GHG emissions data taken from the DfT Web Transport Analysis Guidance (WebTAG) assessment for the Scheme. The WebTAG assessment used traffic data from the Scheme's traffic forecasting model to identify the impact of induced trips and re-routed journeys on the wider road network as a result of the Scheme. GHG emissions presented in Table 14.15 in ES Chapter 14: Climate **[APP-052]** are therefore presenting the GHG impact of the Scheme including the wider road network. Please refer to para. 14.6.3 in Chapter 14: Climate **[APP-052]**.

No	Question to	Reference (in bold) and Question	Applicant's Response
		However, the Transport Assessment Report indicates increases in traffic levels in both the study area, which extends beyond the "*Scheme boundary*" and the wider area, which extends beyond the study area. Please summarise the consideration given to changes in traffic levels outside the "*Scheme boundary*".	
12.5	Applicant	**Climate change adaptation and carbon emissions** **Embodied carbon** **ES Chapter 14 – Climate Change paragraph 14.10.1** **NPSNN paragraph 5.19** It is stated that "*the embodied carbon associated with the use of materials is the biggest contributor to the carbon footprint of the Scheme*". Please summarise: a) The consideration given to the use of other materials and particularly those with lower embodied carbon. b) The criteria used for decision-making about choice of material and the weighting given to embodied carbon. c) The priority to be given to reducing embodied carbon during detailed design and how this will be ensured, evidenced and secured by the dDCO.	a) The carbon footprint presented in Chapter 14: Climate of the ES **[APP-052]** considers all key materials anticipated to be used for the construction of the Scheme as detailed in ES Chapter 11: Material Assets and Waste **[APP-049]**, noting that at present these materials requirements are estimates. The materials defined are responsible for the majority of the embodied carbon emissions associated with the Scheme. It is possible that there will be other materials used in smaller quantities and with lower embodied carbon emissions, but these are not considered material to the overall carbon footprint. Table 14.12 in ES Chapter 14: Climate **[APP-052]** details a range of measures that can be used to reduce the embodied carbon in construction materials. Such measures will be taken forward during the detailed design stage, including the consideration of using materials with lower embodied carbon. b) Given that the Scheme is currently at the preliminary design stage, decisions regarding specific material types have not yet been made, and the criteria for such decisions have not yet been defined. Decisions regarding specific material types will be made during the detailed design stage following the appointment of the selected construction contractor. The appointed contractor will use the Highways England Carbon Reporting Tool to assess the embodied carbon in the materials selected. c) As described in Table 14.12 in ES Chapter 14: Climate **[APP-052]** "*Where practicable, measures would be implemented to manage the use of material resources during Scheme construction*", including measures to reduce embodied carbon. Such measures have been translated into the Outline Environmental Management Plan (OEMP) **[APP-249]** which at MW-CC1 (Table 3.2b) states that the contractor "*shall implement measures to reduce emissions during the*

No	Question to	Reference (in bold) and Question	Applicant's Response
		d) The mitigation measures in respect to carbon footprint and how they will ensure that, in relation to design and construction, the carbon footprint would not be unnecessarily high.	*construction of the Scheme, for example through materials specification and the management and minimisation of energy use.* *The construction contractor shall develop and implement a plan to reduce energy consumption and associated carbon emissions. This could include the consideration of renewable and/or low or zero carbon energy sources and record percentage of savings implemented.* *Where practicable, measures would be implemented to manage material resource use during construction including:* • *Using materials with lower embedded greenhouse gas emissions and water consumption.* • *Using sustainably sourced materials.* • *Using recycled or secondary materials.* *Energy consumption and materials use would be recorded and reported on an ongoing basis during the construction phase of the Scheme using Highways England Carbon Reporting Tool."* As detailed in the dDCO **[APP-016]**, the OEMP is a certified document, whilst DCO Requirement 3 (3(2)(a)) states that the contractor's Construction Environmental Management Plan (CEMP) must be substantially in accordance with the OEMP and that the authorised development must be constructed in accordance with the approved CEMP (3(3)). As such, the requirement to minimise the impacts of Scheme construction on climate change are secured through this requirement in the dDCO. d) Table 14.12 in ES Chapter 14: Climate **[APP-052]** includes details of mitigation measures to reduce the carbon footprint of the Scheme during the construction phase. In summary, these measures include the following: i. Consideration of renewable and/ or low or zero carbon energy sources. ii. Using materials with lower embedded GHG emissions and water use. iii. Using sustainably sourced materials. iv. Using recycled or secondary materials.

No	Question to	Reference (in bold) and Question	Applicant's Response
			v. Recording and reporting energy consumption and materials use on an ongoing basis during the construction phase of the Scheme using the Highways England Carbon Reporting Tool. vi. Planting of trees, shrubs and hedgerows to reduce the impact associated with land use change and loss of carbon sink. As detailed in the response to point c) above, the construction contractor's CEMP must include a plan to reduce energy consumption and associated carbon emissions.
12.6	DCiC DCC EBC EA	**Climate change adaptation and carbon emissions** **Carbon footprint** **ES Chapter 14 – Climate Change Section 14.10** **NPSNN paragraph 5.19** a) With reference to NPSNN, would the carbon footprint of the Proposed Development be "*unnecessarily high*" and, if so, what further measures should be considered or taken to reduce it? b) Should carbon footprint targets be set or should monitoring, or reporting be considered during detailed design, construction or operation?	a) ES Chapter 14: Climate **[APP-052]** identified no likely significant effects on climate change at either construction or operational stage as a result of the Scheme, noting that mitigation measures would be implemented by the construction contractor to reduce the Scheme carbon footprint. As such, Highways England do not consider the carbon footprint of the Scheme to be "unnecessarily high". Please refer to the response provided to ExA question 12.5d for specific mitigation measures to be taken to reduce the Scheme carbon footprint. b) As outlined in Section 14.11 of ES Chapter 14: Climate **[APP-052]**, no monitoring is considered necessary as no significant effects have been identified for the climate assessment. As no likely significant effects on climate change are expected as a result of the Scheme, it is also not considered necessary for carbon footprint targets to be set. Nevertheless, energy consumption and materials use will be recorded and reported by the construction contractor to Highways England on an ongoing basis during the Scheme construction phase using the Highways England Carbon Reporting Tool. With regard to Scheme operation, Highways England consider that it is not practical to measure GHG emissions from road users, although energy use will be monitored and accounted for in Highway England's annual carbon reporting.
12.7	DCiC DCC EBC	**Common law nuisance and statutory nuisance** **Statutory Nuisance Statement [APP-248]**	Whilst Highways England has not been asked to respond to this point, Highways England would point the ExA to its response to question 44 in the DCO ISH responses **[TR010022/APP/ 8.4].**

No	Question to	Reference (in bold) and Question	Applicant's Response
		ES Chapter 9 – Noise and Vibration [APP-047] **dDCO [APP-016] Article 43** The Applicant identifies the potential for the Proposed Development to create statutory nuisance in relation to dust arising on business premises, artificial light emitted from premises, noise emitted from premises and noise emitted from or caused by a vehicle, machinery or equipment in a street. It then states that with the mitigation measures secured by the DCO, none of the statutory nuisances are predicted to rise. The ES predicts significant noise and vibration effects during construction and operation. a) Are there any comments regarding the assessment of the potential for statutory nuisance? b) Are the dDCO provisions for defence to proceeding in respect of statutory nuisance necessary and appropriate?	
12.8	Statutory Undertakers DCiC DCC EBC	**Utility infrastructure** **ES Chapter 2 – The Scheme [APP-040] paragraph 2.6.86-92** The Applicant has identified the major utilities works and temporary connections required during construction. a) Are any other major diversion or relocation works anticipated within the	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
		boundary of the Proposed Development? b) Are any other works proposed through permitted development rights likely to affect the Proposed Development? c) Is there any reason to suggest that any of those works would be likely to cause an impediment to the planned delivery of the Proposed Development?	
12.9	Applicant	**Waste management** **RR by the EA [RR-005]** Please respond to the issues raised by the EA in their RR, including with respect to: • opportunities for greater use of recycled materials; • the need for the Site Waste Management Plan to consider waste minimisation; • the need for the Site Waste Management Plan to consider who waste will be passed to any whether they have appropriate authorisation; • how waste from the landfill site would be dealt with and opportunities for Complex Sorting to reduce the amount of waste requiring disposal; and • any plans to use the CL:AIRE Definition of Waste Code of Practice	A response to the EA RR **[RR-005]** has been prepared and submitted which covers the issues as raised associated with waste management. Details are provided below: • **Opportunities for greater use of recycled materials:** The Outline Environmental Management Plan (OEMP) **[APP-249]** specifies a target that 14% of aggregates used during the construction phase should be secondary and recycled aggregates (for those applications where it is technically and economically feasible to substitute alternative materials for primary aggregates). Delivery of the OEMP is a Requirement in the draft DCO. Specification of a 14% target is considered to be appropriate. However, this does not preclude Highways England from setting a more demanding target during the detailed design and construction phase. As such, Highways England will liaise with the construction contractor following their appointment to determine whether they are able to work towards the national target of 25%. • **The need for the Site Waste Management Plan to consider waste minimisation:** This comment is noted and agreed. • **The need for the Site Waste Management Plan to consider who waste will be passed to any whether they have appropriate authorisation:** This comment is noted and agreed. • **How waste from the landfill site would be dealt with and opportunities for Complex Sorting to reduce the amount of waste requiring disposal:** Highways England will carry out supplementary ground investigation to inform preparation of a

No	Question to	Reference (in bold) and Question	Applicant's Response
		and the associated environmental permits.	Remediation Strategy for the tip area located at Kingsway junction (former Rowditch Tip). There is an opportunity to utilise a more sustainable approach by undertaking stabilisation/ solidification of the excavated material containing asbestos and re-use that material at depth within the Scheme's earthworks, either beneath the road in the cutting or within other embankments at Kingsway junction. This reduces the volume of materials requiring disposal and reduces the volume of fill that needs to be imported to the site. Any such works would be undertaken in accordance with the OEMP and only if such activities would not give rise to any materially new or materially worse adverse environmental effects in comparison with those reported in the ES (noting that any treatment of waste to make it suitable for use would need to be undertaken under an appropriate environmental permit or mobile plant permit). • **Any plans to use the CL:AIRE Definition of Waste Code of Practice and the associated environmental permits:** This comment is noted and agreed.
12.10	DCiC DCC EBC EA	**Waste management** **ES Chapter 11 – Material Assets and Waste [APP-049]** **NPSNN paragraph 5.43** Please comment on: a) The ability of the local waste infrastructure to satisfactorily deal with waste from the Proposed Development? b) Whether any adverse effect is anticipated on the capacity of existing waste management facilities to deal with other waste arisings in the area?	N/A
12.11	Applicant DCiC	**Civil and military aviation and defence** **NPSNN paragraphs 5.55-7**	a) and b): Highways England notes that the NPSNN sets out the approach in relation to civil aerodromes stating at Paragraph 5.48 that:

No	Question to	Reference (in bold) and Question	Applicant's Response
	DCC EBC	a) With reference to NPSNN, please could the Applicant summarise the steps taken to identify any potential effects on civil or military aviation and/or other defence assets and whether it considers that any are likely to be affected? b) If any may be affected, please could the Applicant summarise the consultations with the Ministry of Defence, Civil Aviation Authority, National Air Traffic Services and any aerodrome – licensed or otherwise – likely to be affected, and the proposed mitigation measures? c) Are the Local Authorities aware of any civil or military aviation and/or other defence assets that might be affected?	*'Certain civil aerodromes, and aviation technical sites, selected on the basis of their importance to the national air transport system, are officially safeguarded in order to ensure that their operation is not inhibited by new development.'* Furthermore, paragraphs 5.55 and 5.56 set out the steps to be undertaken, stating under the heading of Applicant's Assessment that: *'Where the proposed development may have an effect on civil or military aviation and/or other defence assets, an assessment of potential effects should be carried out.* *The applicant should consult the MoD, CAA, National Air Traffic Services (NATS) and any aerodrome – licensed or otherwise – likely to be affected by the proposed development in preparing an assessment of the proposal on aviation or other defence interests.'* In accordance with the requirements of Paragraphs 5.55 and 5.56, the MOD, CAA and NATS were consulted during the pre-application period, under the auspices of Section 42 and Section 56 of the Planning Act 2008. This is confirmed in the Consultation Report: Appendix G: List of Prescribed Consultees **[APP-030]**. In responding to the Section 56 consultation, the MOD responded in writing in a letter date 13 June 2019 stating the following: *'Thank you for consulting Defence Infrastructure Organisation (DIO) on the above proposed development. This application relates to a site outside of Ministry of Defence (MOD) statutory safeguarding areas. We can therefore confirm that the MOD has no safeguarding objections to this proposal. I trust this adequately explains our position on this matter, however should you have any questions regarding this matter please do not hesitate to contact me.'* A copy of this letter is enclosed alongside the written responses to the ExA's questions. There are no other impacts on defence interests as detailed in paragraphs 5.53 and 5.54 of the NPSNN, other than as already detailed in the DCO application submission, in relation to the impact on the Army Reserve Centre at Kingsway. In relation to Civil Aviation Safeguarding matters NATS responded to the Section 42 consultation in 2018 stating that:

No	Question to	Reference (in bold) and Question	Applicant's Response
			'NATS anticipates no impact from the proposed changes to the A38 and has no comments to make on the DCO.' Whilst the CAA has been consulted on the Scheme during the Section 42 and Section 56 consultation stages, no response to date has been received. As Paragraph 5.57 of the NPSNN requires, the applicant has taken into consideration aviation and other defence interests in its assessments during the construction and operational phases. As such, no effects are anticipated on the operation of CNS infrastructure, fight patterns (both civil and military) and other defence assets and aerodrome operational procedures from the development of the Scheme. c) Response required from the defined local authorities.
12.12	DCiC DCC EBC	**Safety, security and major accidents and disasters** **Safety** **NPSNN paragraphs 3.10, 4.60** a) Are there any comments about whether enough opportunities been taken to improve road safety, including introducing the most modern and effective safety measures where proportionate? b) Should any other opportunities be considered or taken? If so, what?	N/A
12.13	Applicant	**Safety, security and major accidents and disasters** **National security considerations** **NPSNN paragraphs 4.74-8**	The Centre for the Protection of National Infrastructure (CPNI) provide advice and assistance to protect the UK's Critical National Infrastructure (CNI). CNIs are identified by the CPNI and there is currently only one CNI site within Highways England's East Midlands region.

No	Question to	Reference (in bold) and Question	Applicant's Response
		Please provide evidence that the Centre for the Protection of National Infrastructure and the Department for Transport are satisfied that security issues have been adequately addressed in the Proposed Development.	There has not been a CNI site identified within the area of the Scheme so the CPNI and DfT have not been consulted. If the Scheme is later identified as a CNI site, Highways England will take advice from the CPNI to mitigate any security risks.
12.14	Applicant	**Combined effects** **ES Chapter 15 – Cumulative Effects [APP-053]** **Table 15.3** a) Please clarify why the combined effects ("*moderate adverse*") for two receptors (Users of NR54 and NR68 and RR66; and Greenwich Drive North (residential)) are less than the effect ("*large adverse*") identified for a single topic? b) Noise effects are identified as "*Adverse impact – significant*" where they occur. For each relevant receptor, please clarify and justify whether they are considered slight, moderate, large or very large adverse for the assessment of combined effects.	a) Users of NR54, NR68 and RR66 are deemed to be medium value receptors and would experience temporary localised adverse effects (some of which would be significant) during the Scheme construction phase. In accordance with Table 15.1 (Combined and Cumulative Effects Significance) within ES Chapter 15: Assessment of Cumulative Effects **[APP-053]**, temporary and localised adverse combined effects upon medium value receptors would constitute a Slight adverse effect. However, a Moderate adverse effect (which is significant) has been assigned in order to be precautionary. Residential receptors on Greenwich Drive North (high value receptors) would experience temporary localised adverse effects (some of which would be significant) during the Scheme construction phase. In accordance with Table 15.1, temporary and localised adverse combined effects upon high value receptors constitutes a Moderate adverse effect which is significant. b) Table 15.3 relates to construction effects due to individual topics and overall cumulative effects, with the column 'Potential in-combination impact' summarising the residual effects for each topic. For construction noise the assessment methodology as set out in the ES Chapter 9: Noise and Vibration **[APP-047]** does not use a scale of slight, moderate, large or very large for either the magnitude of impact or the significance of effect. Instead, the construction noise levels are compared to the relevant Significant Observed Adverse Effect Level (SOAEL). This approach is based on the 'ABC method' set out in BS 5228 (2014) BS 5228: 2009+A1: 2014 'Code of Practice for Noise and Vibration Control on Construction and Open Sites', which is based on whether a specific criterion is exceeded and does not use a scale of magnitude of impact or significance of effect. Construction noise levels which exceed the SOAEL are identified as potentially resulting in a significant effect, other factors, such as the duration of the impact, are then considered in the final decision on whether an effect is significant. On this basis it is not considered to be appropriate to assign slight, moderate, large or very large to the significance of construction noise effects reported in Table 15.3 as this would

No	Question to	Reference (in bold) and Question	Applicant's Response
			not be supported by the methodology used in the assessment. Nevertheless, Table 15.3 does highlight whether the noise effect at each receptor is significant or not, which then feeds into the assessment of predicted in combination effects.
12.15	DCiC DCC EBC EA NE Statutory Undertakers	**Other policy and factual issues** Are there any other comments with respect to: • climate change adaptation and carbon emissions • common law nuisance and statutory nuisance • utility infrastructure • waste management • civil and military aviation and defence • safety, security and major accidents and disasters • cumulative and combined effects; and • any other policy and factual issues?	N/A
13	**Compulsory Acquisition, temporary possession and funding**		
	The accuracy of the Book of Reference, Land Plans, updates and points of clarification		
13.1	Applicant	**Book of Reference (BoR) [AS-007]** **Compliance with guidance**	Highways England can confirm that The BoR **[APP-022]** has been prepared in accordance with DCLG Guidance, Planning Act 2008, Guidance related to procedures for the compulsory acquisition of land, DCLG, September 2013 and accords with the

No	Question to	Reference (in bold) and Question	Applicant's Response
		Please confirm whether the BoR is fully compliant with DCLG Guidance[4], including Annex D.	definition in the Infrastructure Planning (Application: Prescribed Forms and Procedure) Regulations 2009.
13.2	Applicant	**Accuracy of the BoR [AS-007] and Statement of Reasons (SoR) [APP-020]** **SoR [APP-020] paragraph .5** **BoR [AS-007] Part 1** **Lessees or tenants** a) Why does the BoR not identify lessees or tenants of 257 Ashbourne Road, when it identifies occupiers and the SoR identifies it as a tenanted property? b) Please confirm that there are no lessees, tenants or occupiers of 8 Queensway, as identified in the BoR? c) Why does the BoR appear to identify that the owners of 26 Queensway are the occupiers and the BoR does not identify any lessees or tenants, while the SoR identifies it as a tenanted property? d) The BoR states that 24 Queensway is to be compulsorily acquired. However, the SoR identifies that the Applicant has acquired the property. Is the SoR correct?	a) This has been updated and is provided in the BoR Schedule of Changes document **[TR010022/APP/8.32].** b) Highways England did not get a response to a request for details about the property sent in a Land Information Questionnaire. Other usual land referencing exercises to discover details of tenants, lessees and occupiers were also without success. c) This error has been updated and is provided in the BoR Schedule. The Property is tenanted by students whose identities are unknown. d) The BoR details Highways England Company Limited as the owner of 24 Queensway. As per paragraph 2.1.4 of the Book of Reference t Applicant has taken a precautionary approach of seeking powers of compulsory acquisition in respect of all plots of land required for the Scheme even where it already holds an interest or presumes it holds an interest in the land. This approach has been taken to ensure that it has the ability to acquire the interests it needs in the whole of the DCO land where an unidentified owner later asserts an interest in land or unknown third-party rights which emerge require to be removed and compensated.

[4] Planning Act 2008, Guidance related to procedures for the compulsory acquisition of land, DCLG, September 2013

No	Question to	Reference (in bold) and Question	Applicant's Response
13.3	Applicant	**Accuracy of the BoR [AS-007] and SoR [APP-020]** **CA objectors** a) Do any Compulsory Acquisition (CA) objectors need to be added to the BoR or SoR, e.g. as Category 3 parties, potentially including, but not limited to, those that have provide representations on, or have interests in: • noise, vibration, smell, fumes, smoke or artificial lighting; • the effect of the construction or operation of the proposed development on property values or rental incomes; • concerns about subsidence/ settlement; • claims that someone will need to be temporarily or permanently relocated; • impacts on someone's business; • loss of rights, e.g. to a parking space or access to a private property; • concerns about project financing; • claims that there are viable alternatives; and • blight.	a) No. Highways England has fully considered the scope of category 3 persons in preparing the BoR as set out in section 4.7 of the SoR **[APP-020]**. Having considered the environmental assessments with reference to the Scheme works and the operation of the Scheme, and having applied professional judgement, it is considered that there are no properties whereby a successful claim could be pursued under Section 10 or Part 1. However, despite properties or interests not having been identified for inclusion in Part 2b of the BoR, this exclusion does not prejudice a claim being submitted by a person who considers a relevant claim can be made at the appropriate time. b) The BoR lists parties with identified interests only, not objectors. Where objections highlight a new interest, or a known interest changes the BoR will be updated to reflect these. The BoR is a factual record of identified land interests only, there is no appropriate section to deal with objectors. The SoR Annex B setting out the progress of individual negotiations will be updated as appropriate during the examination however it is not considered that it is proportionate or helpful to do this at every deadline given that substantive progress may not have been made between every deadline. Highways England will instead submit updates of this annex only as and when progress is made and doing so would assist the Examining Authority. Highways England will incorporate the then current version of the annex into any wider revisions of the BoR and SoR as they are required and towards the end of the examination.

No	Question to	Reference (in bold) and Question	Applicant's Response
		b) Please provide an update to the BoR and SoR with any changes in respect to CA objectors at each Examination Deadline.	
13.4	Applicant	**Updates to the BoR [AS-007], SoR [APP-020] and Land Plans [APP-006 and AS-015]** **SoR [APP-020] paragraphs 4.8.1-3** **Diligent enquiry into land interests** a) Please could the Applicant advise when the latest Land Registry and other non-contact methods to establish ownership were undertaken and when they will be undertaken further before the end of the Examination? b) Please could the Applicant provide an update on contacts with persons having an interest in land or a potential claim, any progress in identifying rights over unregistered land and the further steps to be taken during the Examination? c) Please could the Applicant update further towards the close of the Examination, alongside the final submission of the BoR, SoR and Land Plans to the Examination?	a) A Land Registry Refresh was undertaken on the 21st May 2019, to ensure that all interested parties would receive a S.56 notice, here it was pick up that there had been 3 changes to the ownerships of parcels within the Red Line Boundary. These parties were issued with a S.56 notice pack, informed of how they would be able to participate in the examination process and were offered a meeting to discuss the proposals and how they would be affected by the proposed scheme. Once the application had been accepted Notices were erected on all unregistered land within the Red Line Boundary and sporadically along the route of the scheme. These notices were then checked weekly by Highways England, with a photographic record kept of where these notices were placed. We are currently in discussions with landowners along the route to reach an agreement, many of whom are helping to identify any unregistered land, of which Highways England has been unable to identify ownership of. Highways England will also undertake further land registry refreshes prior to the final examination deadline and, should the application be granted, prior to acquisition notices being sent out. b) The 'Diligent Inquiry' process continues as the project progresses through examination and any information gained will be included the final SoR and BoR as required and detailed in the schedules provided at each deadline. Such information may come as a result of further discussions with landowners or new landowners coming forward as they become aware of the proposals. Prior to the end of Examination, a land registry search will be carried out as described in the SoR [APP-020] paragraph 4.8.1.

No	Question to	Reference (in bold) and Question	Applicant's Response
			c) Diligent Inquiries as detailed in the SoR **[APP-020]** paragraph 4.8 are ongoing and details of these will be provided when the relevant documents are updated (SoR, BoR and Land Plans).
13.5	Interested Parties and Affected Persons	**Accuracy of the BoR [AS-007], SoR [APP-020] and Land Plans [APP-006 and AS-015]** Are any Interested Parties or Affected Persons aware of any inaccuracies in the BoR, SoR or Land Plans?	N/A
13.6	Applicant	**Updates to the BoR [AS-007] and SoR [APP-020] during the Examination** The Applicant is asked to confirm that the BoR and SoR will be: • kept up to date with any changes and, if there have been any changes to the latest version provided to the Examination, submitted at the next Examination Deadline; • supplied in two versions at each update, the first forming the latest consolidated draft and the second showing changes from the previous version in tracked changes, with comments outlining the reason for the change; and • supplied with a unique revision number that is updated consecutively from the application	The SoR and BoR are both 'working documents' which continue to be reviewed and refined. Due to the size of the documents and the relatively few changes Highways England will provide an updated version of both documents at the end of examination. A schedule detailing changes to the BoR has been provided. A tracked change version of the documents will also be provided with the final updated documents.

No	Question to	Reference (in bold) and Question	Applicant's Response
		version, clearly indicated within the body of each document and included within the electronic filename.	
13.7	Applicant	**Updates to the Land Plans [APP-006 and AS-015] during the Examination** The Applicant is asked to confirm that the Land Plans and Special Category Land Plans will be: • kept up to date with any changes and, if there have been any changes to the latest version provided to the Examination, submitted at the next Examination Deadline; • supplied with a description of the changes since the previous version and comments outlining the reasons for the changes; and • supplied with a unique revision number that is updated consecutively from the application version, clearly indicated within the body of each document and included within the electronic filename.	There are currently no changes to the Land Plans **[APP-008]** or the Special Category Land plans **[APP-007]**, but like the Statement of Reasons **[APP-020]** and Book of Reference **[APP-022]** they are 'live' documents and will be reviewed and revised as needed during the examination period. Due to the size of the documents Highways England will provide an updated version of the Plans prior to the of examination. The Guide to the Application **[TR010022/APP/8.2]** detailing changes to the plans will be provided at each deadline if changes have been made (please note that for Deadline 1 there are no changes).
	The need for Compulsory Acquisition and Temporary Possession and the minimisation of need		
13.8	Applicant	**The need for CA**	a) The case for the scheme is summarised in the Statement of Reasons (**[APP-020]**paras 2.2.1-2.2.9) The existing A38 between Kingsway and Kedleston Road junctions has 2 lanes in each direction; the forecast traffic flows for the 2039 design

No	Question to	Reference (in bold) and Question	Applicant's Response
		Statement of Reasons (SoR) [APP-020], paragraph 6.1.5 **CA of residential land and buildings and demolition of residential properties at 257 and 259 Ashbourne Road** **CA of residential land and buildings and demolition of residential properties at 2, 4, 6, 8, 10, 12, 14, 16, 18, 24, 26, 30 and 32 Queensway** **CA of residential gardens at 253 Ashbourne Road, 1 Sutton Close, 14 Sutton Close and Sutton Turner House(s)** **CA of any rights at any other residential property** Please provide further detail on the need for CA of each of these residential properties provided in the SoR. Please include consideration of: a) The case for the widening of the dual carriageway? b) The specific design safety standards that are quoted in reference to the proposed alignment of the main highway? c) Whether the application of each relevant design safety standard is mandatory, in any way discretionary or can be varied according to circumstances? d) The justification of any decisions or choices made about how to apply the design safety standards?	year (refer to the Transport Assessment Report **[APP-253])** gives the peak hour flows on the A38 between Markeaton and Kedleston Road junctions as: Northbound 4240 vehicles per hour Southbound 3777 vehicles per hour Design Standard TD 22/06, para 3.3 gives the maximum flow per lane for an all-purpose road to be 1600 vehicles per hour, meaning a 2-lane dual carriageway can carry 3200vph in each direction. For this reason, it is necessary to widen the carriageway to provide Three lanes in each direction between Kingsway and Kedleston Road junctions. If the existing 2 lanes were retained it would result in congestion and queuing and this would mean the scheme objectives would not be met. This is one of the principal reasons for the CA of the properties on Queensway and Ashbourne Road. b) The principal Safety Design Standards used to design the grade separated junctions and A38 main carriageway are as follows: **TD 22/06 Geometric design of grade separated junctions** (CD 122 has now superseded TD 22/06. There has been no significant change to the standard), **TD 50/04 Geometric design of at-grade priority and signal controlled junctions**, **TA 78/97 Geometric design of roundabouts** (CD 116 has now superseded both these standards and the current design will be assessed against this at the detailed design stage) **TA 23/81 Junctions and Accesses**: Determination of Size of Roundabouts and Major/Minor Junctions, **TD 9/93 Highway Link Design**, **TD 27/05 Cross-Sections and Headrooms** c) Application of the standards is mandatory. There are permitted relaxations from the standards under certain circumstances and full advantage has been taken of these wherever appropriate. d) To deviate from the standards more than the permitted relaxations allow requires a Departure from Standards that would need to be approved by Highways England's safety specialists. A Departure would not be approved if it could not be demonstrated that there was no safer alternative that could be reasonably provided.

No	Question to	Reference (in bold) and Question	Applicant's Response
		e) How each design safety standard individually contributes to the proposed main highway alignment? f) Any other relevant matters? Please identify and consider each individual property on its own merits and provide references and any illustrations that may be helpful.	e) Departures from TD 22/06 have already been submitted and approved for some of the sub-standard scheme features, in particular the weaving length between Kingsway and Markeaton junctions. A compliant weaving length is not physically possible due to the close proximity of the 2 junctions, . Compliant alternative would have meant providing parallel link roads between the junctions at the expense of additional land take from Markeaton Park and encroachment on to the Royal School for the Deaf or to completely close the Kedleston Road junction with the associated traffic impacts on Kedleston Road and disconnecting the University from the A38. Hence the Departure allowed for significantly reduced impacts on the RSDD and Markeaton Park whilst optimising the cost balance and maintaining road safety. f) None
13.9	Applicant	**The need for Temporary Possession (TP)** Please provide a detailed explanation of the need for TP of any residential property, identifying and considering each property individually and justifying the extent of the area and duration required.	There will be no TP of residential properties required or sought for the construction of the scheme or for any future maintenance. CA of land only is required in relation to residential properties as detailed in the SoR. **[APP-020].**
13.10	Applicant	**The need for CA** **Voluntary agreements** a) Please provide a tracked changes update to the table included in Annex B of the Statement of Reasons, summarising the discussions and correspondence that have taken place between the Applicant and each Affected Person relating to the acquisition of land or rights in land, permanent or temporary, for each relevant plot.	a) A tracked changes update to the table included in Annex B of the SoR is included as part of the Deadline 1 submission. b), c) Highways England is progressing negotiations with third parties on a number of issues and while it is happy to give general indications of progress, providing this level of detail would prejudice negotiations and, in some cases, involve disclosing information which is commercially sensitive or includes personal data. This level of detail will therefore not be included in updates in line with the note at the end of the question. d), e) The SoR Annex B setting out the progress of individual negotiations will be updated as appropriate during the examination however it is not considered that it

No	Question to	Reference (in bold) and Question	Applicant's Response
		b) In each case please identify any outstanding matters and, the next steps to be taken and when it is anticipated that consent will be obtained. c) Where interests have not yet been acquired by agreement, why has agreement not been secured and what steps have been taken to reach agreement with a view to avoiding the need for the exercise of compulsory powers? d) For the avoidance of doubt, please include any land or rights, permanent or temporary, that have been acquired by voluntary agreement in each subsequent version of the table. e) Please update this table at each deadline in the Examination Timetable. The above information will be published on our website, so commercial and/or confidential details need not be given.	is proportionate or helpful to do this at every deadline given that substantive progress may not have been made between every deadline. Highways England will instead submit updates of this annex only as and when progress is made and doing so would assist the Examining Authority.
13.11	Applicant	**Minimisation of the need for CA of land** **SoR [APP-020] Annex A** **Land Plans [APP-006]** a) Please provide detailed justification of the extent of the areas proposed for CA of land for environmental mitigation and enhancement, flood plain compensation or storage areas, cycleways, utilities, road realignment or installation of	a) The requirement for Land plots 1/1a, 1/1b, 1/1e, 5/3b, 5/3c, 5/4, 6/1, 7/3a, 7/3b, 7/4, 8/4f, 7/3g are as listed in the SoR **[APP-020**]. As the plots are already owned by Highways England, the extent also allows for access, working space, materials storage areas and future maintenance access. Compulsory acquisition of these plots is required to ensure that third party rights incompatible with the end use and unknown interests can be acquired Land plot 8/12 is an unregistered plot occupied by Derbyshire County Council. This area will be used for the diversion of Dam Brook and is located at the far extent of the scheme and located on the A61. Compulsory acquisition of this plot is required to ensure that any third party rights incompatible with the end use and unknown interests can be acquired to prevent delays to the implementation and delivery of the Scheme.

No	Question to	Reference (in bold) and Question	Applicant's Response
		signage and safety barriers at plots 1/1a, 1/1b, 1/1e, 5/3b, 5/3c, 5/4, 6/1, 6/3a, 6/1, 7/3a, 7/3b, 7/4, 8/4f and 8/12. b) In each case please justify why the CA of rights and/or TP would not be enough? c) In each case please clarify when TP is required and for how long? d) Why is the flood storage area at plot 1/1e to be acquired permanently when the plots on either side are proposed for the acquisition of rights only? e) Why is permanent acquisition for temporary access to flood compensation areas at plots 7/3b and 7/4? f) Why is land to the west of the A61 required at plot 8/4f when the diversion of Dam Brook appears to be to the east of the road? g) Is the culvert at plot 8/12 existing? If so, why does it need to be acquired for the diversion of Dam Brook? h) Please add plots 2/13b and 7/3g to Annex B of the SoR and clarify the purposes for which the land is required.	b) As noted in a) above. c) No TP is required on these plots, they are all CA. d) Land plot 1/1e is already owned by Highways England, compulsory acquisition of this plot is required to ensure that third party rights incompatible with the end use and unknown interests can be acquired. The plots on either side are not. e) As these plots are already owned by Highways England compulsory acquisition is required to ensure that third party rights incompatible with the end use and unknown interests can be acquired. f) Plot 8/4f is already owned by Highways England and is required to permit cleansing of the Dam Brook culvert under the A61. g) This is an existing culvert which extends under the full carriageway width of the A61 with a small section of the carriageway belonging to DCC. Land to either side of this land plot belongs to Highways England which also contains the culvert. It is required to permit cleansing of the Dam Brook culvert. h) Noted. These plots will be added to the SoR with the purposes added which are 2/13b - construction of new access road between new roundabout and Kingsway Park Close. 7/3g is land already owned by Highways England and will be used as part of the stopping up of Ford Lane.
13.12	Applicant	**Minimisation of the need for CA of rights** **SoR [APP-020] Annex A** **Land Plans [APP-006]** **RR by Robert Frank Hancox [RR-024]**	a) 1/3b: The limits of this plot of land is dictated by the need of flood storage areas to mitigate the flood risk of the A38 as well as environmental mitigation & enhancement which includes creating a wetland/scrub land which will be rich in species and retaining some existing vegetation. It also allows for access to divert and maintain utilities. As shown on figure 2.12A of the

No	Question to	Reference (in bold) and Question	Applicant's Response		
		RR by Chris O'Donnell [RR-027] a) Please provide detailed justification of the extent of the areas proposed for TP and for the CA of rights for environmental mitigation and enhancement, flood plain compensation, cycleways or utilities at plots 1/3b, 1/4b, 2/1b, 2/1f, 2/7a, 2/8, 2/9, 4/1b, 4/1d, 6/2 and 7/5. b) In each case please justify why both CA and TP are required for the whole of the areas? c) In each case please clarify when TP is required and for how long? d) Why do the flood compensation areas at plots 6/2 and 7/5 need to extend so far to the East? e) Could the cycleways at plots 2/1f, 2/7a, 2/8 and 2/9 be pulled further away from adjacent dwellings? f) Could the utility corridor at plots 4/1b and 4/1d run closer to the A38?			Environmental Statement **[APP-068]** and as set out in Annex A of the SoR. **[APP-020]**.
				1/4b & 2/1b	The limits of this plot of land is dictated by the need for environmental mitigation and enhancement which includes retaining the majority of existing vegetation in this area. It also allows for access to divert and maintain utilities. As shown on figure 2.12A of the Environmental Statement **[APP-068]** and as set out in Annex A of the SoR. **[APP-020]**.
				2/1f & 2/9	This land plot will be used in the construction of the western dumbbell roundabout of Kingsway junction, realignment of a cycle track to join with the existing national cycling network (Nos. 68 & 54) and regional route, approximately 170m in length, (No.66). This includes access to utilities that to be diverted and maintained as set out in Annex A of the SoR. **[APP-020]**
				2/7a & 2/8	This land plot will be used in the construction and realignment of a cycle track to join with the existing national cycling network (Nos. 68 & 54) and regional route, approximately 170m in length, (No.66) as set out in Annex A of the SoR. **[APP-020]**
				4/1b & 4/1d	This land plot will be used for construction, the creation of the utility corridor and including the diversion and maintenance of the utilities as set out in Annex A of the SoR. **[APP-020]**

No	Question to	Reference (in bold) and Question	Applicant's Response		
				6/2 & 7/5	This land plot will be used for construction of the flood compensation area for the River Derwent and for access to divert and maintain utilities as set out in Annex A of the SoR. **[APP-020]**
			b)	1/3b	TP of the whole area required to facilitate the works, once completed only permanent rights required for access to the utilities.
				1/4b & 2/1b	TP of the whole area required to facilitate the works, once completed only permanent rights required for access to the utilities.
				2/1f & 2/9	TP of the whole area required to facilitate the works, once completed only permanent rights required for access to the utilities.
				2/7a & 2/8	TP of the whole area required to facilitate the works, once completed only permanent rights required for maintenance of the cycle track.
				4/1b & 4/1d	TP of the whole area required to facilitate the works, once completed only permanent rights required for access to the utilities.
				6/2 & 7/5	TP of the whole area required to facilitate the works, once completed only permanent rights required for access to the utilities.

No	Question to	Reference (in bold) and Question	Applicant's Response
			c) The detailed construction programme is to be developed by the appointed contractor and will be developed during the Detailed Design stage of the scheme. The land will only be required at the appropriate time during construction and will only be returned to the land owner at such time that all work that land is required for is completed, checked and the reinstatement works have been undertaken. d) These plots will be used for the construction and maintenance of a flood plain compensation area and the diversion and maintenance of and access to utilities. The extents of the plots are due to the amount of area required as flood compensation on a like-for-like basis. This area would be excavated, appropriately profiled, re-grassed and returned to the landowner for continued agricultural use. The landform design of the floodplain compensation area has been developed with input from landscape, ecological and cultural heritage specialists with the aim that it creates a naturalistic profile that blends in with the surrounding valley profile, as well as enabling the land to be returned to agricultural use. This layout also avoids the need to remove veteran trees in this area. As described in Chapter 13 of the ES, section 13.10 [**APP-051].** The area extends so far to the east to provide sufficient space for the temporary storage of topsoil whilst the works are carried out. e) These footway/cycleways are being diverted around the footprint of the proposed western dumbbell roundabout of Kingsway junction and will be reconnected with the existing alignment either end. The new alignment of the footway/cycleways is designed to DMRB standards **[TA90/05]** with impact to the surrounding vegetation and land kept to a minimum. f) No, due to the complex nature of the proposed Markeaton junction construction and the disruption posed by the installation of the main piled walls severing the utilities it is necessary to move the utilities prior to commencement of this element of work. So as to minimise disruption of the existing A38 route the utility corridor is sited along the edge of the existing A38 within the POS area of Markeaton Park
13.13	Applicant	**Minimisation of the need for TP**	a) These land plots will be required temporarily and will be used for reasons including but not limited to: utilities diversion, construction site compounds, vehicular access,

No	Question to	Reference (in bold) and Question	Applicant's Response
		SoR [APP-020] Annex A **Land Plans [APP-006]** a) Please provide detailed justification of the extent of the areas proposed for TP for environmental mitigation and enhancement, flood compensation areas, works to the carriageway or slip roads, works in Markeaton Park and amendments to access and egress at plots 1/3c, 2/1s, 2/3, 3/1d, 3/1n, 3/1t, 3/1v, 3/8a, 3/8b, 4/1c, 4/1f, 4/1h, 4/7d, 4/13b, 5/1, 5/2, 7/1g, 7/6, 7/7a, 7/7b, 7/14, 7/17a, 7/17c, 8/18, 8/3a, 8/3c, 8/10b, 8/10c, 8/15, 8/16b, b) In each case please clarify when TP is required and for how long? c) Should plot 4/1f be shown twice on the Land Plan?	haul routes, construction working areas, temporary storage of materials and for environmental purposes (e.g. flood storage areas, floodplain compensation area, ecological mitigation planting and bird/bat boxes). These land plots will then be returned following completion of works. **[APP-040 para 2.5.47]**. The significant majority of the land required permanently for the Scheme is within the existing A38 corridor and mostly already owned by Highways England. Land required for the Scheme outside of the existing A38 corridor, is to ensure compliance with design safety standards, to ensure environmental mitigation measures can be implemented, to deliver open space exchange land and accommodate highway drainage infrastructure. **[APP-020 para 5.3.6]**. Any areas of land that are temporarily occupied will be restored to their original condition once the work has been completed in that area. **[APP-020 para 5.3.8]**. Land adjacent to the highway has been included in the draft DCO application to ensure the Scheme is effectively drained in accordance with design safety standards and is no more than is required to ensure those standards are met. **[APP-020 para 5.3.9]**. Provision has been made in the draft DCO application for the creation and acquisition of new rights to accommodate the diversion of statutory undertakers' apparatus over a number of plots (as identified in Schedule 5 to the draft DCO). Whilst these rights are shown as applying to whole plots, following the completion of the detailed design by the contractor and through engagement with the Statutory Undertakers, the final areas for these works will be in defined corridors. **[APP-020 para 5.3.10]**.
			1/3c & 2/3 — The following land plots will be used for access and for environmental mitigation areas at Kingsway Hospital. The area will be retaining some or all existing vegetation **[APP-068]**. These areas may also be used for ecological features such as bird and bat boxes.
			2/1s — This plot of land forms part of the stopping up of Brackensdale Avenue A38 Link road. During construction this plot will also be used as a satellite construction compound for materials storage and welfare facilities and construction access. The area will then be used to provide additional green space.

No	Question to	Reference (in bold) and Question	Applicant's Response	
			3/1d & 3/1n	The land plots will be used for the alteration, realignment and grading of the A38 and for construction access.
			3/1t & 3/8b	This plot of land will form the new access and junction to the filling station and fast food businesses.
			3/1v	This plot of land will be used for the construction of the access and egress at Markeaton Park of 110m in length which includes a turning head for buses for the park and ride bus stop as well as constructing a new emergency only access (approximately 20m).
			3/8a	Land will be used for the construction of the egress from the filling station and fast food businesses.
			4/1c	This plot of land will be used for construction access for the diversion of utilities, the demolition of the existing Markeaton footbridge and the installation of the replacement footbridge and will be returned as public open space.
			4/1f	This plot of land will be used for an access track and footway/cycleway and the diversion of utilities and construction access, including the demolition of the existing Markeaton footbridge and the installation of the replacement footbridge. Access to Mill Pond also for outfall installation, plus potential additional ecological features (bat boxes, bird boxes). Returned as public open space
			4/1h, 4/7d, 4/13b, 5/1 & 5/2	The land plots will be used for environmental mitigation. 4/1h will be used for construction access and the installation of ecological mitigation features (bat roost creation), plus access to and creation of an area of species rich grassland. Also reinstatement of shared footway and cycleway. 4/7d, 4/13b will be used for access and potential additional ecological features (bat boxes, bird boxes). All existing vegetation will be retained. 5/1 will be used for the installation of ecological mitigation features (bat roost creation), plus access to and creation of an area of species rich grassland.

No	Question to	Reference (in bold) and Question	Applicant's Response		
					And 5/2 will be used for the installation of ecological mitigation features (bat roost creation) and for access with all existing vegetation retained.
				7/1g & 7/6	The limits of the land plots is dictated by the need of flood storage areas to mitigate the flood risk of the A38 as well as environmental mitigation and enhancement which includes creating a wetland/scrub land which will be rich in species and retaining some existing vegetation. **[APP-068]**. 7/1g for access and potential additional ecological features (bat boxes, bird boxes) with existing vegetation retained, 7/6 access for ecological mitigation flexibility – access to the River Derwent for release of fish captured from Dam Brook.
				7/7a & 7/7b	These plots will be used for construction of a temporary access to the floodplain compensation area to haul spoil away from site. It also allows for construction access to utilities diversions.
				7/14,7/17a & 7/17c	This plot of land will be used for access, the stopping up and diversion of 100m of Breadsall footpath no. 7 and a private means of access, area also needed for construction access associated with works to the A38 mainline embankment, the alteration and extension of the flood arch structure and diversion of utilities. Some vegetation will be retained, with reinstatement planting. Any affected vegetation will be reinstated.
				8/18	This plot of land will be used for access and the realignment and grading of Ford Lane to connect with Little Eaton Roundabout
				8/3a & 8/3c	The following land plots will be used for access, the stopping up and diversion of 100m of Breadsall footpath no. 7 and a private means of access, area also needed for construction access associated with works to the A38 mainline embankment, the alteration and extension of the flood arch structure, the alteration and extension of the bridge over the Midlands Mainline and diversion of utilities.

No	Question to	Reference (in bold) and Question	Applicant's Response		
				8/10b	This plot of land will be used for construction access and the alteration and extension of the bridge over the Midlands Mainline as well as work for the construction of the southbound merge slip road (280m) and the alteration, realignments and grading of the A61 and the stopping up and relocation of a private means of access.
				8/10c	This plot of land will be used for access to clear the existing culvert as part of the Dam Brook diversion works and for ecological mitigation flexibility – access to the Watermeadows Ditch for release of fish captured from Dam Brook.
				8/15 & 8/16b	The following plots of land will be used for access and the alteration, realignment and grading of the north and south bound lanes of the A38 as well as the southbound diverge slip road of 540m and includes access to and area for use as material storage.
			b) The detailed construction programme will be developed by the appointed contractor during the detailed design stage of the scheme. The land will only be required at the appropriate time during construction and will be returned to the land owner at such time that all work that land is required for is completed, checked and the reinstatement works have been undertaken. c) 4/1f is one parcel. The two 4/1f labels mark two parts of one continuous parcel that are joined by a distinct, albeit slim section of land at the southernmost point of parcel 4/1a. The BoR **[APP-022]** reflects this by having just one entry for parcel 4/1f		
13.14	Applicant	**Minimisation of the need for CA and for TP** **Limits of deviation** **SoR [APP-020], paragraph 2.4.1**	a) The Pink area shown on the Works Plans **[APP-009]** shows the maximum lateral limits of deviation anticipated to be required in line with the Rochdale Envelope approach. b) No. The limits of deviation shown on the Works Plans **[APP-009]** is the land deemed necessary to deliver the scheme with the necessary degrees of flexibility to allow detail design and engineering to be carried out at the appropriate time. Opportunities		

No	Question to	Reference (in bold) and Question	Applicant's Response
		The Applicant seeks a degree of flexibility as to where certain elements of the Proposed Development can be constructed within the limits of deviation provided for in the dDCO. a) Please clarify the lateral limit of deviation for the lines on the works plans and provide detailed justification when it is greater than 0.5m. b) Could tightening of the limits of deviation reduce the need for CA or TP?	to reduce the need for CA or TP will be examined during the detailed design stage but are premature at this stage. Consent is sought for a realistic worst case in line with the Rochdale approach and guidance in order to ensure that the project is deliverable.
13.15	Applicant	**Minimisation of the need for CA** **Acquisition of subsoil or airspace rather than the whole of the land** **SoR [APP-020], paragraph 3.5.1** The Applicant notes the potential to acquire subsoil or airspace rather than the whole of the land. Please provide examples of where this could occur for the Proposed Development and, in each case, clarify why such a reduction in the rights to be acquired permanently cannot be made now.	Given the nature of the work to be undertaken there is only one parcel where the acquisition of the whole of the land can be avoided by acquiring just the subsoil or airspace. In the case of parcel 8/6, where airspace only is sought to be acquired it is to permit works to be undertaken on a bridge (which sits in the airspace above the land) rather than the land itself. All other parcels will require works to the topsoil (being the surface of the land) and as a result the acquisition of the whole is required.
13.16	Applicant	**Minimisation of the need for CA and for TP** **Limits of the land** **SoR [APP-020], paragraphs 2.4.1 and 5.3.5**	a) A robust examination of the need for CA rights was carried out at the preliminary stage to minimise the need for CA. All the land identified within the scheme limits is required for delivery of this scheme. If there is any reduced need for permanent acquisition, this will be identified at the detailed design stage, although this is considered unlikely. b) Refer to response to a) above.

No	Question to	Reference (in bold) and Question	Applicant's Response
		The Applicant notes the potential at a later stage to acquire less land. a) Please provide examples of where this could occur for the Proposed Development and why, e.g. because of adjustments to the design or to construction methods, and in each case please clarify why it is not possible to reduce the need for CA now. b) As well as reductions in CA, could the need for TP also potentially be reduced at a later stage?	
13.17	Applicant	**Minimisation of the need for CA** **TP instead of CA** **SoR [APP-020], paragraph 5.3.7** The Applicant notes the potential to reduce the land to be acquired permanently if it only needs to be occupied temporarily. a) Please provide examples of where this could occur for the Proposed Development and why, and in each case please clarify why it is not possible to reduce the need for CA now. b) As well as reductions in CA of land could the option of TP also reduce the need for the CA of rights?	a) A robust examination of the need for CA rights was carried out at the preliminary stage to minimise the need for CA. All the land identified within the scheme limits is required for delivery of this scheme. If there is any reduced need for permanent acquisition or the ability to rely on TP, this will be identified at detailed design stage, although this is considered unlikely. b) Refer to response to a) above.
3.18	Applicant	**Minimisation of the need for CA** **The acquisition of rights and the creation of restrictive covenants instead of CA**	a) The inclusion of the ability for Highways England to acquire rights and impose restrictive covenants over the Order Land is appropriate given the legal requirement that compulsory acquisition is only used where there are no alternatives, including the use of lesser rights or powers. It is not considered

No	Question to	Reference (in bold) and Question	Applicant's Response
		dDCO [APP-016] Article 22 The Applicant seeks the option to acquire rights and impose restrictive covenants over the Order land specified in Schedule 5. a) Paragraph 4.94 of the EM [APP-018] states that these powers could reduce the area of CA. For the avoidance of doubt, should this purpose be made clear in the dDCO? b) Please provide examples of where the acquisition of rights and the creation of restrictive covenants instead of CA could occur for the Proposed Development and why, and in each case please clarify why it is not possible to reduce the need for CA now.	necessary to provide wording for this within the dDCO as Highways England is under a legal duty to only acquire such land or rights as it requires to deliver the Scheme. There is also no established process or wording by which this could appropriately be done. b) A robust examination of the need for CA rights was carried out at the preliminary stage to minimise the need for CA. All the land identified within the scheme limits is required for delivery of this scheme. If there is any reduced need for permanent acquisition or the necessary rights could be secured without the need to acquire the land, this will be identified at the detailed design stage, although this is considered unlikely.
13.19	Applicant	**Minimisation of the need for CA and for TP** **Decision making process, timetables and dDCO provisions** **SoR [APP-020], paragraph 2.4.1, 3.5.1, 5.3.5 and 5.3.7** With reference to the preceding four questions: a) In each case how will it be ensured that CA or TP powers will not be exercised, or would be minimised, in respect of land	Due to the constrained nature of the location, there is limited flexibility in how each element is delivered which constrains the detailed design. Highways England have sought to minimise interference in third party interests wherever possible in bringing forward this application and therefore does not expect or anticipate that in practice there will be many occasions where plots or part of plots included in the scope of CA and TP will not ultimately be needed. Once the detailed design is complete Highways England will be able to identify any land within which is not required and would not seek to exercise powers over it, to do so would be unreasonable and therefore liable to legal challenge as well as incurring unnecessary costs for the project. Highways England is an experienced developer funded by the Government with public funds and is required to deliver cost effective projects. Part of the objective of detailed design will be to minimise unnecessary land take not only to reduce affected parties but

No	Question to	Reference (in bold) and Question	Applicant's Response
		or rights not ultimately required for CA or TP? b) In each case, what is the process and the inter-relationship between the timetable for the activities relevant to the decisions about the extent of CA or TP required and the timetable for CA and TP? c) How will it be ensured that opportunities identified later, e.g. through adjustments to the design or to construction methods, are identified in sufficient time for changes to be made to the extent of CA or TP? d) Should a commitment to minimising CA and TP resulting from opportunities identified later and a process for doing this be secured in the dDCO?	also to ensure that compensation liability is not incurred unnecessarily and that costs are not wasted in seeking to exercise powers over land which is not required. The minimisation of CA is a one of a balance of factors to be considered in finalising the details, along with safety, construction methodology, costs and others. There are a number of factors which support minimisation, including minimisation of project costs through minimal creation of compensation liabilities however giving this one factor undue weight prejudices the ability of the delivery contractor to deliver the best project in balanced terms, including the time taken to build, cost and impacts on other interests. Highways England cannot assume that changes in construction methods will reduce the need for land and must base its application on what is required for a deliverable project based on current techniques. Highways England is not aware of any precedent for a DCO article in the terms suggested in d) and considers that such an insertion would be inappropriate. Given the criminal consequences of non-compliance with a DCO, an article in such vague terms as 'minimising' could lead to severe and unnecessary consequences based upon the interpretation of "minimise". Seeking to prefer one factor over all others in coming to the balance of the best all round solution, including value for money for the public, is also not inappropriate
13.20	Applicant	**Minimisation of the need to acquire private rights over land** **Explanatory Memorandum (EM), paragraphs 4.105-110** The Applicant seeks the extinguishment of private rights over land that is subject to CA and the temporary suspension of private rights over land that is subject to TP. a) Please provide a detailed explanation, with examples, of why it is necessary to include these provisions.	The extinguishment of third-party rights in land to be acquired is necessary to ensure that unknown rights are able to be extinguished and that rights incompatible with the end use or carrying out of the development are extinguished. For example, utility rights under the carriageway of the SRN require to be extinguished as retaining them would be contrary to the aims of the scheme. To take normal, regular access for maintenance in a safe manner, the carriageway of the SRN would require to be partly or fully closed. This would cause disproportionate traffic impacts on other parts of the network and undercut the benefits of the scheme in reducing congestion, pollution and travel time. While utilities are being physically diverted as part of the works, the legal rights (known and unknown) also need to be removed from areas within the SRN. This prevents a case where a party has a legal right to install or keep apparatus under the SRN which in practice it is unsafe and impractical for them to seek to exercise and which the highway authority would object to being exercised thereby creating a conflict between the title rights and the highway authority's need to control access to highway and

No	Question to	Reference (in bold) and Question	Applicant's Response
		b) What is the nature/extent of any delay to the Proposed Development that might otherwise result?	protect the surface from being broken open. The same principle applies to any private rights which are incompatible with the end use of land, including for example access rights which would purport to cross the carriageway.
13.21	DCiC DCC EBC	**The need for the CA and the minimisation of need** Are there any comments regarding: a) The nature, extent and scope of land, rights and other compulsory powers sought, including access for maintenance, temporary possession, powers to override easements and rights under streets? b) Whether the powers sought are required for the development to which the development consent relates, whether they are legitimate, necessary and proportionate?	N/A
	Alternatives		
13.22	Applicant	**Other design development options - residential properties** **Options considered and comparison of their CA, human rights, highways and other key impacts** **Statement of Reasons (SoR) [APP-020], paragraph .5** **CA of residential land and buildings and demolition of properties at 257 and 259 Ashbourne Road**	a) In order to avoid CA of 257 and 259 Ashbourne Road and the Queensway residential properties, it would be necessary to move the A38 main line towards the north-west away from the properties. This option was investigated and rejected in the 2002 Road Based Study. The reasons for rejecting this option were: - Impact on Public Open Space (POS) – the option would require a strip of land up to 45m wide and 300 to 400m long to be acquired from within Markeaton Park. As well as the unacceptable impact on the park, there would be severe difficulties in providing the required replacement land to mitigate the POS loss as no suitable sites exist within reasonable proximity. - Impact on the petrol filling station – this option would result in the Markeaton filling station being compulsorily acquired and removed.

No	Question to	Reference (in bold) and Question	Applicant's Response
		CA of residential land and buildings and demolition of residential properties at 2, 4, 6, 8, 10, 12, 14, 16, 18, 24, 26, 30 and 32 Queensway **CA of residential gardens at 253 Ashbourne Road, 1 Sutton Close, 14 Sutton Close and Sutton Turner House(s)** **CA of any rights at any other residential property** a) Please provide further detail of the assessments and comparisons that have been made between the preferred option and any other design development options that have different implications for the CA or TP of residential properties. b) Please set out and compare the CA, TP, human rights, highways and other key impacts of each option. c) Please identify and consider each individual property listed to the left on its own merits and provide references and any illustrations that may be helpful.	- Impact on McDonald's restaurant – a significant portion of the car park would be lost to this option potentially rendering the business unviable and triggering its compulsory acquisition. The CA of some of the gardens at 253 Ashbourne Road, 1 Sutton Close, 14 Sutton Close and Sutton Turner House is required to provide an access for Sutton Turner Homes and to 253 and 255 Ashbourne Road. Options that would avoid the CA of the gardens of these properties would remove the access road for these properties, but it would restrict their access to a left-in and left-out arrangement. It is considered that this would have a greater impact on these properties due to the long detours required for some movements. The rejected option noted above (moving the A38 to the north-west) would have not impacted the accesses to these properties so would have obviated the need for the replacement access and the need for and CA or TP of land associated with these properties. However, as detailed above, this would have resulted in the loss of part of Markeaton Park and have severe impacts on the petrol station and fast food restaurant as a result the public impact is considered greater if this option were pursued. At Little Eaton junction, options were considered and rejected that would have had an adverse impact on residential properties to the north side of the A38. These properties include the property 'Fourways' and the 25 to 30 dwellings that comprise the Ford Farm Mobile Home Park. Although they are referred to as 'mobile' homes, they are occupied on a residential permanent basis and all of the homes were at risk if one of the options on the north side of the A38 was pursued. b) Due to the constraints imposed by the urban nature of the Markeaton junction, there was very little scope to investigate other alternatives that had a different impact on the CA, TP, human rights, highways and other key issues., Different alignments of the A38 to avoid the CA of properties at Queensway and Ashbourne Road were explored early in the development of the Scheme but the alternatives were not taken forward for the reasons detailed above. The land required in that area has been reduced as far as is possible to avoid further land take from further residential properties or the Royal School for the Deaf, Derby.

No	Question to	Reference (in bold) and Question	Applicant's Response
			c) The impacts on 257 and 259 Ashbourne Road and the Queensway residential properties are all the same i.e. the scheme requires the buildings and part of the land at each of the properties in order to be able to construct the new slip roads for Markeaton junction. The other properties on Ashbourne Road (253 & 255 Ashbourne Road, 1 Sutton Close and 14 Sutton Close) all will suffer some CA of part of their garden adjacent to Ashbourne Road in order to be able to construct a new access for the same properties.
13.23	Applicant	**Other design development options – land other than residential properties** **Options considered and comparison of their CA, TP, human rights, highways and other key impacts** a) Please provide further detail of the assessments and comparisons that have been made between the preferred option and any other design development options that have different implications for CA or TP of land or rights other than for residential properties. b) Please set out and compare the CA, TP, human rights, highways and other key impacts of each alternative. c) Please identify and consider each individual property on its own merits and provide references and any illustrations that may be helpful.	a) As noted in responses to Q13.22, options at Markeaton junction that avoided impacts on residential properties were considered early in the Scheme development and were rejected as they would have resulted in CA and TP impacts on the McDonald's and Euro Garages businesses on the south-west of the proposed junction; they would also have resulted in much greater loss of Public Open Space from Markeaton Park than the preferred option. At Little Eaton junction, options were considered and rejected that would have had an adverse impact on businesses to the north side of the A38. These include the 'Freeberne' recycling and plant hire business (that would have been at risk of extinguishment) and the Derby Garden Centre, the car park of which would be at risk if one of the options on the north side of the A38 was pursued. Assessment of these options can be found in the Alternative Options Assessment Report included as appendices 3.2 **[APP-162 and APP-163]** of Chapter 3 of the Environmental Statement. b) c) As noted in response to Q13.22, there are no viable alternative options that would result in a different impact on CA, TP or human rights with respect to residential properties.

No	Question to	Reference (in bold) and Question	Applicant's Response
13.24	Applicant	**Adjustments to the preferred option at Markeaton junction** **Options considered and comparison of their CA, TP, human rights, highways and other key impacts** **Statement of Reasons (SoR) [APP-020], paragraph .5** **CA of residential land and buildings and demolition of properties at 257 and 259 Ashbourne Road** **CA of residential land and buildings and demolition of residential properties at 2, 4, 6, 8, 10, 12, 14, 16, 18, 24, 26, 30 and 32 Queensway** **CA of residential gardens at 253 Ashbourne Road, 1 Sutton Close, 14 Sutton Close and Sutton Turner House(s)** **CA or TP of any other land and CA of any other rights** a) Please provide details of the assessments and comparisons that have been made of adjustments considered to the preferred option at Markeaton junction that have different implications for CA or TP. These should include, but not be limited to: • alternative alignments of the main A38 highway, including the potential to move it to the North through and to the East of the junction;	a) • To gain any benefit from moving the A38 to the north east of the proposed alignment, it would need to be moved sufficiently far so as to avoid impacts on 257 and 259 Ashbourne Road and the Queensway residential properties. This was the option described in the response to Q13.22 above which was rejected due to the severe impacts on Markeaton Park POS, the Euro Garages filling station and McDonald's restaurant. • The lanes connecting the A52 to the south side of the roundabout follow the existing A52 as closely as possible and there is very little scope for adjustment. Any adjustment to one side or the other would increase the impact on either the Royals School for the Deaf Derby or on the properties on the south side of the A52. • The central reserve width has been reduced to the minimum acceptable, as have the verge widths. It is also worth noting that there are no hard strips included to keep the road cross section as narrow as possible. • 3 lanes have been included in each direction to accommodate the forecast traffic flows. If only 2 lanes were provided it would result in traffic queuing and would fail to meet the scheme objectives. • 2 lanes have been included in some of the slip roads to accommodate the forecast traffic flows. Where the traffic demand only requires one lane, the slip road would still need to be wide enough to include a hard shoulder. This is an essential requirement so that if a vehicle should break down, the slip would not become blocked as there would be sufficient space to pass it. • The Markeaton roundabout has been designed such that there is sufficient space for vehicles to queue at the signals without blocking the upstream entry. Making the roundabout smaller would not provide sufficient capacity for the forecast traffic flows. • Moving the roundabout to the north would increase the impact on Markeaton Park and the Royals School for the Deaf Derby. It would also worsen the already sub-standard weaving length between the Markeaton junction northbound merge slip road and the Kedleston Road junction northbound

No	Question to	Reference (in bold) and Question	Applicant's Response
		• alternative alignments of the lanes connecting the A52 to the south side of the roundabout; • closer spacing of the main A38 highway carriageways and slip roads and narrower verges; • having 2 lanes (instead or 2) in each direction for the main A38 highway; • having 1 lane (instead of, in some instances, 2) at each connection of the A38 slip roads or A52 to and from the roundabout; • different sizes and shapes of the main roundabout, including any potential to make it smaller; • different locations of the main roundabout, including the potential to move it to the North; • alternative means or layouts of roads providing access to residential properties; and • alternative sources of Open space replacement land. b) Please set out and compare the CA, TP, human rights, highways and other key impacts of each alternative. c) Please identify and consider each of the individual properties listed to the left on its own merits and provide references and any illustrations that may be helpful.	diverge slip road (a similar impact would also occur on the southbound weaving length). • Discussions are planned with Derby City Council and the property owners in the detailed design stage to optimise the arrangements for access to the residential properties at 253 & 255 Ashbourne Road, 1 Sutton Close and 14 Sutton Close. • During the preliminary design stage, extensive investigations were carried out to identify potential POS exchange land candidate sites and it was concluded that there are no realistic alternative options that satisfy the required tests. b) As noted in responses to previous questions, there are no viable alternative options that would have different CA, TP, human rights or other key impacts relating to residential properties. c) The impacts on 257 and 259 Ashbourne Road and the Queensway residential properties are all the same i.e. the scheme requires the buildings and part of the land at each of the properties in order to be able to construct the new slip roads for Markeaton junction. The other properties on Ashbourne Road (253 & 255 Ashbourne Road, 1 Sutton Close and 14 Sutton Close) all will suffer some CA of part of their garden adjacent to Ashbourne Road in order to be able to construct a new access for the same properties.

No	Question to	Reference (in bold) and Question	Applicant's Response
13.25	Applicant	**Other assessments and comparisons** Please set out in summary form, with document references, any other assessment/comparison that have been made of alternatives to the proposed acquisition of land or rights.	Apart from the discounted option for avoiding CA of 257 and 259 Ashbourne Road and the Queensway residential properties by moving the A38 main line towards the north-west away from the properties (as noted in response to Q13.22 above), there has been very little scope for alternatives at Kingsway and Markeaton junction (due to the constraints of the junction locations and urban nature of the area). Little Eaton junction has been subject to the assessment of several options. Following the 2015 non-statutory consultation several alternative options were proposed by members of the public and these were considered by Highways England Detail about the extensive consideration of alternatives undertaken for this Scheme are set out in the Alternative Options Assessment Reports were included as appendices 3.1 and 3.2 **[APP-162 and APP-163]** of Chapter 3 of the Environmental Statement.
13.26	Applicant	**Decision-making criteria and the weighting given to CA and human rights** For each assessment and comparison of alternatives identified in response to the preceding four questions, please set out in detail, with document references: a) the criteria used to decide between alternatives and the weighting given to each criterion; b) specific evidence that CA and human rights have been considered when deciding between alternatives; and c) the weight given to human rights in comparison with any other decision-making criteria and the justification of the weight given.	Please refer to the Alternative Options Assessment Reports that were included as Appendices 3.1 and 3.2 **[APP-162** and **APP-163]** to Chapter 3 of the ES. a) In carrying out the options assessments, the following aspects were considered: Cost, Engineering, Environment and Traffic. Each of these assessment categories were broken down into several sub-categories as follows: Cost: Land, Preliminaries and Direct Works, Preparation and Supervision Statutory Undertakers, Risk and Uncertainty Engineering: Geometry, Public Utilities, NMU Provision, Drainage, Geotechnics Structures, Departures from Standards, Construction Phasing Environment: Air Quality, Cultural Heritage, Landscape, Visual, Nature Conservation Geology & Soils, Materials, Noise, Effect on All Travellers Community & Private Assets, Water Resources, Flood Risk Traffic: Reassignment Effects, Travel Benefits, Delay during construction Road Safety All the criteria were considered equally when the assessment was carried out.

No	Question to	Reference (in bold) and Question	Applicant's Response
			b) CA and human rights issues are included in the assessment; compulsory acquisition of land is included as a contribution to the 'Cost' element and compulsory acquisition of properties is considered in the 'Cost' section and in the 'Community & Private Assets' section of the Environment section. c) As noted previously, all the criteria were considered equally when the assessments were carried out. However, the issue of loss of homes was key in deciding the preferred route in previous assessments. The 2009 Technical Appraisal Report stated (noting option 3 became the preferred route option; Option 2 was the route on the other side of the existing roundabout that went through the mobile home park): "*There was very little to differentiate between Options 3 and 2, both having advantages and disadvantages. However, it was felt on balance that Option 3 was preferable to Option 2, because, whilst the environmental impacts of Option 3 could be largely mitigated, the impacts of Option 2, particularly on the residents of the Mobile Home Park, could not*."
13.27	Applicant	**Public consultation** **SoR [APP-020] paragraphs 5.5.1-2** The Applicant refers to public consultation and the consideration given to that in the selection of the most appropriate option. Please clarify what, if any, account has been taken of responses to pre-application consultation (both in relation to statutory and non-statutory consultation) in the consideration of: a) design development options; b) adjustments to the preferred option; and	a) Early consultation (in 2003) determined the route of the A38 at Little Eaton junction. The resulting preferred option (on the south side of the existing junction) avoided all impacts on residential and business properties but did require the CA of agricultural land and woodland. For Markeaton junction, the preferred option from the 2002 Road Based Study minimised the impacts on the Public Open Space of Markeaton Park and avoided direct impact on the petrol filling station and McDonald's but resulted in the loss of the houses on Queensway and Ashbourne Road. b) , c) The more recent consultations (2015 and 2018) received very few comments from land interests so adjustments to the preferred option or alternatives to the proposed acquisition of land or rights were not considered to be required as a result.

No	Question to	Reference (in bold) and Question	Applicant's Response
		c) any alternatives to the proposed acquisition of land or rights.	
13.28	Applicant DCiC DCC EBC	**Open space surplus to requirements** **NPSNN paragraphs 5.166, 5.167 and 5.174** a) Please provide details of any assessment made of whether the open space for which CA is proposed is surplus to requirements? b) If such an assessment has not been undertaken recently, is there a case for it to be done now? c) Could such an assessment potentially result in a reduction in the need for CA?	a) In considering the need for the CA of open space land, Highways England has previously reviewed the Open Space evidence base material produced by Derby City Council in support of the preparation of its local plan. An Open Space study was produced in 2009 (on behalf of Derby City Council), but as detailed in an explanatory note on Derby City Council's website the consultancy that produced this work went into administration at the point that the study was being completed. As a result, not all of the supporting material of the study is available. Taking this into account, and the fact that the study is now 10 years old, it should be treated with a level of caution in the weight it is attributed in the assessment of open space provision. The key conclusions of this review (as undertaken at that time) are summarised below. <u>Kingsway</u> • The area of public open space around the Kingsway junction can most readily be described as 'amenity open space.' The study advises that amenity open space includes informal recreational spaces, green spaces and village greens in and around housing. This area of existing public open space lies within the north west sub-area as defined by the study which has a supply of 0.73 ha per 1,000 population, an undersupply against the expected standard of 0.83 ha per 1,000 population. • Notwithstanding the undersupply at the sub-area level, the overall supply within the city when taken as a whole is 0.82 ha per 1,000 people, slightly below the 0.83 ha per 1,000 people target. <u>Markeaton</u> • There is no provision set for City Parks in respect of standard provision i.e. the number of hectares per 1000 people as there is for other types of open space as defined in the study, although there is a general presumption for City Parks to be protected.

No	Question to	Reference (in bold) and Question	Applicant's Response
			• The area of public open space around the Markeaton junction consists of Markeaton Park, (and related amenity open space similar in character) which is one of the two city parks within Derby. • Markeaton Park is some 63 ha in size. As a strategic open space site there is no further breakdown of provision within the study. However, it is acknowledged that the north west sub-area (which includes Markeaton Park and a much wider area) could benefit from further access improvements to Markeaton Park through enhanced public transport and green linkages. From the previous consideration of this issue, Highways England have not concluded that there is an oversupply of open space and therefore that the open space land forming order land and subject to compulsory acquisition is surplus to requirements. b) In responding to this question Highways England note that paragraph 5.174 of the NPSNN directs that such an assessment should be undertaken either by the local authority or independently. Accordingly, as the obligation falls with Derby City Council to either undertake or commission such an assessment, Highways England will leave Derby City Council to respond on the practical and resourcing implications of undertaking this work. Notwithstanding this, Highways England also note that paragraph 5.174 also enables the Secretary of State to consider this issue in the absence of an assessment if it is determined that the benefits of the project outweigh the loss (as has been demonstrated in the Planning Statement [**APP-252]** submitted with the DCO application), taking into account the provision for new, improved or compensatory land or facilities. c) Even if such a study was undertaken, Highways England consider that this is unlikely to result in the reduction in the need for compulsory acquisition. This is because Highways England have reached an 'agreement in principle' position in respect of the loss of open space land (and its replacement) with Derby City Council as the local authority (and as the main landowner affected). As such and certainly in the case of the formally designated public open space land an arguably more complex process would need to be followed in respect of acquisition by agreement which has the potential to delay the delivery of this nationally significant

No	Question to	Reference (in bold) and Question	Applicant's Response
			infrastructure project. Highways England would be concerned that this process could not be completed in a timely manner to allow works to start as programmed In this respect, whilst noting that compulsory acquisition should be a last resort, it is considered that this is the most appropriate approach in this case and it is anticipated that Derby City Council are unlikely to contest the compulsorily acquisition of the land in question, based on the discussions undertaken to date.
13.29	DCiC DCC EBC	**Alternatives to CA and TP** Are there any comments on whether reasonable alternatives have been explored sufficiently?	N/A
13.30	Applicant	**Alternatives to CA and TP** **DCLG Guidance** In the light of DCLG Guidance[5], is there any other assurance that can be given to the ExA that all reasonable alternatives to CA and TP, including modifications to the Proposed Development, have been explored?	As confirmed in the SoR **[APP-020/4.1]** at paragraph 1.8.1 careful regard has been given to the DCLG guidance in the production of the SoR, which in turn has been informed by the strategy for the Scheme, which has put at the forefront that the possession of land (either temporary or permanent) should be seen as a last resort following the exploration of all reasonable alternatives. Highways England is confident that a robust approach has been followed on the Scheme, which is in the context of a project that has been in the planning stages for some time before the DCO application was submitted. As such this has included: - Various design optioneering exercises; - Value engineering; - Non-statutory public consultation; - positive engagement with affected parties in addition to and beyond the statutory consultation required under the terms of the Planning Act 2008. Within this context, Highways England is confident that all the relevant options have been explored, so as to minimise the need for temporary or permanent land take. As such it is considered that appropriate weight has been given to private loss whilst ensuring the public benefits of the Scheme can be delivered in a viable way.

[5] Planning Act 2008, Guidance related to procedures for the compulsory acquisition of land, DCLG, September 2013

No	Question to	Reference (in bold) and Question	Applicant's Response
			In addition, Highways England has carried out and will continue negotiations with private parties within the examination phase, so that land agreements can be reached where possible, thereby avoiding the need for compulsory acquisition powers to be exercised.
	Individual objections and issues		
13.31	Affected Persons	**Affected Person's issues and concerns** a) Does any Affected Person (person whose land or rights in land would be affected if an order were granted) have any outstanding concerns regarding the extent and nature of compulsory rights identified in the application, or the case made (need) for the acquisition of those rights? b) Is it considered that any areas of land or rights whose acquisition is proposed by the Applicant are not needed for the development?	N/A
13.32	Applicant	**CA Objections Schedule** a) Please provide a CA Objections Schedule with information about any objections to the compulsory acquisition proposals in the application. b) At each successive Examination Deadline please make any new entries or delete any entries that it considers would be appropriate, taking account of the positions expressed in relevant	A CA schedule is included at Appendix G **[TR010022/APP/8.5.1]**. This will be updated at each successive Examination Deadline as required.

No	Question to	Reference (in bold) and Question	Applicant's Response
		representations and written representations, giving reasons for any additions or deletions. c) The format of the schedule should be like that used in Annex B of the Statement of Reasons.	
13.33	Applicant	**Response to Affected Person's issues and concerns** **RR by Residents of 12 Queensway [RR-018]** Please respond to the specific concerns expressed in relation to CA, potential impacts on the business and the timing of and timeliness of any discussions and settlement.	Highways England will seek to ensure that any relocation of residents and/or businesses will aim to have minimal impacts to those parties and Highways England will take into account issues such as these which are raised by those affected by the compulsory purchase of their property. Highways England have had a number of meetings with the resident owners of 12 Queensway and are working with them to find a suitable property to relocate to that will not compromise their business. They are encouraging the owners to pursue the route of statutory blight which will allow them to dictate the timing of acquisition. Further detail regarding the negotiation is detailed in the CA tracker.
13.34	Hinson Parry & Company on behalf of Royal School for the Deaf Derby	**Clarification of Affected Person's issues and concerns** **RR by Hinson Parry & Company on behalf of Royal School for the Deaf Derby [RR-019]** a) Please provide further details how the non-provision of each of the bullet-pointed measures mentioned in the Relevant Representation would have on the ability of your client's day to day operations to continue. b) Please provide details of any allowances that should be made in relation to the	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
		suggested measures for people at the school with special needs or hearing impairments?	
13.35	Applicant	**Response to Affected Person's issues and concerns** **RR by Hinson Parry & Company on behalf of Royal School for the Deaf Derby [RR-019]** Please respond to the specific CA issues and related mitigation issues raised in the RR.	The RSDD has not raised any specific issues related to the acquisition of land, however, the following issues have been raised in relation to features of the school affected by the land acquisition. • The sensory garden relocation will be part of the compensation package to be agreed with the RSDD. • The school's desire to retain the old Victorian gates is noted. This will be included in the OEMP. • As discussed in the meetings with the RSDD, the proposed alteration to the school's access from the A52 Ashbourne Road will require the removal of the Mundy wall to create space for this alteration and visibility splay requirements. The intention is to take the wall down and reuse all salvageable stone work to rebuild the wall in a new position outside the required visibility splay. This will be included in the OEMP.
13.36	Carter Jonas LLP on behalf of Haven Care Group Ltd	**Clarification of Affected Person's issues and concerns** **RR by Carter Jonas LLP on behalf of Haven Care Group Ltd [RR-015]** a) Please provide further details of the impacts that the exercise of the powers of CA sought would have on the ability of your client to continue to operate. b) Please provide details of any allowances that should be made in the provision of mitigation measures for people at the home with special needs? c) Does your client have any alternative proposals for the provision of parking?	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
13.37	Applicant	**Response to Affected Person's issues and concerns** **RR by Carter Jonas LLP on behalf of Haven Care Group Ltd [RR-015]** Please respond to the specific CA issues and related mitigation issues raised in the RR.	Carter Jonas LLP noted that due the compulsory acquisition of the Plots the Home will lose all of its parking spaces. However, it is likely that a large portion of the land required for the Scheme will only be required temporarily and can be returned to the land owner on completion of the Scheme. The parcel labelled as 3/15a is likely to be required only temporarily whilst 3/15b is required permanently. Highways England will seek to minimise any disruption and both CA and TP will create compensation rights that can be used to mitigate effects (such as leasing temporary parking during the works).
13.38	Tim Hancock Associates on behalf of Euro Garages Limited	**Clarification of Affected Person's issues and concerns** **RR by Tim Hancock Associates on behalf of Euro Garages Limited [RR-013]** a) Please provide details of the impact that the exercise of the powers of TP sought, including in relation to changes to access and egress arrangements, would have upon your client's business. b) Please provide further details of any current needs for access across third-party ownership and how those would change due to the Proposed Development. c) Does your client have any alternative proposals to those presented by the Applicant?	N/A
13.39	Applicant	**Response to Affected Person's issues and concerns**	Tim Hancock Associates expressed concern over the modifications to the current access arrangements and the impact on customers and fuel deliveries. Highways England's response is that the site will continue to enjoy entry and exit arrangements

No	Question to	Reference (in bold) and Question	Applicant's Response
		RR by Tim Hancock Associates on behalf of Euro Garages Limited [RR-013] Please respond to the specific TP and ownership issues raised in the RR.	with the A52. The existing entry and exit arrangements with the A38 are to be modified to exit only (onto the proposed A38 slip road) for safety reasons. It is envisaged that fuel delivery will continue as it does at present, i.e. the tanker will enter the site from the A52 and will leave the site onto the A38 slip road. Regarding land ownership concerns, currently it is necessary to cross land owned by McDonald's to gain access to the filling station from both the A38 and the A52. A check with the land registry confirms that there are appropriate rights, by way of a conveyance dated 1982 to allow those who need to access the filling station to cross the land owned by McDonalds which abuts the highway at any time, day or night. The proposed scheme will not change these existing arrangements.
13.40	McDonald's Restaurants Limited	**Clarification of Affected Person's issues and concerns** **RR by McDonald's Restaurants Limited [RR-016]** a) Please provide details of the impact that the exercise of the powers of TP sought, including in relation to changes to access and egress arrangements, would have upon your client's business. b) Please provide further details of any current needs for access across third-party ownership and how those would change due to the Proposed Development. c) Does your client have any alternative proposals to those presented by the Applicant?	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
		d) Please provide details of the potential encroachment of the Works onto your client's property.	
13.41	Applicant	**Response to Affected Person's issues and concerns** **RR by Tim Hancock Associates on behalf of Euro Garages Limited [RR-013]** Please respond to the specific TP and ownership issues raised in the RR.	It is noted that this question is the same as question 13.39. We have assumed that this question should refer to McDonald's Restaurants Limited as opposed to Tim Hancock Associates on behalf of Euro Garages Limited and the following response is made on this basis. a) McDonald's Restaurants Limited are concerned that: - The Works involve closing the entrance to the Property from the A38. This would cause increased queuing at the Ashbourne Road entrance and exit to the Property, - The proposed installation of traffic lights at the Ashbourne Road junction will cause gridlock and queuing inside the McDonald's site Highways England note that exiting the site onto the A38 will continue to be an option after implementation of the scheme. Entry to the site from the A52 will be via a new signal-controlled junction so will not cause queuing within the site. The proposed exit onto the A38 slip road will be able to perform better than the existing exit due to the greatly reduced flow passing the exit on the A38 slip road. The proposed exit on the A52 will be able to perform better than the existing exit due to the introduction of traffic signals b) McDonald's expressed concern over the Works relying on McDonald's delivery vehicles crossing over land which it neither owns nor has rights over; this is problematic and allows an adjoining landowner to control the viability of the restaurant. Highways England has been advised by McDonald's that this arrangement is how the delivery vehicles currently operate. The scheme proposals are replicating the arrangements that currently exist.
13.42	Freeths LLP on behalf of Millennium	**Clarification of Affected Person's issues and concerns** **RR by Freeths LLP on behalf of Millennium Isle of Man Limited [RR-017]**	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
	Isle of Man Limited	a) Please provide further details of the impact that the exercise of the powers of TP sought would have upon your client's business. b) Please clarify your reasoning as to why the extent of works and land affected are more than necessary to facilitate this project. c) Are there any specific restoration works issues on which clarity is sought?	
13.43	Applicant	**Response to Affected Person's issues and concerns** **RR by Freeths LLP on behalf of Millennium Isle of Man Limited [RR-017]** Please respond to the specific TP issues raised in the RR.	The owners of the land have been consulted with over a period of time extending back to 2015, Millennium Isle of Man Limited's interest in the land has only recently come to Highways England's attention. A meeting held on 02/09/2019 discussed the preliminary information for the scheme's proposed site compound. During detailed design the layout of the site will be finalised. Restoration details are provided in the Environmental Masterplan ES Figure 2.12G **[APP-068]**. Following completion of the works, the access into the compound will be removed and the areas affected by the compound will be appropriately restored, with the land being returned to the land owner.
13.44	Applicant	**Response to TP issues and concerns** **RR by Friends of Little Eaton Canal [RR-014]** a) Please respond to the specific concerns raised in relation to TP of the main construction compound site. b) Should the Friends of Little Eaton Canal be added to the BoR?	a) The Friends of Little Eaton Canal assert that although Highways England's intentions are that the depot and associated access are temporary, they believe that by accessing the main construction compound via the B6179 a precedent could be set for future development on the land. Also, they consider that the area needed to site the main construction compound uses greenbelt land which is "incredibly biodiverse". The compound area and access onto Alfreton Road will be required for duration of the Scheme construction phase. Following completion of the works, the access will be removed, and the areas affected by the compound will be appropriately reinstated, with the land being returned to the land owner. The strip of vegetation removed to install the crossing into the compound will be planted as native

No	Question to	Reference (in bold) and Question	Applicant's Response
			woodland. Restoration details are provided in the applicable the Environmental Masterplan ES Figure 2.12G **[APP-068].** Following completion of the Scheme, it will be a matter for the local planning authority to consider any future development proposals of the proposed compound site in accordance with relevant local planning policies. However, it is stressed that the access into the compound area will be removed at the end of the Scheme construction phase and the land reinstated to its previous condition. In order to minimise traffic effects upon Little Eaton village, HGVs accessing the construction compound would be prohibited from accessing the site from the north (as detailed in the Outline Environmental Management Plan (OEMP) **[APP-249]** - refer to MW-TRA2 in Table 3.2b). The proposed construction compound has been subject to a range of ecological surveys as detailed in ES Chapter 8: Biodiversity **[APP-046]** - this included a Phase 1 habitat survey (habitats and flora species), invasive plant species survey (such as Japanese knotweed), badger survey, bird surveys, terrestrial invertebrate survey, and reptile survey. The layout of the compound has been defined taking advice from the ecology team in order to: • Minimise the loss of species-rich grassland of botanical and terrestrial invertebrate interest. • Retain areas of scrub and trees of interest to birds. • Retain a buffer of vegetation around the site to enable continued foraging and commuting by badger. minimise the loss of species-rich grassland, retain areas scrub and trees, and retain a buffer of vegetation around the site to enable continued foraging and commuting by badger. Following completion of the works, the areas affected by the compound will be appropriately reinstated - details are provided in the applicable the Environmental Masterplan ES Figure 2.12G **[APP-068]**. The ecological effects of using the compound area are detailed in the ES Chapter 8: Biodiversity. Taking account of the proposals to appropriately reinstate and replant the site following compound removal. With the proposed mitigation approach, it is assessed that following removal of the compound, the area would be restored to at least the same biodiversity value (ecological importance) as the existing site for flora and fauna. It

No	Question to	Reference (in bold) and Question	Applicant's Response
			is noted that the Scheme also has the potential to generate a positive biodiversity effect where invasive plant species are eradicated locally, and this includes parts of the construction compound at Little Eaton junction. b) As the Friends of Little Eaton Canal do not have an interest in the land, or will be affected as a Category 3 interest, they do not need to be added to the BoR.
13.45	Applicant	**Response to issues raised with a potential implication for CA or TP** Please respond to issues raised in RRs that could have implications for the need for CA or TP, including in respect to road alignment, footpath diversions, cycleway alignment, or other aspects of the Proposed Development.	Responses have been made by Highways England to all of the issues raised in the Relevant Representations including those relating to CA and TP in respect to road alignment, footpath diversions, cycleway alignment, or other aspects of the Proposed Development. These are contained in a separate document **[TR010022/APP/8.3]** submitted at deadline 1.
	Crown interests		
13.46	Applicant	**Consent of the appropriate Crown authority** **SoR [APP-020] paragraphs 7.1.1-3 and Annex B** a) Please provide and at each subsequent Examination Deadline maintain and resubmit a table identifying any Crown land subject to s135 of PA2008 with reference to the latest BoR and the Land Plans and to identify whether consent is required with respect to s135(1)(b) and/or s135(2), the name of the appropriate Crown authority/authorities	a) Given the extent of the Crown Land within the application this is not considered to be necessary. Updates will be provided to the Examining Authority at the relevant deadlines if there is any change to the position with the Crown in respect of its land. b) Negotiations are ongoing with the Crown, which includes in relation to their s135(2) consent and updates will be provided during the examination when they are progressed. c) refer to the response to part b) which notes that negotiations are currently ongoing with the Crown. Taking account of discussions undertaken to date, Highways England is confident that this consent will be secured during the examination period. d) as per the response to part b) Highways England will provide written evidence of this during the examination.

No	Question to	Reference (in bold) and Question	Applicant's Response
		and what progress has been made to obtain such consent(s). b) Has the consent of the Crown been obtained to the inclusion of all Articles in the dDCO which affect Crown land? c) In view of the provisions of s135(2) of PA2008, please could the Applicant clarify when it is anticipated that these consents will be forthcoming? d) Please provide written evidence of consents and explanations around consents in each case.	
	Statutory Undertakers		
13.47	Applicant	**Identification of Statutory Undertakers** **SoR [APP-020] paragraph 7.4.5 and Annex C** a) Paragraph 7.4.5 identifies ten Statutory Undertakers with apparatus within the Scheme boundary. Is that the complete list of Statutory Undertakers for which powers are sought in accordance with s138 of PA2008? b) "*Overhead OFCOM D 3 Mast*" is mentioned in Annex C but not in paragraph 7.4.5. Do Annex C and/or paragraph 7.4.5 need to be corrected? c) Is the BoR [AS-007] consistent with the SoR [APP-020] with regards to Statutory Undertakers?	a) The complete list of Statutory Undertakers is: Severn Trent Water Limited, Cadent Gas Limited, Western Power Distribution (West Midlands) Plc, Openreach Limited, CityFibre Limited, Virgin Media Limited, MBNL (Hutchison 3G UK Holdings and EE Limited), GTC Utility Construction Limited, Cornerstone Telecommunications Infrastructure Limited (Telefonica UK Limited and Vodafone Group Plc) and E. On UK Plc. This list has been refined and updated in the SoR to reflect the additional information associated with the telecommunication Statutory Undertakers. b) This was included in Annex C in error and has now been deleted, OFCOM are a regulatory body and have no infrastructure interests. c) The SoR Annex C has been updated to align with the BoR and the Statutory Undertakers information. It should be noted that Cornerstone Telecommunications Infrastructure Limited and MBNL are companies that provide the infrastructure that is used by mobile telecoms operators to attach their equipment to. MBNL is a joint venture between Hutchinson 3G UK Holdings and EE Limited, and Cornerstone Telecommunications Infrastructure Limited who are a separate company providing infrastructure for Telephonica UK Limited and Vodaphone

No	Question to	Reference (in bold) and Question	Applicant's Response
			Group Plc. As such, all companies are listed in the SoR [APP-020] paragraph 7.4.5 but do not necessarily appear in the BoR [APP-007] as the interest in land is not registered to them but to the infrastructure company (or in the case of masts in situ before the JV established, one of the telecoms operators). All parties have been contacted by Highways England in relation to the scheme and we are discussing the impact of the work with the necessary party who now control the infrastructure.
13.48	Applicant	**Land or rights updates during the Examination** **s127 of PA2008** Please review Relevant Representations and Written Representations made as the Examination progresses and prepare, and at each successive Examination Deadline update as required, a table identifying and responding to any representations made by Statutory Undertakers with land or rights to which s127 of PA2008 applies. Where such representations are identified, the Applicant is requested to identify: • the name of the Statutory Undertaker; • the nature of their undertaking; • the land and or rights affected (identified with reference to the most recent versions of the BoR and Land Plans available at that time); • in relation to land, whether and, if so, how the tests in s127(3)(a) or (b) of PA2008 can be met;	Highways England will provide a table of SUs who have made representations and if they have been withdrawn but does not consider it necessary or helpful to provide the level of detail requested. Highways England will produce the table as and where there are updates to the content, it will not submit tables at deadlines where there is no change which the ExA needs to be made aware of. Highways England does not consider that any SU will suffer serious detriment as set out in s127(3) and (6) and is not aware that any SU has made representations that they will suffer serious detriment. Setting out an individual case for each SU at this time is therefore premature, unnecessary and an unreasonable burden on the Applicant given that no serious detriment case has been made by any SU and the SoCGs are progressing. Highways England further notes the following: • The information sought in this table will duplicate much of that to be set out in the SoCGs requested by the ExA in its rule 6 letter and is therefore a duplication of effort and resource • Commercial agreements reached with SUs may include confidentiality provisions, Highways England will therefore not submit these to the examination but will ensure SUs agree in the SoCG or other written format that they are content with the provisions of such agreements to provide the necessary comfort the ExA. • Amends to protective provisions as agreed with SUs will be documented in the SOCGs and draft DCO revisions at the appropriate deadlines. There is no utility in duplicating that material.

No	Question to	Reference (in bold) and Question	Applicant's Response
		• in relation to rights, whether and, if so, how the tests in s127(6)(a) or (b) can be met; and • in relation to these matters, please identify whether any protective provisions and or commercial agreement is anticipated, and if so whether these are already available to the ExA in draft or final form, whether a new document describing them is attached to the response to this question or whether further work is required before they can be documented?	
13.49	Applicant	**Extinguishment of rights and removal of apparatus, etc.** Please continue to review the CA or TP land and/or rights proposals and prepare, and at each successive Examination Deadline update, a table identifying if these proposals affect the relevant rights or relevant apparatus of any Statutory Undertakers to which s138 of PA2008 applies. If such rights or apparatus are identified, the Applicant is requested to identify: • the name of the statutory undertaker; • the nature of their undertaking; • the relevant rights to be extinguished; and / or • the relevant apparatus to be removed;	Highways England does not consider it necessary to produce the unnecessary level of detail listed. Highways England has set out in the SoR **[APP-020]** why SU rights require to be relocated and apparatus removed. That forms the Applicant's case for s138. Any changes to that case will be made to the SoR and submitted as appropriate. The specification of particular apparatus to be removed is in particular unnecessary and premature. Discussions with unknown undertakers are ongoing, where there is as yet unknown apparatus details cannot be given. As alternative apparatus has to be an equivalent to the undertaker's reasonable satisfaction as secured in the protective provisions the ExA already has sufficient certainty as to the protection of SU interests. Commercial agreements reached with SUs may include confidentiality provisions, Highways England will not therefore submit these to the examination but will ensure SUs agree in the SoCG or other written format that they are content with the provisions of such agreements to provide the necessary comfort the ExA.

No	Question to	Reference (in bold) and Question	Applicant's Response
		• why the extinguishment or the relevant right or removal of the relevant apparatus is necessary in each case; • how the test in s138(4) can be met; and • in relation these matters, whether any protective provisions and or commercial agreement is anticipated, and if so whether these are already available to the ExA in draft or final form, whether a new document describing them is attached to the response to this question?	Amends to protective provisions as agreed with SUs will be documented in the SOCGs and draft DCO revisions at the appropriate deadlines. There is no utility in duplicating that material
13.50	Cadent Gas Limited	**Clarification of Statutory Undertakers' issues** **RR by Cadent Gas Limited [RR-002]** Please provide details and clarify your reasoning for why your client is not satisfied that the tests under section 127 of the PA 2008 can be met.	N/A
13.51	Applicant	**Response to issues raised by Statutory Undertakers** **RR by Cadent Gas Limited [RR-002]** Please respond to the issues raised in the RR, including that: • diversions have not yet reached detailed design stage and so the positioning, land and rights required for gas diversions	• The Works Plans, included in the Plans and Drawings of the application **[APP – 009/]**, show the diversions proposed by tRIIO, Cadent's Consultant design Engineers. These diversions are based upon the NRSWA C3 estimates and a series of joint meetings and workshops undertaken since 2015. Impacts to service and infrastructure were covered during each of these sessions and accounted for in the work carried out to date. A number of opportunities have also been discussed and explored to minimise impact on Cadent's service and infrastructure. • During the detailed design of the scheme Cadent will be engaged in the NRSWA C4 process and the detailed diversion design and programming of the works will be completed at that time.

No	Question to	Reference (in bold) and Question	Applicant's Response
		included within the DCO may not be sufficient for Cadent; • Cadent is not satisfied that the DCO includes all land and rights required to accommodate such works; • Cadent is not satisfied that the tests under section 127 of the PA 2008 can be met; • Cadent Gas states that it has not been consulted on the extent of land secured pursuant to the DCO or the form of rights to be acquired; • Cadent has apparatus affected across the Proposed Development through multiple plots which should be referenced; and that • adequate protective provisions for the protection of Cadent's statutory undertaking have not yet been agreed or discussed between parties.	• Cadent have not provided Highways England with any examples of where they consider there may be a deficiency in land or rights sought under the DCO. Highways England has had extensive discussions with Cadent on the anticipated diversions and these have been factored into the Scheme design and DCO. • The draft protective provisions have been sent to Cadent and these are being currently being discussed between Cadent and Highways England legal teams. • Noted. • Highways England has included protective provisions in the dDCO which adequately deal with these issues. Highways England's legal team is in discussion with Cadent's legal team to discuss any changes Cadent is seeking to the draft provisions.
13.52	Addleshaw Goddard LLP on behalf of Network Rail Infrastructure Limited	**Clarification of Statutory Undertakers' issues** **RR by Addleshaw Goddard LLP on behalf of Network Rail Infrastructure Limited [RR-007]** a) Please provide details and clarify your reasoning for why your client considers that there is no compelling case in the	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
		public interest for the acquisition of the compulsory powers. b) Please provide details and clarify your reasoning for how the exercise of compulsory powers sought would have serious detriment on your client's undertaking.	
13.53	Applicant	**Response to issues raised by Statutory Undertakers** **RR by Addleshaw Goddard LLP on behalf of Network Rail Infrastructure Limited [RR-007]** Please respond to the issues raised in the RR, including that: • Network Rail objects to the inclusion of the Plots in the Order and to the acquisition of compulsory powers and rights to impose restrictive covenants in respect of those plots referenced in their RR; • Network Rail considers that the Secretary of State, in applying section 127 of the Planning Act 2008, cannot conclude that new rights and restrictions over the railway land can be created or that land can be acquired without serious detriment to Network Rail's undertaking; and	The land use powers sought in the draft DCO in respect of Network Rail's land would, by virtue of the operation of the protective provisions for the benefit of Network Rail, subject to Network's Rail's consent; and that such consent may be subject to reasonable conditions. As stated above, Highways England is working with Network Rail to reach a formal agreement to address the detail of these matters, but in any event, controls are already built into the draft DCO to ensure that the scope for negative impacts to the railway can be managed. The protective provisions perform an asset protection function which ensures that Network Rail's approval is required for any part of the authorised development within 15 metres of railway property. Highways England is hopeful that negotiations with Network Rail will result in an agreed form of 'Bridge Agreement' (and other agreements as so may be required) prior to the close of Examination, and consequently that Network Rail can remove its objection.

No	Question to	Reference (in bold) and Question	Applicant's Response
		• no other land is available to Network Rail which means that the detriment cannot be made good by them.	
13.54	Eversheds Sutherland LLP on behalf of Severn Trent Water Limited	**Clarification of Statutory Undertakers' issues** **RR by Eversheds Sutherland LLP on behalf of Severn Trent Water Limited [RR-009]** Please could your client provide details of additions sought to the provisions contained in Schedule 9 Part 1 of the dDCO, together with an explanation of why they are required?	N/A
13.55	Applicant	**Response to issues raised by Statutory Undertakers** **RR by Eversheds Sutherland LLP on behalf of Severn Trent Water Limited [RR-009]** Please respond to the issues raised in the RR, including in relation to the Protective Provisions.	See the Relevant Representations response (RR-009 in doc ref **[TR010022/APP/8.3]**)
13.56	Western Power Distribution (East Midlands) plc	**Clarification of Statutory Undertakers' issues** **RR by Western Power Distribution (East Midlands) plc [RR-010]**	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
		Has Western Power Distribution (East Midlands) plc reviewed the Protective Provisions contained in Schedule 9 Part 1 of the dDCO and do they consider that those provisions would adequately protect their assets and interests? If not, why not?	
13.57	Applicant	**Response to issues raised by Statutory Undertakers** **RR by Western Power Distribution (East Midlands) plc [RR-010]** Please respond to the issues raised in the RR, including in relation to the template agreement prepared by Western Power Distribution (East Midlands) plc.	WPD sent a draft Agreement to Highways England's legal team but Highways England were subsequently advised that WPD do not intend to progress this as it is being updated. From Highways England's perspective, Highways England's and WPD's legal teams are engaged on the Agreement and/or the draft protective provisions but it is not yet clear how WPD wants to progress this. The Works Plans, included in the Plans and Drawings of the application **[APP–009]**, show the diversions proposed by the Engineers consulted at Western Power Distribution's Derby offices. These diversions are based upon the NRSWA C3 estimates and a series of joint meetings and workshops undertaken since 2015. Impacts to service and infrastructure were covered during each of these sessions and accounted for in the work carried out to date. A number of opportunities have also been discussed and explored to minimise impact on Western Power Distribution's service and infrastructure. The Scheme has no intentions of acquiring Western Power Distribution property or equipment, and only seeks to divert affected infrastructure around impacted areas.
	Special Category Land		
13.58	Applicant DCiC DCC EBC	**Identification of Special Category land SoR [APP-020] table 7.1** The Applicant identifies various land plots within the Order limits as open space. Please confirm that no other land within the Order limits comprises land forming part of a	No additional land comprising land forming part of a common, open space or fuel or field garden allotment other than that open space identified in Table 7.1 of SoR **[APP-020]** is contained within the order limits.

No	Question to	Reference (in bold) and Question	Applicant's Response
		common, open space or fuel or field garden allotment.	
13.59	Applicant	**CA of Special Category land** a) Please confirm that the application proposal does not seek CA of any land or rights forming part of a common, fuel or field garden allotment subject to the operation of s131 of PA2008, or rights over such land subject to the operation of s132 of PA2008. b) Please provide an update on any related changes and necessary updates to the BoR and SoR at each Examination Deadline.	a) Yes - the land to be acquired is only within the Open Space category of this definition. b) Due to the size of the documents the Highways England proposes to provide an updated version of both documents at the end of examination. A schedule detailing changes to the Book of Reference **[TR010022/APP/8.32]** has been provided. A tracked change version of the documents will be provided with the final versions of the BoR and SoR.
13.60	Applicant	**Open space and replacement land** a) For each plot of existing open space that is proposed to be acquired and re-purposed, please, for each individual plot, identify the corresponding replacement land and its relative size and proximity. b) What persons have rights over any existing open space that is proposed to be acquired and what are their rights? c) How would the interests of the public, or persons with rights, be affected for each plot of existing open space that is proposed to be acquired?	a) There are a number of individual plots of land that make up the open space land that is to be the subject of compulsory acquisition (although the number of different landowners is limited), but a significant proportion of this is grouped in two main locations. This comprises land to the edge of Markeaton Park, which is designated public open space and land adjacent to Mackworth Park, which also includes land forming part of the designated public open space at Greenwich Drive South. As such, Highways England has approached this issue by calculating the gross amount of open space to be lost and subsequently identifying an equivalent area of land that compensates for the total balance of land to be lost. Highways England would draw attention to the content of the Planning Statement **[APP-252]** which it considers provides a suitable breakdown of the open space land to be acquired and the replacement land provided – please refer to tables 5.2 and 5.3 respectively. Moreover, reference is also made to paragraphs 5.1.26 - 5.1.39 of the Planning Statement, which set out in greater detail why the replacement land is considered to be suitable in terms of relative size and proximity.

No	Question to	Reference (in bold) and Question	Applicant's Response
		d) Please confirm that the proposed replacement land is not already subject to rights of common, or to other rights, or used by the public even informally for recreation. e) Please identify any rights that the replacement land would be burdened with that differ from those for the open space that it is proposed to replace and, if there are any, please clarify why the replacement land would be no less advantageous.	Highways England does not consider that a further comparative exercise on a plot by plot basis, would provide any additional information beyond what has already been provided and considered within the Planning Statement, but would be happy to consider further, should the ExA be able to provide a further explanation. Further to the above, Highways England would also wish to add that the part of the Scheme where a loss of open space occurs (Markeaton and Kingsway) lies within a dense urban corridor, with a limited amount of land available, that doesn't already form part of a formal designated open space or is already used informally as open space. In selecting suitable replacement land, consideration has also been given to a number of alternate candidate sites (as referred to within the Planning Statement) and in addition to considering these alternative sites, careful consideration has been given to the deliverability of the replacement land, as well as the issues of size and relative proximity. b) A schedule has been provided which shows the rights that are to be acquired over public open space for the scheme. The majority of open space land to be acquired is owned by Highways England or Derby City Council, with rights to statutory undertakers and Sustrans walking and cycle charity. Any formal Category 2 rights that are being removed as result of the acquisition are being regranted to the relevant parties. There are 32 open space parcels to be permanently acquired, 13 of these parcels are smaller than 100 square metres, and 14 between 101 and 500 square metres. Highways England is proposing to provide fewer, larger parcels of replacement land as open space which it believes will be of greater benefit to the area. c) These are detailed in the schedule described in b) above. d) Highways England can confirm, to the best of its knowledge, that the replacement land is not already subject to rights of common, or to other rights, or used by the public informally for recreational purposes. Accordingly, it can be considered as suitable replacement open space land, in exchange for the land to be acquired for the Scheme.

No	Question to	Reference (in bold) and Question	Applicant's Response
			e) There is no intention to grant rights over the land to be acquired as replacement land that would make the land less advantageous as public open space than the open space land that is going to be acquired.
13.61	Applicant DCiC	**Open space and replacement land** a) Can the Applicant and DCiC confirm whether agreement has been reached on the suitability of replacement land for the proposed loss of public open space as described in the ES and if not, how soon will this be decided? b) Can the Applicant confirm how the replacement land will be secured through the DCO or other legal means?	a) Highways England considers that the suitability of the proposed replacement land in exchange for the open space land to be acquired has been agreed in principle with Derby City Council as the local planning authority and also as one of the landowners of the replacement land. There are matters of detail that will require some ongoing discussion, such as the final layout and arrangement of the replacement land including the treatment of hard and soft landscaping, but Highways England considers that Derby City Council agree that the replacement land meets the statutory test as set out within the Planning Act 2008 and as such, is suitably as advantageous as the order land to be the subject of compulsory acquisition. b) Article 38 (Special Category Land) of the Draft Development Consent Order **[APP-016]** sets out the provisions to secure the replacement land for the open space land to be acquired as a result of the Scheme. This includes the powers to ensure the replacement land is vested with the same rights, trusts and incidents as the open space (Special Category Land) that would be the subject of compulsory acquisition. In parallel to the examination, Highways England will continue to explore alternate means with Derby City Council and other landowners in respect of the Special Category Land proposed to be acquired including the land offered in exchange as replacement land, where it is possible to avoid the compulsory acquisition of land. Updates will be provided during the examination.
	Availability and adequacy of funds		
13.62	Applicant	**Funding Statement [AS-011] paragraph 2.1.1**	a) Approximately 10% of the £229 million figure has been attributed to compensation payments and potential claims. b) The cost estimate has been produced as a three-point, bottom-up developing estimate using the scope outlined in the dDCO. There is risk included for each stage in the project. A final estimate will be produced prior to construction.

No	Question to	Reference (in bold) and Question	Applicant's Response
		The Funding Statement, paragraph 2.1.1, indicates a most-likely cost estimate of £229 million. a) What proportion of that figure can be attributed to compensation payments and potential claims? b) How can the ExA be satisfied as to the reliability of that figure, and what is its degree of accuracy? c) What comfort can be provided of funding being available should the most-likely cost estimate be exceeded? d) What comfort can provided that the scope of the project will not be reduced in response to any changes in funding?	Within this, the land cost estimate is based on a "most likely" estimate, which sits within a range forecasting methodology to reflect risk and uncertainty. The estimate has been refined periodically to reflect the emergence of new information and is based on market evidence and local data, engagement with landowners, technical scheme information and professional experience. The lands cost estimate has been prepared by an experienced compensation surveyor with local knowledge who has experience of acquiring land and assessing compensation in connection with highways schemes. The estimate has been further cross checked by an experienced in-house compensation specialist to ensure its reliability and accuracy. c) The estimate includes an element of risk. However, if the most likely cost estimate is to be exceeded, Highways England will follow the appropriate governance to allow further funding to be released, if justified. d) The funding for the scheme has been appraised and approved by the Highways England investment decision committee in relation to the requirements, scope, benefits and objectives of the Scheme. There may, however, be an eventuality of a change in funding due to external factors. If this funding is reduced, then scope reduction as a result cannot be ruled out. This scope reduction would be a last resort after exercises such as value engineering. It would also be appraised to have as little effect on scheme benefits and objectives as possible and would be subject to the formal change control process.
13.63	Applicant	**Funding Statement [AS-011] paragraph 3.1.3** The Funding Statement refers to the RIS published on 1 December 2014 for the period between 2015/2016 and 2020/2021. a) Does that represent the current position or has that been overtaken by a later RIS? If so, has the funding of the	a) This represents the current position. RIS 2 will not be announced until late 2019. It is assumed that there will be no changes to the A38 Derby Junctions scheme announced in RIS 2 and that part of RIS 2 funding will be allocated to the continuation of schemes announced in RIS 1. b) Noted. If there are any changes needed to the Funding Statement these will be done towards the end of the examination.

No	Question to	Reference (in bold) and Question	Applicant's Response
		Proposed Development been included within that? b) Please provide an update to the Funding Statement to fully reflect the current position and provide a final version towards the end of the Examination.	
13.64	Applicant	**Funding Statement [AS-011] Appendix B** The extract from the Roads Programme refers to the three junctions. Please confirm and provide evidence that Government funding has been committed to all works identified in Schedule 1 of the dDCO [APP-016], including: a) A38 road widening between the Kingsway and Kedleston junctions b) All Associated and Ancillary Development	Since the extract from the Roads Programme was published in 2014, the design for the Scheme has progressed to include A38 road widening between the Kingsway and Kedleston junctions and for all associated and ancillary development. This comprises the scope of the scheme that has been approved and endorsed by the Highways England Investment Decision Committee as part of the RIS funding from the Department for Transport. Therefore, government funding has been committed to all works identified in Schedule 1 of the dDCO as it constitutes the A38 Derby Junctions scheme rather than funding for solely the three junctions.
13.65	Applicant	**Planning Statement [APP-252] paragraphs 2.5.3-5** Please clarify if the Proposed Development is supported by the RIS when it is not to an "*Expressway*" standard.	The A38 has been designated as a future expressway in the RIS1. Work has been completed to ensure that the scheme is consistent with an aspiration to deliver the expressway concept; a gap analysis has been completed to assess what design changes may be required. These design changes have been incorporated into the scheme design and have been agreed with Highways England Expressway Standards team. It is important to the DfT that a future upgrade to Expressway Standard is not precluded and the current design ensures that, with appropriate departures, this will be the case.
	Potential impediments		
13.66	Applicant	**Acquisition of other land or rights**	All land and rights required for the project are included within the redline boundary provided at application and detailed in the Land Plans **[APP-008]** and Book of Reference **[APP-022]**. No other land rights are required to facilitate the development.

No	Question to	Reference (in bold) and Question	Applicant's Response
		Are any land or rights acquisitions required in addition to those sought through the dDCO before the proposed development can become operational?	
13.67	Applicant	**Other consents outside the DCO** **SoR [APP-020] paragraph 7.1.1** **Consents and Agreements Position Statement [APP-019]** The Applicant refers to other consents outside the DCO that would be required from other authorities. a) Please confirm that all necessary consents have been identified. b) Please provide any update to the Consents and Agreements Position Statement during the Examination and identify the progress made by the Applicant in its discussions with the relevant bodies. c) How can the ExA be confident that the need for these other consents would not present any obstacle to the implementation of the Proposed Development should development consent be granted?	The response to this question, should also have regard to the response provided to question 1.12. a) Highways England consider that the consents, licences and agreements that are needed for the Scheme are those as identified within Appendix A of the submission version of the Consents and Agreements Position Statement [APP-019]. Notwithstanding this, as per the response to question 1.12, Highways England would welcome any additional comments on this from the local authorities or key environmental regulatory bodies as appropriate. b) Highways England confirm agreement to providing updates to the Consents and Agreements Position Statement during the examination stage as needed. These may also be provided as relevant in updated versions of Statements of Common Ground submitted during the examination period. c) The ExA can be confident, because Highways England has through its work on the Scheme built strong relationships with all the key regulatory bodies, that would oversee these consents and consider they are suitably informed and knowledgeable about the Scheme. Notwithstanding this, Highways England will continue to engage with all relevant regulatory bodies, advancing discussions and where appropriate the submission of permit and/or other applications, so that the ExA can be suitably informed during the examination stage and to ensure that a decision on whether development should be granted is based on robust and up to date information.
13.68	DCiC DCC EBC	**Identification and addressing of potential impediments before CA**	N/A

No	Question to	Reference (in bold) and Question	Applicant's Response
	EA	a) Have potential impediments to the development been properly identified and addressed? b) Are there concerns that any matters either within or outside the scope of the dDCO for the development to become operational may not be satisfactorily resolved, including acquisitions, consents, resources or other agreements? c) Should triggers be required to secure any acquisitions, consents or other matters before CA should be permitted under the dDCO?	
	Human rights and the compelling case in the public interest		
13.69	Applicant	**The regard to Human Rights** **SoR [APP-020] paragraph 5.4.2** The Applicant submits that there is a compelling case in the public interest for CA. a) What assessment has been made of the effect upon individual Affected Parties and their private loss that would result from the exercise of compulsory powers in each case? b) Which factors have been placed in the balance and what weight has been attributed to them?	In identifying land required for the Scheme, Highways England have taken account of 'Planning Act 2008 Guidance related to procedures for the compulsory acquisition of land '(Department for Communities and Local Government, September 2013) Section 122 of the Planning Act provides that a development consent order may only authorise compulsory acquisition if the Secretary of State is satisfied that: • the land is required for the development to which the consent relates, or is required to facilitate, or is incidental to, the development, or is replacement land given in exchange under section 131 or 132; and • there is a compelling case in the public interest for the compulsory acquisition. The aim of the Scheme is to improve the functionality of the A38 and facilitate growth for public and businesses within the Derby City region. The objectives for the Scheme have been defined by Highways England and include improving economic competitiveness, the environment and quality of life by reducing congestion in the surrounding urban areas and on the A38 interregional road. In addition, it is considered

No	Question to	Reference (in bold) and Question	Applicant's Response
		c) What degree of importance has been attributed to the existing uses of the land proposed to be acquired? d) What regard has been had to the rights of Category 2 and Category 3 parties, as defined by s57 of PA2008? e) Please provide detailed responses for each individual residential property for which CA powers are sought.	that the proposed Scheme would increase the capacity of the strategic road network and facilitate housing and employment growth within the Derby City region. SoR **[APP-020]** paragraph 2.1.1. The need for the scheme is further highlighted in section 2 of Planning Statement and National Policy Statement Accordance Table **[APP-252]**. Highways England have carried out numerous assessments for to ensure that the Scheme meets its objectives, the design of the scheme is safe and will have longevity, and that the negative impacts of the Scheme are minimised or mitigated as much as possible. Factors that have been considered when developing the Scheme include: - The need for the Scheme - Safety requirements - Engineering requirements - Operational requirements - Existing use of land to be acquired (residential, commercial, open space, woodland etc) - Responses to consultation - Impact on natural environment These factors are individually affected by their own relevant statute and guidance which need to be considered when developing the Scheme to ensure that no statute is breached guidance ignored. Highways England have not placed any more or less importance on any of these factors but looked at all the issues 'in the round'. When assessing the land take for the project Highways England considered various different alignments of the A38 were explored to avoid the CA of properties at Queensway and Ashbourne Road. Alignments that avoided the necessary acquisition of the properties at Queensway and Ashbourne Road were found not to be compliant with design and safety standards (SOR **[APP-020]** paragraph 5) and included the compulsory acquisition of Public Open Space, as well as negatively affecting other factors as mentioned above. The land within the proposed order limits in that area has

No	Question to	Reference (in bold) and Question	Applicant's Response
			been reduced as far as is possible to avoid and land take from further residential properties or the Royal Derby Deaf School. Highways England have been engaging with those parties affected by Compulsory Acquisition for some time and working to secure private agreements to acquire the land to give those more certainty than what is offered by compulsory purchase. A number of the properties on Queensway have already been acquired through a blight scheme, with further expected to be acquired before the end of the examination period. Further information on each individual property this can be found in the Compulsory Acquisition schedule. Many of the Category 2 parties are utilities providers are Highways England are working with them to ensure that land is acquired so the utility can be diverted (and rights granted to permit this). Highways England have been working with the utilities companies regarding this and have, or are in the process of, putting Protective Provisions in place to protect their supply operations. Highways England have taken a cautious approach when listing persons in Part 2 of the Book of Reference as Category 3 parties. Work has been done to mitigate the potential impact of these physical factors through the design with noise barriers, screen planting, choice of road surface etc. Once operational, should the effects of the scheme have a negative effect on the value of the properties, residents will be able to apply for compensation. When designing the Scheme National Policy Statement for National Networks (NPSNN) (Department for Transport (DfT), 2014) which, at Sections 4 and 5, sets out policies to guide how DCO applications will be decided and how the impacts of national networks infrastructure has been considered. Further detail of how these physical impacts and what mitigation has been put in place is detailed in the Environmental Statement.
13.70	Applicant	**The proportionality test** **SoR [APP-020] paragraph 6.2.2**	The aim of the A38 Derby Junctions scheme is to improve the functionality of the A38 and facilitate growth for public and businesses within the Derby City region. The objectives for the Scheme have been defined by Highways England and include improving economic competitiveness, the environment and quality of life by reducing

No	Question to	Reference (in bold) and Question	Applicant's Response
		The Applicant asserts that the interference with human rights would be proportionate and justified. a) How has the proportionality test been undertaken? b) Please clarify the proportionate approach which has been taken in relation to each plot. c) Please provide a detailed response for each individual residential property for which CA or TP powers are sought.	congestion in the surrounding urban areas and on the A38 interregional road. In addition, it is considered that the proposed Scheme would increase the capacity of the strategic road network and facilitate housing and employment growth within the Derby City region. SoR **[APP-020]** paragraph 2.1.1. The need for the scheme is further highlighted in section 2 of Planning Statement and National Policy Statement Accordance Table **[APP-252]**. All land take has been minimised as much as possible whilst ensuring that the land take is such that the scheme meets its objectives and functions safely. However, due to design restrictions, restrictions as a result of statute with regards to safety, environmental protections, acquisition of public open space, and engineering it has only been possible to design a scheme that necessitates the demolition of a number of residential properties. Highways England has been engaging with those parties affected by Compulsory Acquisition for some time and working to secure private agreements to acquire the land to give those more certainty than what is offered by compulsory purchase. A number of the properties on Queensway have already been acquired through a blight scheme, with further expected to be acquired before the end of the examination period. Further information on each individual property this can be found in the Compulsory Acquisition schedule. It should be noted that a number of these properties are occupied on short term tenancies rather than family homes. The notice that would be given should there be the need the need to acquire by compulsory purchase is shorter than the notice period in a standard assured shorthold tenancy agreement.
13.71	Applicant	**Regard to landowner feedback** **SoR [APP-020] paragraph 6.2.3** The Applicant states that it has had regard to landowner feedback both in the initial design of the Proposed Development and in iterative design changes throughout the life of the Proposed Development.	The more recent consultations (2015 non-statutory, 2018 Section 42 and 2019 Section 56) received very few comments from land interest parties. The only adjustment to the preferred option, or alternative suggested to the proposed acquisition of land or rights, was as a result was the removal of a secondary site compound in the vicinity of the Markeaton junction. Derby University owns a plot of land on the east side of the A38 between Markeaton and Kedleston Road junctions. This had been identified as a suitable secondary construction compound, but in response to the University's planned use for the land as a building plot temporary possession of the plot is no longer being sought.

No	Question to	Reference (in bold) and Question	Applicant's Response
		Please provide a separate list of the design changes relied upon in this respect together with the relevant document reference and paragraph number so that these can be readily identified.	
13.72	Applicant	**The Equalities Act 2010 and public sector equality duty** **Equalities Impact Assessment Report [APP-245]** a) Please could the Applicant clarify how it has had regard to the Equalities Act 2010 and its public sector equality duty in relation to the powers of CA? b) Have any Affected Persons been identified as having protected characteristics?	a) Highways England uses the Equality Impact Assessment (EqIA) process to consider and evidence compliance with the Public Sector Equality Duty (PSED) under the Equality Act 2010. Equality Impact Screening and Assessment tools are used by Highways England at each stage of the design process to ensure it meets the PSED. An Equality Impact Screening was carried out during the previous stages of the scheme development. The EqIA sets out the potential positive and negative impacts on the scheme, and how processes associated with its development (such as stakeholder engagement) have complied with the PSED for the whole scheme including the approach to CA. b) Affected Persons have been identified as having protected characteristics and all land owners for whom Highways England has engaged with in relation to CA have experts representing them for whom their reasonable fees, we be met by Highways England, thus ensuring they are able to participate in the examination. Affected Persons identified as having protected characteristics are the residents of the Royal School for the Deaf Derby and Supported Living Accommodation properties. Affected Persons have been identified as having protected characteristics and all land owners for whom Highways England has engaged with in relation to CA have experts representing them for whom their reasonable fees we be met by Highways England, thus ensuring they are able to participate in the examination. Affected Persons identified as having protected characteristics are the residents of the Royal School for the Deaf Derby and Supported Living Accommodation properties.