A46 Newark Bypass

Scheme Number: TR010065

7.11 Applicant's Response to Environment Agency Relevant Representations

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The A46 Newark Bypass
Development Consent Order 202[#]

Applicant's Response to Environment Agency Relevant Representations

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Contents

1. Introduction

1.1. The Development Consent Order (DCO) application for the A46 Newark Bypass (the “Scheme”) was submitted by National Highways (the “Applicant”) to the Secretary of State for Transport via the Planning Inspectorate on 26 April 2024 and accepted for Examination on 23 May 2024.

The section of the A46 that would be upgraded is approximately 6.5 kilometres (approximately 4 miles) in length. The Scheme comprises on-line widening for the majority of its length between Farndon Roundabout and the A1. A new section of off-line dual carriageway would be provided between the western and eastern sides of the A1 before the new dual carriageway ties into the existing A46 to the west of Winthorpe Roundabout. The widening works include earthwork widening along the existing embankments, and new structures where the route crosses the Nottingham to Lincoln and ECML railway lines, River Trent, Brownhills link and the A1. A detailed description of the Scheme can be found in Chapter 2, The Scheme of the Environmental Statement [APP-046]

2. Purpose of this Document

2.1. The purpose of this document is to set out the Applicant’s response to the Relevant Representations (RR) from the Environment Agency. Responses were received during the RR period and published on 23 July 2024 on the Planning Inspectorate’s website.

1 Environment Agency Relevant Representations

2 Applicant's Response to the Environment Agency Relevant Representations

Environment Agency position		Applicant response
Flood risk		
EAFR-001: Flood risk exception test (part 2) – fluvial flood risk		
Document reference	APP-177 – 6.3 Environmental Statement - Appendix 13.2 Flood Risk Assessment (ref. TR010065/APP/6.3, Revision 1, April 2024)	The Applicant confirms section 4.3 and section 10 of Appendix 13.2 (Flood Risk Assessment) of the Environmental Statement Appendices [APP-177], discusses the Sequential and Exception tests. For the Exception Test to be passed, it must be demonstrated that: 1) the Scheme provides wider sustainability benefits to the community that outweigh the flood risk; and 2) the Scheme would be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, would reduce flood risk overall. The Applicant maintains that both parts of the Exception Test have been satisfied. The first part of the Exception Test is met, as stated in paragraph 4.3.3-5 and section 10.3 in Appendix 13.2 (Flood Risk Assessment) of the Environmental Statement Appendices [APP-177], due to the Scheme being part of the strategic road network, the need for upgrading of which is set out in the Case for the Scheme [APP-190]). The Scheme is essential transport infrastructure that has to cross the area(s) at flood risk. The second part of the exception test is also met. As described in paragraph 11.1.6 of Appendix 13.2 (Flood Risk Assessment) of the Environmental Statement Appendices [APP-177], the Scheme, which includes three Flood Compensatory Storage areas to mitigate the potential for increased flood risk elsewhere, does not change fluvial flood risk for the design (1%AEP plus 39% climate change) event, when compared to the baseline. Section 8.2 of Appendix 13.2 (Flood Risk Assessment) of the Environmental Statement Appendices [APP-177] itemises areas where minor localised changes in flood depth, both increases and decreases, were observed in modelling of the 1%AEP plus 39% climate change event. Vulnerable receptors that are impacted in the localised areas where flood depths show slight increases compared to the baseline are discussed a Hydraulic Modelling Technical Note which has been submitted in draft format to the Interested Party for comment, and will be submitted to the Examining Authority by Deadline 3, if not sooner. It is further considered that there are decreased flood depths in other areas of the floodplain in the 1%AEP plus 39% climate change event. It is not realistic or possible for the Scheme to reduce flood risk overall within the wider catchment, given the extensive baseline flood hazard in the floodplain for the 1%AEP plus 39% climate change event, as shown in Figure 8-2 of Appendix 13.2 (Flood Risk Assessment) of the Environmental Statement Appendices [APP-177]. It should be noted that the Scheme does provide some localised reduction of flood risk as shown in Figure 8-1 of Appendix 13.2 (Flood Risk Assessment) of the Environmental Statement Appendices [APP-177]. However, it is considered that the Scheme during operation does not cause an overall change flood risk for the 1%AEP plus 39% climate change event, when compared to the baseline. As discussed in Section 4.7 of Appendix 13.2 (Flood Risk Assessment) of the Environmental Statement Appendices [APP-177], the Environment Agency has been consulted throughout the hydraulic modelling process, and has provided feedback and review of the hydraulic model. The Applicant is continuing to work with the Interested Party to address this comment through technical meetings and supporting technical note documents that will be provided to the Examination. This will be documented in the Statement of Common Ground with the Environment Agency, which will be submitted to the Examining Authority during the course of the Examination.
Issue	The submitted flood risk assessment (FRA) fails to satisfy the second part of the flood risk exception test, insofar as it relates to fluvial flood risk.	
Impact	As submitted, the FRA shows the Scheme would increase flood risk elsewhere over the lifetime of the development. Despite acknowledging the increases in flood risk, the FRA does not consider any additional mitigation measures to offset these increases. The FRA also fails to consider any opportunities presented by the Scheme for reducing fluvial flood risk overall.	
Solution	The Applicant needs to ensure the Scheme does not result in an increase in flood risk elsewhere, regardless of how minor this increase may be. Where an increase in flood risk is unavoidable then additional flood risk mitigation needs to be considered for offsetting this increase, with the affected landowners being consulted. The Applicant should also demonstrate that opportunities to reduce flood risk overall have been considered and incorporated where achievable.	
Additional comments	• The Scheme lies within Flood Zone 3a, on the Flood Map for Planning (rivers and sea), which is land defined by the planning practice guidance (PPG) for flood risk and coastal change as having a high probability of flooding. In accordance with table 2 of the PPG, development classified as 'essential infrastructure' under Annex 3 of the National Planning Policy Framework (NPPF) is only appropriate in these areas if the exception test is passed alongside the sequential test. • Paragraph 171 of the NPPF makes clear that both elements of the exception test must be passed for development to be permitted. Part 2 of the test requires the Applicant to demonstrate, via a site-specific flood risk assessment (FRA), that the development will be safe, without increasing flood risk elsewhere and, where possible, the development should reduce flood risk overall. This is further supported by paragraphs 5.107 and 5.108 of the 2015 National Networks National Policy Network Statement (NNNPS) and paragraph 5.128 of the 2024 NNPS, which was designated on 24 May 2024. • Paragraphs 5.108 of the 2015 NNNPS and 5.128 of the 2024 NNNPS state that "For the Exception Test to be passed: ○ it must be demonstrated that the project provides wider sustainability benefits to the community that outweigh flood risk; and ○ an FRA must demonstrate that the project will be safe for its lifetime, without increasing flood risk elsewhere and, where possible, will reduce flood risk overall."	
EAFR-002: Increase in fluvial flood risk elsewhere		
Document reference	• APP-177 – 6.3 Environmental Statement - Appendix 13.2 Flood Risk Assessment (ref. TR010065/APP/6.3, Revision 1, April 2024)	As discussed in the response to EAFR-001, it is maintained that the second part of the Exception Test is met, and that the Scheme does not change flood risk overall for the 1%AEP plus 39% climate change event, when compared to the baseline.
Issue	• The FRA indicates that fluvial flood risk will be increased elsewhere as result of the development over its lifetime.	

Environment Agency position		Applicant response
Impact	Section 8 of the FRA sets out various instances where an increase in flood risk is expected as a result of the operational phase of the Scheme. • Furthermore, Figure 10.1 of the FRA shows a minor increase in flood risk to Tolney Lane during the construction phase; we are particularly concerned by any increase in flood risk to this specific area. These increases are considered within the FRA to be 'minor' or 'negligible', but do still result in failure to pass part 2 of the flood risk exception test.	Section 8 of Appendix 13.2 (Flood Risk Assessment) of the Environmental Statement Appendices [APP-177] sets out instances where localised changes (both increases and decreases) in flood depth, were observed in modelling of the 1%AEP plus 39% climate change event. Vulnerable receptors that are impacted in the localised areas where flood depths show slight increases compared to the baseline are discussed in the Hydraulic Modelling Technical Note. It is further considered that there are decreased flood depths in other areas of the floodplain in the 1%AEP plus 39% climate change event. The Hydraulic Modelling Technical Note further shows that for 1%AEP plus 39% climate change event, the number of "More Vulnerable" receptors with decreases in flood depth (i.e which benefit from the Scheme) is 940, which outnumber the 691 "More Vulnerable" receptors which show negligible (<10mm) increases in flood depth. The Applicant assumes that the Interested Party refers to Figure 9-1 (not Figure 10-1) of Appendix 13.2 (Flood Risk Assessment) of the Environmental Statement Appendices [APP-177], which shows construction phase depth differences for the Scheme plus temporary works, compared to baseline conditions for the 3.33%AEP event. Figure 9-1 shows either no change or a slight decrease (not an increase) in flood depth in the vicinity of Tolney Lane in the 3.33%AEP event, compared to the baseline. The Applicant however welcomes the opportunity to engage further with the Environment Agency to clarify this matter.
Solution	• Reconsider the compensatory flood storage proposals to ensure flood risk is not increased elsewhere. If this is not achievable, it must be demonstrated in the FRA that the Applicant has considered all options to address this issue.	
EAFR-003: Overall reduction in fluvial flood risk		
Document references	• APP-177 – 6.3 Environmental Statement - Appendix 13.2 Flood Risk Assessment (ref. TR010065/APP/6.3, Revision 1, April 2024)	As discussed in Appendix 13.2 (Flood Risk Assessment) of the Environmental Statement Appendices [APP-177] the response to EAFR-001 above, it is not realistic or possible for the Scheme to reduce flood risk overall within the wider catchment, given the extensive baseline flood hazard in the floodplain for the 1%AEP plus 39% climate change event, as shown in Figure 8-2 of Appendix 13.2 (Flood Risk Assessment) of the Environmental Statement Appendices [APP-177]. While overall flood risk reduction is a desirable component in the Exception Test, it is not a mandatory requirement. The Applicant therefore maintains that both parts of the Exception Test have been satisfied, as discussed in the response to EAFR-001. Three Flood Compensation Areas (FCAs) are provided within the Scheme to compensate for the decrease in floodplain footprint from the widened A46. These are located at Kelham and Averham, Farndon East and Farndon West. Paragraphs 3.3.7 to 3.3.15 of Appendix 13.2 (Flood Risk Assessment) of the Environmental Statement Appendices [APP-177] discuss the 29 potential FCAs considered for the Scheme, and a RAG screening table for FCA site selection is provided in Appendix G of the Flood Risk Assessment [APP-177]. As discussed in Section 4.7 of Appendix 13.2 (Flood Risk Assessment) of the Environmental Statement Appendices [APP-177], discussion and agreement of approaches and methodologies has been undertaken with the Flood Risk Management Authorities including the Environment Agency, through A46 Flood and Drainage Steering Group Meetings, to ensure that the assessment of flood risk is appropriate for the nature and scale of the Scheme. The Applicant considers that any further mitigation to provide wider catchment benefits is disproportionate to the scale of the Scheme.
Issue	• The FRA fails to demonstrate that opportunities to reduce flood risk overall have been considered.	
Impact	• There is a missed opportunity for the Scheme to provide wider flood risk benefits at the same time as ensuring flood risk is not increased as result of the development. The FRA therefore fails to adequately address the second part of the exception test.	
Solution	The FRA should consider opportunities for the Scheme to reduce flood risk overall. For example, paragraph 11.1.5 of the FRA acknowledges the existing flood risk to Brownhills Roundabout and the Central Market Junction; although the risk is existing, it is unclear if opportunities to reduce the flood risk to these areas been considered. Given their link to the proposed scheme, it would be sensible to explore opportunities to increase their resilience to fluvial flood risk in line with the proposed scheme.	
EAFR-004: Compensatory flood storage		
Document references	APP-177 – 6.3 Environmental Statement - Appendix 13.2 Flood Risk Assessment (ref. TR010065/APP/6.3, Revision 1, April 2024)	Details of the exact volumes of floodplain lost due to the development are included in the Floodplain Compensation Area Technical Note, which has been submitted in draft format to the Interested Party for comment, and will be submitted to the Examining Authority by Deadline 3, if not sooner. Additional storage is provided at each of the floodplain compensation areas to reduce flood risk to the local area. This additional compensation is used in part to mitigate the Scheme's inability to compensate for all elevations of volume lost on a level-for-level basis. The use of the additional compensation is discussed further in the Floodplain Compensation Area Technical Note section 2.2, paragraphs 2.2.3 and 2.2.14.
Issue	The FRA fails to provide details on the amount and location of the flood storage being displaced, compared to the amount and location of flood storage being provided, demonstrating that any flood storage provided will become effective at the same point in a flood event as the lost storage would have done.	
Impact	This information is important because if the compensation volumes are provided at the wrong elevation, then flood waters can still be displaced even though the overall volume provided may be the same as what was there before. The provision of this information is essential in being able to justify the floodplain compensation strategy proposed and determine whether opportunities for reducing flood risk overall have been maximised. In the absence of this detail, we are unable to validate the impacts of the Scheme and its proposed flood risk mitigation. As such, there remains a risk.	
Solution	Provide details in the FRA of where exact volumes of flood storage are being lost at each level, and subsequently compensated for, to demonstrate the proposed compensatory flood storage is sufficient, and where possible can provide additional storage to reduce flood risk to the local area and Scheme overall.	
Additional comments	• The best way to compensate for flood storage loss is to recreate an area of floodplain that mimics the area, shape and volume of the section of floodplain that has been lost by the development. • If it is not possible to provide level-for-level and volume-for-volume compensation then the FRA should demonstrate that this option has been considered and explain why it has not been possible, whilst	

Environment Agency position		Applicant response
	detailing how any associated risks from the chosen form of mitigation can be minimised. For example, the current proposal does not provide level-for-level floodplain compensation at the lower flood heights of 8.6metres above Ordnance Datum (mAOD) to 9.06mAOD, so it is important to have a thorough understanding of the impact of this. Therefore, it may be appropriate for the Applicant to consider simulating the 1-year flood event to address the impacts on third parties of not providing this lower-level floodplain compensation.	
EAFR-005: Compensatory flood storage – phasing of works		
Document references	APP-177 – 6.3 Environmental Statement - Appendix 13.2 Flood Risk Assessment (ref. TR010065/APP/6.3, Revision 1, April 2024)	The Applicant intends to update Requirement 14 of the draft Development Consent Order [APP-021] to include the correct climate change percentage. In Section 2.6 of Chapter 2 (The Scheme) of the Environmental Statement [APP-046], the construction methodology of the Scheme is described. In this construction methodology, it is stated that the floodplain compensation area (Kelham and Averham FCA) is to be constructed prior to the rest of the Scheme. The Farndon FCAs will be constructed in parallel with the main works, ensuring the volume built into the floodplain is always less than the volume excavated from the FCA sites on a level for level basis. Pre-commencement works are to take place prior to the main construction of the Scheme in order to facilitate the construction of the Kelham and Averham FCA, as described in the Pre-Commencement Plan [APP-188]. Requirement 14 of the draft Development Consent Order) [APP-021] sets out how the detailed plans for FCAs are to be approved prior to the commencement of works. The detailed plans shall include phasing and timing of the actual construction works, which will also be addressed in the Second Iteration Environmental Management Plan. Adherence with the Second Iteration Environmental Management Plan and associated detailed management plans is secured by Requirement 3 of the draft Development Consent Order [APP-021], on which the Environment Agency will be a consultee. The Applicant does not consider it necessary to adjust the wording of Requirement 14 of the draft Development Consent Order [APP-021] beyond the amendment in relation to the climate change percentage, as the wording already restricts the Applicant to agree the works prior to commencement.
Issue	No consideration is given within the FRA to the phasing of works and when certain areas of floodplain compensation will become available to ensure that there is no loss in flood storage capacity at any point during the construction of the Scheme.	
Impact	Without a commitment to precise timings, there is a risk that development could take place in areas defined as being at risk of flooding from fluvial sources, which could displace floodwaters and impact third parties if compensatory flood storage is not operational at the time of flooding.	
Solution	The FRA should provide further detail on timing/phasing arrangements for the floodplain compensation scheme in relation to the wider Scheme to ensure there is no increase in flood risk at any point during construction. Requirement 14 should also be revised to specify that the implementation of the compensatory flood storage must be in accordance with the Scheme's agreed timing/phasing arrangements.	
EAFR-006: Compensatory flood storage – maintenance		
Document references	APP-177 – 6.3 Environmental Statement - Appendix 13.2 Flood Risk Assessment (ref. TR010065/APP/6.3, Revision 1, April 2024)	Appendix 13.2 (Flood Risk Assessment) of the Environmental Statement Appendices [APP-177] considers the impact on flood risk should the A617 culverts become blocked in Appendix B of the Hydraulic Modelling Technical Report, (which is Appendix A of Appendix 13.2 (Flood Risk Assessment) of the Environmental Statement Appendices [APP-177]). This looks at blockage modelling of the culverts and the impacts said blockage would have. The size of the five culverts (arranged in parallel) are the largest that can reasonably fit beneath the A617 based upon the carriageway profile and the connecting ditch profile for draining the Kelham & Averham FCA back into the River Trent following a flood event. Requirement 14 of the draft Development Consent Order [APP-021] sets out how the detailed plans for FCAs are to be approved prior to the commencement of works. A maintenance plan for the culverts and all floodplain compensation areas is required by Requirement 14 of the draft Development Consent Order [APP-021], which secures the maintenance. Appendix 13.2 (Flood Risk Assessment) of the Environmental Statement Appendices [APP-177] also considers the impact on flood risk should the blockage occur at bridge piers, in Appendix B of the Hydraulic Modelling Technical Report, (which is Appendix A of the Appendix 13.2 (Flood Risk Assessment) of the Environmental Statement Appendices [APP-177]). This looks at blockage modelling of carriageway piers. Requirement 14 of the draft Development Consent Order [APP-021] sets out how the detailed plans for FCAs are to be approved prior to the commencement of works. It is proposed that a maintenance plan for the piers shall be included in the Third Iteration Environmental Management Plan. Adherence with the Third Iteration Environmental Management Plan and associated detailed management plans is secured by Requirement 3 of the draft Development Consent Order [APP-021].
Issue	The maintenance of proposed flood compensation has not been considered. Further justification and reassurance are required before we can be satisfied with the appropriateness of the proposals.	
Impact	• Paragraph 3.3.17 of the FRA refers to a series of culverts beneath the A617 to enable flood water conveyance to the floodplain compensation area. Reliance on culverts for floodplain conveyance is not usually recommended as they can become blocked or infilled, which would restrict flood flows reaching the compensation area, resulting in an increase in flood risk elsewhere. • Additionally, paragraph 8.2.5 of the FRA refers to the widening of the carriageway resulting in additional piers 'causing a restriction to water flowing from west to east on the right bank of the River Trent', which has resulted in local flood levels increasing by up to 26mm. Debris can build-up and cause blockages around the piers, which would reduce the flood storage potential of the land and also increase the risk of flooding elsewhere.	
Solution	• The FRA should consider the impact on flood risk should the culverts beneath the A617 become blocked and flood water be unable to reach the floodplain compensation area. We would expect the assessment to be informed by blockage modelling, a rationale for the culvert sizes chosen, and how the risk of culvert failure or blockage can be mitigated. The latter should be addressed through a maintenance plan, outlining who would be responsible for culvert maintenance and how frequently it will be undertaken. The maintenance plan should be maintained in perpetuity. • Similarly, the FRA should consider the maintenance strategy for the carriageway piers proposed within the floodplain, in order to demonstrate that there will not be any debris build up between the piers that could result in a blockage risk and the subsequent in loss of flood storage capacity.	
EAFR-007: Slough Dyke (main river) realignment		
Document references	APP-177 – 6.3 Environmental Statement - Appendix 13.2 Flood Risk Assessment (ref. TR010065/APP/6.3, Revision 1, April 2024) 6.3 Environmental Statement - Appendix 13.2 Flood Risk Assessment - Appendix A – Fluvial Hydraulic Modelling Report (ref. TR010065/APP/6.3, Revision 1, March 2024)	The Applicant's position is that the Slough Dyke realigned channel will have the same/equivalent cross section as the upstream and downstream sections of the watercourse, with invert and cover levels that match the existing watercourse. Therefore, the diversion consists of only a minor horizontal realignment. In light of this, the Applicant believes that including an updated Slough Dyke alignment in the Scheme model would provide no benefit. The General Arrangement Plans [AS-007] show the proposed realignment, and the cross section is shown in Engineering Plans and Sections Part 6 sheet 12 [APP-14]. As

Environment Agency position		Applicant response
Issue	No detailed drawings for the Slough Dyke realignment have been provided and the realignment has also not been represented within the hydraulic modelling undertaken.	discussed with the Environment Agency in a meeting on the 05/09/2024, it was agreed to perform a simplified model run including the change to the Slough Dyke. The results from this are included in section 4 of the Hydraulic Modelling Technical Note.
Impact	The realignment of the Slough Dyke (as mentioned in paragraph 3.3.28 and shown in Figure 3-2 of the FRA) is necessary to facilitate the proposed scheme's layout. However, no detailed plans for the realignment have been provided to enable a more thorough assessment of the flood risk implications of the realignment. Although FRA paragraph 3.3.29 states the realignment is 'not predicted to alter the current hydraulics, and therefore flooding regime of this watercourse in the local area', further evidence is required to support this. Currently paragraph 6.1.5 of the 'A46 Newark Trent 2023 Fluvial Hydraulic Modelling Report' (FRA Appendix A) states "the Slough Dyke watercourse alignment was retained from its original hydraulic model", but we would expect the updated hydraulic modelling to account for this realigned channel to give a more accurate representation of the proposed scheme and to better understand the flood implications. Without this information we cannot be confident in our assessment of the flood risks, both to the development and to third parties, resulting from the realignment, and what could be done to mitigate any potential flood risks.	
Solution	Detailed drawings should be provided and with-mitigation scheme modelling re-run with the realignment to understand the flood risk impacts.	
EAFR-008: Interaction with Environment Agency flood defences		
Document references	APP-177 – 6.3 Environmental Statement - Appendix 13.2 Flood Risk Assessment (ref. TR010065/APP/6.3, Revision 1, April 2024)	The Applicant confirms the Scheme interacts with two Environment Agency flood defences. Information on the flood defences was discussed with the Environment Agency on 5 September 2024 in a meeting. The Crees Lane Embankment is a 239 metre long flood defence embankment which is located on the south bank of the River Trent between the A46 and Cress Lane. The embankment is constructed from clay with a clay key penetrating 1 metre below ground level. An access track, including bridleway 2, is located on top of the embankment. The new Windmill viaduct (Works No 7) spans over the flood defence embankment with no permanent detriment to its location or structure. The temporary works area for the construction of the bridge (Works No 127) will require a crushed stone platform to be laid to support the construction plant that will be required to construct the bridge, such as piling rigs and cranes. This stone platform would be laid against the existing flood structure and will not reduce its structural integrity. Upon completion of the new bridge structure the temporary works will be removed and the land reinstated to previous use. The bridleway (BW2) and access track (Works No 6 as shown on the Works Plans [AS-005] are re-opened following completion of construction of the bridge and the reinstatement of Works No 127. Works No 6 provides vehicle and foot access to the Crees Lane Embankment for inspection and maintenance works. The Newark Roundabout Embankment is a 325 metre long embankment located to the southeast of the A46 between Kelham Road and the southeast quadrant of the Cattle Market Roundabout. The embankment is constructed from Marl with a shear key that protrudes 1 metre into the ground under the center of the bund. There are also two grout curtain walls through the bund. Works No 40 as shown on the Works Plans [AS-005] is required for the widening for the new Cattle Market junction and interfaces with the eastern end of the flood defence. The southeast corner of the new roundabout will incorporate the last 10 meters of the eastern end of the flood embankment within the earthworks for the new roundabout. The new earthworks will be benched into the existing embankment to form a solid, homogeneous structure. The flood bund will not be compromised during the construction works, and the EA's existing access will be maintained. In relation to Crees Lane floodbank the Standard of Protection (SOP) is demonstrated to be 1 in 100 year + 39% climate change in the Scheme hydraulic model, however other routes result in flooding behind the defence in more frequent SOPs. In relation to Newark Roundabout Embankment similarly, the Standard of Protection (SOP) is demonstrated to be 1 in 100 year + 39% climate change in the Scheme hydraulic model, however other routes result in flooding behind the defence in more frequent SOPs.
Issue	There is limited information available on the Scheme's interaction with the existing Environment Agency flood defences. The FRA mentions that the Scheme will 'tie-in' with existing Environment Agency flood defences (see paragraphs 3.4.2 and 7.7.2), but there is no explanation for how this will occur, or how it will be ensured that there will be no detriment to the defences.	
Impact	• FRA paragraph 7.7.2 states that the "scheme design directly interfaces with these flood defences and suitable measures have been put in place in order that the existing defences are not structurally compromised or altered in terms of crest height". However, without further details of how this interface will be managed, we cannot confirm whether proposals are acceptable. • There is no evidence to demonstrate that the proposal will not restrict essential maintenance and emergency access to the defences (the permanent retention of a continuous unobstructed area is an essential requirement for future maintenance and/or improvement works), or whether the proposed development is likely to adversely affect the construction and stability of the flood defences, which will compromise their function.	
Solution	• Further information should be provided on the current Standard of Protection (SoP) of the existing defences, their composition, current condition, and inspection regime. • Detailed plans for areas around the defences, showing tie-in with the Scheme, should be provided. The lifetime of the defences should ideally be commensurate with the lifetime of the Scheme, so if this is not the case then the Applicant should consider opportunities to ensure they are brought up to the Scheme's lifetime.	
Additional comments	• Although the detailed construction approach to works in/around the Environment Agency defences would be addressed under a flood risk activity permit, we still expect the DCO submission to be supported by the outline construction principles for how it will be ensured that the flood defences are not negatively impacted by the proposed scheme works. • The Environment Agency would be keen to engage in further discussions on flood defences as soon as information is available.	
EAFR-009: Climate change allowances sensitivity test – Interaction with Environment Agency flood defences		
Document references	APP-177 – 6.3 Environmental Statement - Appendix 13.2 Flood Risk Assessment (ref. TR010065/APP/6.3, Revision 1, April 2024)	The Applicant considered the credible maximum climate change scenario (H++) in Appendix 13.2 {Flood Risk Assessment) of the Environmental Statement Appendices [APP-177]. The event assessed was the 0.5% AEP plus the upper end climate

Environment Agency position		Applicant response
Issue	The FRA has not assessed a credible maximum peak river flow climate change scenario, in line with GOV.UK guidance on climate change allowances for flood risk assessments. This is expected given the Scheme's status as a Nationally Significant Infrastructure Project (NSIP) and its proposed 120-year lifespan.	change allowance of 62%. As discussed in Section 7.2 of the Flood Risk Assessment [APP-177], this event was selected as the 'check event' required for assessment in Design Manual for Roads and Bridges document CD356. The 0.1% AEP event was used as a proxy event for the 0.5% plus 62% climate change uplift. The suitability of this approach is outlined further in section 5 of the Hydraulic Modelling Technical Note, which has been submitted in draft format to the Interested Party for comment, and will be submitted to the Examining Authority by Deadline 3, if not sooner.
Impact	Without assessing a credible maximum scenario, it is unclear how sensitive the Scheme is to changes in the climate for different future scenarios, so consideration for how the Scheme can be adapted to large-scale climate change over its lifetime has not been considered.	
Solution	The FRA should include a sensitivity assessment of the Upper End (62%) climate change allowance for peak river flow.	
Additional comments	For information, please refer to: https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances Paragraph 4.10 of the 2024 NNNPS states that the "applicant should also be able to demonstrate how proposals can be adapted over their predicted lifetimes to remain resilient to a credible maximum climate change scenario."	
Fisheries, biodiversity and geomorphology		
EAFBG-001 - Use of borrow pits for fry refuge		
Document references	APP-046 – 6.1 Environmental Statement - Chapter 2 The Scheme (ref. TR010065/APP/6.1, Revision 1, April 2024) APP-052 – 6.1 Environmental Statement - Chapter 8 Biodiversity (ref. TR010065/APP/6.1, Revision 1, April 2024)	As detailed in Chapter 2 (The Scheme) of the Environmental Statement [APP-046], after completion of the extraction of the material, the excavations at Brownhills borrow pit would be backfilled and re-soiled. Existing constraints at the Brownhills borrow pit prevent the Scheme from converting this site into fry refuge areas. Brownhills borrow pit has limited hydrological connectivity to the River Trent. The Nottingham to Lincoln and East Coast Main Line (ECML) railway lines create a barrier to the west, the A46 carriageway to the south, Brownhills link and the A1 to the east (crossing the Nottingham to Lincoln railway to the north). The Brownhills borrow pit area currently drains overland as surface water, into existing highways drains which are culverted through the aforementioned barriers and discharge into the River Trent. These pathways are not viable for fish from the River Trent to navigate upstream to the Environment Agency's proposed permanent fry refuge at Brownhills. Furthermore, archaeological investigations identified an extensive, complex settlement of Romano British and Anglo-Saxon archaeological remains in the Brownhills area, which resulted in a reduced area that could be used as a borrow pit to ensure preservation of these archaeological remains in situ. Throughout the evolution of the design, opportunities to enhance biodiversity have been included in the Scheme. Proposals shown in Figure 2.3 (Environmental Masterplan) of the Environmental Statement Figures [AS-026] include permanently wet ponds and associated reedbeds within attenuation areas, the sowing of species rich grassland adjacent to ponds and the addition of log and brash piles around ponds, to act as refugia / hibernacula. In addition to the function of waterbodies in the Farndon East and West FCAs to control the storage and discharge of flood water, they have been designed to have a benefit to wildlife. This includes the retention of sufficient water levels to conserve wildlife in periods of drought to maintain stable temperatures to reduce the risk of killing entrapped lamprey and eels (and other fish species), as far is reasonably practicable. The Scheme design provides a diverse assemblage of riparian plant species that will create shelter and foraging opportunities for wildlife (including fish) and contribute to the reduction of evapotranspiration (a design consideration for climate resilience). The size, depth and riparian planting of the Farndon FCAs have been designed to also reduce mortality of entrapped fish species, from various predatory piscivorous birds and mammals. The indicative locations of these measures are presented in Figure 2.3 (Environmental Masterplan) of the Environmental Statement Figures [AS-026]. Appendix 13.4 (Drainage Strategy) of the Environmental Statement Appendices [APP-179] also details measures to mitigate potential adverse impacts of the Scheme on water quality, and subsequently fish populations, within surrounding watercourses.
Issue	The use of borrow pits for fisheries benefits by converting them into permanent fry refuge areas after use in construction. In particular, the Brownhills borrow pit.	
Impact	Although the Brownhills borrow pit is no longer required as a floodplain compensation area, there is a missed opportunity to provide fisheries improvements as part of the Scheme.	
Solution	Consideration should be given to converting suitable borrow pits into fry refuges as part of the Scheme's ecological enhancements.	
Additional comment	• Converting borrow pits into fry refuge after construction use would benefit fisheries. This would go towards Environmental Targets Regulations 2022 by reducing the risk of species extinction through increasing refuge sites for juvenile fish, giving refuge from floods to migratory fish such as Eels and lamprey and increasing wildlife rich habitats. • The fry refuges can also go towards improving Water Framework Directive (WFD) status by helping improve status with a designed wetland. This can also help mitigate road run off impacts by utilising the surrounding reedbeds and other flora as buffers to main rivers, to deal with any adverse influence from the proposed A46 works that could negatively affect water quality parameters. • Benefits could also be delivered in relation to The Eels Regulations 2009, to halt and reverse the decline of in eel stocks by providing safe refuge and feeding grounds for the European Eel during its migration. It is recorded that this site is part of the migratory route (desk study data) and the provision of a refuge could be a valued conservation measure. We note there is a provision of mitigation in compliance with the Eels Regulations (detailed in section 8.10 of the Environmental Statement - Chapter 8 Biodiversity).	
EAFBG-002 - Water Framework Directive (WFD) – water body mitigation		
Document references	APP-176 – 6.3 Environmental Statement - Appendix 13.1 Water Framework Directive Compliance Assessment (ref. TR010065/APP/6.3, Revision 1, April 2024)	Appendix 13.1 (Water Framework Directive (WFD) Compliance Assessment) of the Environmental Statement Appendices [APP-176] was discussed with the Environment Agency during its development (13th March 2023 and 20th June 2023) to agree on the appropriate methodology and assessment outcomes, including suitable mitigation measures.
Issue	Not all works impacting water bodies will be mitigated.	
Impact	Whilst a WFD deterioration from this Scheme is unlikely, given the WFD assessment results, if the relatively minor impacts that the Scheme is introducing are not mitigated, then there is a risk of there being a cumulative	

Environment Agency position		Applicant response
	impact on the water body when combined with other schemes. Therefore, it would stand to benefit the water body to mitigate all impacts.	Under the WFD Regulations, it is not a requirement for a Scheme to mitigate for all potential impacts providing the Scheme does not cause a deterioration in waterbody status, and/or does not prevent the objectives of the waterbody from being met in the future. In relation to the two points made: • Works along the River Trent (Trent from the Soar to the Beck - Water Body ID: GB104028053110) have been limited where reasonably feasible. However, as part of the Scheme the bridge structures will require supporting piers and flood protection measures (in the form of riprap/scour protection) along the toe of the piers. This will be limited to the bank profile surrounding the piers. This will not result in a deterioration in waterbody status and does not prevent the objectives of the waterbody from being met in the future. • The culvert extension at Old Trent Dyke will be designed to mimic existing geometry of the river bank, to minimise the earthworks required. The additional potential impact to the watercourse will be the shading caused by the culvert extension, however this will be localised and minimal as the ordinary watercourse is already heavily culverted elsewhere along its length. This will not result in a deterioration in waterbody status and does not prevent the objectives of the waterbody from being met in the future. The Scheme will provide benefits to the river environment through the creation of large areas of aquatic and wetland habitat within the River Trent floodplain. In particular at Farndon where an area of approximately 20ha of high-quality wetland habitat will be created in conjunction with the Farndon West FCA. This will include reedbed, ponds, grazing marshes, new ditch habitats and species rich grassland. Also, within the Farndon East FCA the proposed borrow pit would be retained as a lake of approximately 10ha, surrounded by species rich grassland and tree planting. The scheme proposals include watercourse enhancement of The Fleet upstream of Winthorpe. Additionally, the proposed highway drainage includes creating an extensive network of swales, ponds, reedbeds and wet grassland areas. As outlined within the Register of Environmental Actions and Commitments within the First Iteration Environmental Management Plan [APP-184], a number of measures have been identified to mitigate potential adverse effects upon surface waters and groundwater (commitments RDWE1 to RDWE16). These include the commitment to produce a number of detailed management plans as well as to undertake surface water monitoring. The cumulative impacts section is included within Chapter 5 of Appendix 13.1 (Water Framework Directive (WFD) Compliance Assessment) of the Environmental Statement Appendices [APP-176]. As construction activities would be phased to minimise the in-combination effects on individual watercourses, and appropriate mitigation measures will be implemented during construction, it was determined the in-combination impacts would be localised and temporary. During the cumulative effects assessment in Chapter 15 (Assessment of Combined and Cumulative Effects) of the Environmental Statement [APP-059], seven developments were identified, however no cumulative effects on WFD waterbodies were identified. As a result, no cumulative impacts are expected. The Applicant has undertaken a more recent review of any new or approved developments since those identified in the assessment submitted as part of the application. This review has identified new developments, as well as identifying any changes to the developments already included in the list for cumulative assessment, up to 1 October 2024. This is to ensure that the cumulative effects assessment for the Scheme is up to date and reflective of the anticipated cumulative effects associated with the Scheme and other developments. The Applicant is currently reviewing the cumulative effects on WFD waterbodies and will document the findings of the updated assessment in a Cumulative Effects Technical Note that will be submitted at Deadline 2.
Solution	We suggest that all works impacting WFD Water Bodies should be mitigated to avoid cumulative impacts. Opportunities for further mitigation should be incorporated into the Scheme, such as looking to naturalise areas of artificial banks, so that the Scheme does not add to any cumulative pressure on the water body. This could be combined with considerations about BNG concerning the water bodies.	
Additional comment	In particular, the scheme intends to mitigate impacts to the bank of the River Trent (Trent from the Soar to the Beck - Water Body ID: GB104028053110) through restoring the natural banks impacted by the works where possible. However, it is not clear if this includes the sheet piling and supporting riprap installed in the construction of the Scheme. If not, there may be a risk of cumulative impact that ideally would be best to mitigate. There is also no mitigation proposed for the 10-metre culvert extension on Old Trent Dyke (ordinary watercourse).	
EAFBG-003 - Biodiversity net gain – missed opportunity for watercourse improvements		
Document references	APP-159 – 6.3 Environmental Statement - Appendix 8.14 Biodiversity Net Gain Technical Report (ref. TR010065/APP/6.3, Revision 1, April 2024)	The Scheme will provide benefits to the river environment through the creation of large areas of aquatic and wetland habitat within the River Trent floodplain. In particular at Farndon where an area of approximately 20ha of high-quality wetland habitat will be created in conjunction with the Farndon West FCA. This will include reedbeds, ponds, grazing marshes, new ditch habitats and species rich grassland. Also, within the Farndon East FCA, the proposed borrow pit would be retained as a lake of approximately 10ha, surrounded by species rich grassland and tree planting. The Scheme proposals include watercourse enhancement of The Fleet upstream of Winthorpe. Additionally, the proposed highway drainage includes creating an extensive network of swales, ponds, reedbeds and wet grassland areas. These features are shown in in Figure 2.3 (Environmental Masterplan) of the Environmental Statement Figures [AS-026] and described in Appendix 8.14 (Biodiversity Net Gain Technical Report) of the Environmental Statement Appendices [APP-159]. Design iterations have in the first instance avoided and then minimised in-channel works and works within and adjacent to the River Trent to avoid adverse impacts resulting from the Scheme. The River Trent is located outside of the Order Limits, except
Issue	There is a lack of watercourse improvements as a part of the Scheme	
Impact	There is a missed opportunity to provide some improvements to river habitats and geomorphology as a part of the Scheme.	
Solution	Further consideration should be given to opportunities to enhance the natural processes and habitats of local waterbodies, this could include reconnecting the waterway with the floodplain, removing artificial structures and barriers, introduce woody material into rivers, and so on.	
Additional comments	Based on the physical habitat surveys, there appears to be a prevalent issue of siltation in the waterbodies, this could look to be addressed with more natural geometries, flow deflectors and catchment-based silt management, for example.	

Environment Agency position		Applicant response
	Other issues potentially that could be addressed to deliver a net gain include, non-native invasive plant species (NNIPS) cover, reinforcement and artificial features on banks, bed and margin, and groundcover management.	where the Scheme passes over the Main River (e.g. bailey bridge during construction and the viaducts) and therefore proposed in-channel works along the River Trent are not within the scope of the Scheme. As described in Appendix 13.2 (Flood Risk Assessment) of the Environmental Statement Appendices [APP-177], swales from the FCA would facilitate Old Trent Dyke to discharge flows in excess of 200mm into the Farndon East and Farndon West FCAs. Direct connectivity between the River Trent and the Farndon FCAs is limited, as creating an opening in the flood bund would render its function for flood defence redundant due to uncontrolled influx and discharge of flood water. Flood water would flow into the FCA sooner than at present due to the lower elevation of the channel opening, compared to the height of the existing flood bund. This would also allow receding flood water to discharge into the River Trent sooner than it does at present and further upstream than the pre-construction baseline (currently discharges downstream of Nether Lock Weir). A Technical Note has been produced in response to the Natural England's relevant representation (RR-044), which details the fish escape passage design options assessed. This Technical Note has been shared in draft format to Natural England and the Environment Agency. This Technical Note will be appended to the updated Habitat Regulations Assessment [APP-185] and will be issued to the Examining Authority at deadline 3, unless an earlier deadline is possible. The River Trent is highly developed (e.g. flood bund, sheet piled/canalised, locks, weirs, riprap) and the removal of artificial structures and barriers currently providing function as flood protection would potentially result in erosion of river banks, flood events downstream, loss of important fish spawning habitat downstream of Nether Lock weir and loss of a navigable waterway. Further opportunities to enhance waterways for biodiversity, such as floating islands within the Farndon FCAs to benefit biodiversity, were explored in internal multidisciplinary meetings. This was scoped out of the design as it was considered a hotspot for build-up of flood debris and could cause localised impact of flooding, blockage or damage when the debris is naturally deposited. The Environment Agency was in agreement with this decision adding that it is likely that the River Trent main river will be too fast flowing for these floating ecosystems, which are generally only effective along canals and slow-moving watercourses; further details are contained in the Statement of Common Ground between the Applicant and the Environment agency (TR010065/EXAM/7.21). The addition of features that could be dislodged during a flooding event, such as woody material and floating islands, have potential to cause blockages of valve structures along Old Trent Dyke which are paramount to the slow discharge of flood water as the river levels recede. Adding additional woody material would require increased monitoring and maintenance efforts which was deemed disproportionate to benefits it could temporally provide. In addition to habitat creation, reedbeds across the Scheme facilitate the trapping of sediments. An Erosion and Sediment Management Plan will be produced when the First Iteration Environmental Management Plan [APP-184] is developed into a Second Iteration Environmental Management Plan, to be implemented during construction of the Scheme. Adherence with the Second Iteration Environmental Management Plan is secured by Requirement 3 of the draft Development Consent Order [APP-021]. Every flood event will potentially add to the existing seed bank within the Farndon FCAs and therefore along Old Trent Dyke. Measures to manage and prevent the spread of Invasive Non-Native Species (INNS) from and within the working areas are summarised in the First Iteration Environmental Management Plan [APP-184], which will be developed into a Second Iteration Environmental Management Plan to be implemented during construction of the Scheme. Adherence with the Second Iteration Environmental Management Plan is secured by Requirement 3 of the draft Development Consent Order [APP-021]. As detailed in the Register of Environmental Actions and Commitments of the First Iteration Environmental Management Plan [APP-184], an INNS Management Plan and Biosecurity Risk Assessment will be produced pre-construction. All survey data collected during the Scheme design development has informed the environmental commitments within the Record of Environmental Actions and Commitments of the First Iteration Environmental Management Plan [APP-184]. A complete list of INNS is not provided in the First Iteration Environmental Management Plan [APP-184]. However, species specific control measures will be further detailed in the INNS Management Plan and Biosecurity Risk Assessment. The First Iteration Environmental Management Plan [APP-184] makes provision for several further documents that detail how BNG will be delivered including the Landscape and Ecology Management Plan (LEMP). The LEMP will set out the management required to ensure the Scheme landscape planting establishes, matures and fulfils its intended functions as set out in Chapter 8 (Biodiversity) of the Environmental Statement [APP-052]. The First Iteration Environmental Management Plan [APP-184] also requires the production of a BNG Habitat Management and Monitoring Plan (HMMP) to describe how the specific habitat types and condition required for BNG will be provided. These documents will include INNS management where implementation of control measures would likely be achievable.

Environment Agency position		Applicant response
		In summary the Applicant has worked to maximise biodiversity improvements across the Scheme in collaboration with environmental stakeholders. This has included consideration to returning waterways and banks within the Order Limits to a more natural form, where this does not conflict with other priorities such as flood protection measures. Watercourse enhancements would be provided at The Fleet upstream of Winthorpe and floodplain wetlands created at Farndon. INNS would be managed through construction and in habitats created by the Scheme.
EAFBG-004 - Biodiversity net gain – improvements to river units		
Document references	APP-159 – 6.3 Environmental Statement - Appendix 8.14 Biodiversity Net Gain Technical Report (ref. TR010065/APP/6.3, Revision 1, April 2024)	Whilst no mandatory requirement for BNG applies for Nationally Significant Infrastructure Projects (NSIPs) such as this Scheme, increases in biodiversity units including river units have been sought within the parameters of the Scheme wherever possible. Appendix 8.14 (Biodiversity Net Gain Technical Report) of the Environmental Statement Appendices [APP-159] states there will be a 36.93% net gain in river units (see paragraph 5.1.8 on page 36 of the Biodiversity Net Gain Technical Report [APP-159]). This results from the creation of new sections of river channel, new ditches along the highway network and as part of wetland creation and proposed enhancement of The Fleet upstream of Winthorpe. The Scheme also involves the creation of a range of wetland habitats including approximately 20 hectares of wetland adjacent to the River Trent at Farndon West FCA which will enhance the river corridor in this area. These positive changes in land use will result in an improved rating to some of the indicators used in the River Condition Assessment methodology as reported in Appendix 8.13 (River Physical Habitat Technical Report) of the Environmental Statement Appendices [APP-158]. Indicators that will be improved will include B-3 bank top water related features and B-5 bank top managed ground cover on the River Trent at Farndon. However, given the limitations on in-channel elements it will not represent a large enough change to alter the Condition Class. The suggestions in the relevant representation, which include reconnecting rivers to their floodplain and removing barriers to fish migration, are not considered feasible. The portion of the Slough Dyke within the Order Limits is directly adjacent to the existing A1 carriageway with sections of proposed highway in close proximity on the opposite bank. This would be a significant constraint to increasing floodplain connectivity at this location. Scope for enhancements to the Slough Dyke are also limited by the maintenance requirements of the Internal Drainage Board. The request that the Scheme removes barriers to fish migration at Pingley / Car Dyke, Staythorpe Road Bridge is not possible. As there is no mandatory requirement for BNG, the Applicant cannot compulsory acquire land to provide habitat enhancements to improve BNG performance, which can only be provided as part of other works that are required by the Scheme. Pingley / Car Dyke, Staythorpe Road Bridge is not a location where any works are required to deliver the Scheme and therefore there is no opportunity to provide improved fish passage here. It is outside of the Order Limits and there would not be a justification for extending the limits to include this location.
Issue	The BNG strategy does not appear to incorporate improvements to river units. The BNG Technical Report lists river units in the pre-development baseline, but not in post- development improvements.	
Impact	As submitted, the proposals result in a lost opportunity to affect river habitat and geomorphology improvements to achieve net gains for biodiversity. Improvements to the geomorphology of rivers is positively connected with water quality improvements and resilience to water quality impacts, which could be achieved through this development.	
Solution	The Applicant should reconsider increased BNG in relation to river units and reconnecting rivers to their floodplains within the environmental management and BNG plans, particularly in relation to Slough Dyke.	
Additional comments	• We would also welcome the consideration of removing off-site barriers to upstream fish migration at the following location: ○ Pingley / Car Dyke, Staythorpe Road Bridge (British National Grid reference: SK7599454140) – WFD Waterbody: Pingley/Rundell Dyke Catch Upper (trib of Trent) (Water Body ID: GB104028053420). • As Car Dyke is openly connected to the River Trent at Averham, this is the first obstruction that fish migrating further upstream are likely to encounter. This would complement the ambition to improve fish passage on the River Trent. The Applicant should be aware that there may be for funding options (community fund program) or in-kind support with access or temporary works locations for access to the waterbody.	
EAFBG-005 - Invasive species – Himalayan Balsam		
Document references	APP-184 – 6.5 Environmental Statement - First Iteration Environmental Management Plan (ref. TR010065/APP/6.5, Revision 1, April 2024) APP-158 – 6.3 Environmental Statement - Appendix 8.13 River Physical Habitat Technical Report (ref. TR010065/APP/6.3, Revision 1, April 2024) APP-153 – 6.3 Environmental Statement - Appendix 8.8 Aquatic Ecology Technical Report (ref. TR010065/APP/6.3, Revision 1, April 2024)	Measures to manage and prevent the spread of INNS, including Himalayan balsam, from and within the working areas are summarised in the First Iteration Environmental Management Plan [APP-184], which will be developed into a Second Iteration EMP to be implemented during construction of the Scheme. Adherence with the Second Iteration Environmental Management Plan is secured by Requirement 3 of the draft Development Consent Order [APP-021]. As detailed in the Register of Environmental Action and Commitments in the First Iteration Environmental Management Plan [APP-184], an Invasive Non-Native Species (INNS) Management Plan and Biosecurity Risk Assessment will be produced pre-construction, which will include control measures for Himalayan balsam as well as other INNS. All survey data collected from all disciplines have informed the environmental commitments in the First Iteration Environmental Management Plan [APP-184], not just that reported in Appendix 8.13 (River Physical Habitat Technical Report) of the Environmental Statement Appendices [APP-158]. A complete list of INNS is not provided in the First Iteration Environmental Management Plan [APP-184], however, species specific control measures will be further detailed in the INNS Management Plan and Biosecurity Risk Assessment, which will include the information within the River Physical Habitat Technical Report as well as from other discipline reports. Catchment-wide management would be required for the control of Himalayan balsam. This is not within the scope of the Scheme as it is only required to mitigate its impacts resulting from the Scheme and as any consented Development Consent Order only allows the Applicant to acquire land required to construct, operate and maintain the Scheme, therefore the eradication of existing Himalayan balsam upstream and downstream along sections of waterbodies outside the Order Limits is
Issue	There is insufficient commitment to addressing spread of the non-native species, Himalayan Balsam, which is identified as impacting the development site (documented in the River Physical Habitat Technical Report).	
Impact	Insufficiently dealing with the presence of Himalayan Balsam can severely impact on habitat availability, biodiversity and loss for water-dependent species, increases erosion, and increases the ability to contain and stop its spread further up and down the catchments within the vicinity of the project area.	
Solution	• The First Iteration Environmental Management Plan (EMP) should be updated to ensure commitment to adequately addressing the spread of Himalayan Balsam. • We recommend that an Invasive Non-native Species (INNS) Management Plan for Himalayan Balsam is prepared. This should include the eradication of existing upstream and downstream sections of waterbodies outside the DCO limits where possible*. This is important, otherwise Himalayan Balsam upstream and downstream will continue to greatly impact waterbodies within the project area.	

Environment Agency position		Applicant response
	• To ensure we are consulted on the INNS Management Plan in relation to the discharge of Requirement 3 (Second Iteration EMP), we should be named as consultee on the Requirement in the DCO. In the absence of our involvement in developing the documents which form part of the Second Iteration EMP, there is a risk that the spread of invasive species, such as Himalayan Balsam, is not adequately addressed.	not possible. Design iterations have in the first instance avoided and then minimised works within and adjacent to the River Trent to avoid adverse impacts resulting from the Scheme as far as possible. Impacts of the Scheme will then be mitigated through the plans described above. A BNG HMMP will also be produced prior to construction and implemented for a minimum of 30 years post-construction. This will detail measures required for the target habitat type and condition set out in Appendix 8.14 (Biodiversity Net Gain Technical Report) of the Environmental Statement Appendices [APP-159], including the required management of these habitats for INNS. The Applicant can confirm that the Environment Agency will be added as a consultee to the second iteration Environmental Management Plan (EMP), under Requirement 3, on matters related to its functions. The draft DCO has been updated to reflect this change. Where the WFD-UKTAG listed INNS (2021) data was available, Table 4-2 within Appendix 8.8 (Invertebrate (Aquatic) Technical Report) of the Environmental Statement Appendices [APP-153] details classification of aquatic alien species according to their level of impact (in the '*Status*' column). This will inform species specific control measures which will be detailed in the INNS Management Plan and Biosecurity Risk Assessment for all INNS to be impacted by the Scheme (secured by Commitment B10 of the Register of Environmental Actions and Commitments within the First Iteration Environmental Management Plan [APP-184]).
Additional comments	• *A similar proactive approach was adopted for the Cocker Beck prior to construction on the new reservoir at Lowdham. • We recommend the information within the River Physical Habitat Technical Report is incorporated within the INNS Management Plan. • A list of all non-native species identified by their surveys has been included in the Aquatic Ecology Technical Report (Table 4-2). This list incorporates all INNS in a single list with no consideration to the different risks posed by each species. If INNS management is proposed, the Applicant may wish to provide a method for prioritising different species.	
EAWQ-001 - Water quality – surface water run-off		
Document references	APP-057 – 6.1 Environmental Statement - Chapter 13 Road Drainage and Water Environment (ref. TR010065/APP/6.1, Revision 1, April 2024) APP-176 – 6.3 Environmental Statement - Appendix 13.1 Water Framework Directive Compliance Assessment (ref. TR010065/APP/6.3, Revision 1, April 2024)	Improving the existing sources of diffuse pollution and/or improving the waterbody catchment Reasons for Not Achieving Good (RNAGs) is not within the scope of the Scheme as it is only required to mitigate its direct impacts. Any consented Development Consent Order will only allow the Applicant to acquire land required to construct, operate and maintain the Scheme, therefore it is not possible for the Scheme to address issues outside the Order Limits. As outlined within Appendix 13.3 (HEWRAT Assessment) of the Environmental Statement Appendices [APP-178], the incorporation of the mitigation measures within the drainage design, as detailed in Appendix 13.4 (Drainage Strategy Report) of the Environmental Statement Appendices [APP-179] are considered to provide an improvement in pollution treatment, compared to the existing system. Therefore, the Scheme would not contribute to the RNAGs in relation to existing highways diffuse pollution. Drainage and Flood Management Steering Group meetings have been held regularly during the development of the Scheme outline design to ensure key stakeholders are consulted with and kept updated on the drainage design and the mitigation measures proposed. The correspondence and key outcomes of the meetings are recorded in Appendix A of Appendix 13.4 (Drainage Strategy Report) of the Environmental Statement Appendices [APP-179]. As outlined within the Record of Environmental Actions and Commitments of the First Iteration Environmental Management Plan [APP-184], a number of measures have been identified to mitigate potential adverse effects upon surface waters and groundwater (commitments RDWE1 to RDWE16). These include the commitment to produce a number of detailed management plans as well as to undertake surface water monitoring. The cumulative impacts section is included within Chapter 5 of Appendix 13.1 (Water Framework Directive (WFD) Compliance Assessment) of the Environmental Statement Appendices [APP-176]. As construction activities would be phased to minimise the in-combination effects on individual watercourses, and appropriate mitigation measures will be implemented, it was determined the in-combination impacts would be localised and temporary. During the cumulative effects assessment in Chapter 15 (Assessment of Combined and Cumulative Effects) of the Environmental Statement [APP-059], seven developments were identified, however no cumulative effects on WFD waterbodies were identified. As a result, no cumulative impacts are expected. The Applicant has undertaken a more recent review of any new or approved developments since those identified in the assessment submitted as part of the application. This review has identified new developments, as well as identifying any changes to the developments already included in the list for cumulative assessment, up to 1 October 2024. This is to ensure that the cumulative effects assessment for the Scheme is up to date and reflective of the anticipated cumulative effects associated with the Scheme and other developments. The Applicant is currently reviewing the cumulative effects on WFD waterbodies and will document the findings of the updated assessment in a Cumulative Effects Technical Note that will be submitted at Deadline 2.
Issue	• Surface water run-off associated with diffuse highways run-off, combined with other sources. • There is a need to protect and improve water quality of WFD catchments where they have 'Moderate' to 'Poor' ecological WFD status. Reasons for Not Achieving Good (RNAGS) in relation to existing highways diffuse pollution appears to not be adequately addressed.	
Impact	• There are identified existing impacts from highways diffuse run-off, in accordance with WFD catchment data. Due to the proposed road widening and increased highways surfaces, diffuse run-off if likely to increase. This will likely have increased negative impacts on water quality. Additionally, where this is combined with other sources of pollution (e.g. urban surface water, sewerage) this is likely to have cumulative impacts on water quality and WFD status. These have not been addressed. • It is not clear how water quality improvements to existing issues of diffuse pollution and any cumulative impacts from the proposed development (construction and operational phases) will be positively addressed.	
Solution	• There is a need to further explore existing flow pathways and existing highways outfalls to better understand existing and cumulative water quality impacts from any increases in surface water runoff. Opportunities should be identified and incorporated to improve existing surface water diffuse highways pathways. This should be combined with the water quality monitoring scheme. • Opportunities should also be explored to set back culverts and incorporate with Sustainable Drainage Systems (SuDS) and constructed wetlands. We note the one near Farndon roundabout, which is positive, but it only addresses the proposed construction and not existing and cumulative issues, which is a missed opportunity. Stepped improvements are required.	

Additional comments	Water bodies impacted include:
	• Devon from Cotham to Trent Water Body (Water Body ID: GB104028052632)
	  ○ WFD status is overall Poor
	• Slough Dyke Catchment (trib of Trent) Water Body (Water Body ID: GB104028053111)
	  ○ Overall Moderate, but classed 'Bad' for Dissolved
	  ○ Oxygen (DO), 'Bad' for invertebrates, 'Poor' for Ammonia
	  ○ and 'Poor' for Phosphate.
	  ○ RNAGS relate to diffuse pollution from highways runoff
	• Trent Bifurcation Pingley Dyke to Winthorpe Water Body (Water Body ID: GB104028053390)
	  ○ WFD status is overall 'Moderate'	

Environment Agency position		Applicant response
	○ RNAGS are associated with highways diffuse pollution, ○ i.e. Phosphate (Poor), Macrophytes and Phytobenthos Combined (Moderate) and Invertebrates (Moderate) • Trent from Soar to The Beck Water Body (Water Body ID: GB104028053110) ○ WFD status is overall 'Moderate' ○ RNAGS related to diffuse pollution from highways especially Phosphate (Poor) and Physical Modification.	
EAWQ-002 - Water quality – surface water sensitivity		
Document references	APP-057 – 6.1 Environmental Statement - Chapter 13 Road Drainage and Water Environment (ref. TR010065/APP/6.1, Revision 1, April 2024)	Table 13-1 in Chapter 13 (Road Drainage and the Water Environment) of the Environmental Statement [APP-057] and the associated criteria for assigning importance to water receptors is as set out in National Highways' Design Manual for Roads and Bridges LA113. Table 13-7 in Chapter 13 (Road Drainage and the Water Environment) of the Environmental Statement [APP-057] summarises the importance assigned to water receptors. Within this table it identifies the reasoning for assigning the importance to surface waters, including assumptions on the nature of the watercourse. Whilst the main criteria for this was the Q95 levels (in line with National Highways' Design Manual for Roads and Bridges LA113), the importance also considers the nature of the watercourse for example a WFD watercourse has a higher importance than an ordinary watercourse. Where Q95 flow data was not readily available, a conservative assumption was made using professional judgement. The potential impact on water quality of the receiving watercourses as a result of the Scheme have been discussed in Section 13.11 in Chapter 13 (Road Drainage and the Water Environment) of the Environmental Statement [APP-057]. Providing mitigation measures to prevent pollution of the watercourse are implemented during construction and operation as outlined in Section 13.10, the magnitude of impact on all the watercourses is 'Negligible'. The combination of magnitude of impact, and the importance of the receptor determines the significance of effect. Where there is a choice of either 'neutral significance' or 'adverse significance' in the significance matrix, this has been annotated with a '*' and a precautionary approach taken on a reasonable worse case basis.
Issue	In the assessment of significance (section 13.5.8), the sensitivity of surface waters is derived from the importance of surface waters as detailed in Table 13-1. Importance has been assessed using WFD classification and the Q95 flow, with high importance equalling a higher Q95. The sensitivity of a watercourse to water quality impacts is the reverse, with less dilution meaning a watercourse is more sensitive.	
Impact	This approach risks underestimating the sensitivity of waterbodies and therefore underestimating the significance of an affect.	
Solution	Professional judgment should also be exercised when determining the sensitivity of a watercourse to water quality impacts. If this has been done it is not currently clear within the description provided.	
EAWQ-003 Water Framework Directive (WFD) – detailed assessment		
Document references	APP-176 – 6.3 Environmental Statement - Appendix 13.1 Water Framework Directive Compliance Assessment (ref. TR010065/APP/6.3, Revision 1, April 2024)	Surface water runoff will discharge into the 'Trent from Soar to The Beck' waterbody as part of the Scheme, as outlined in Appendix 13.1 (Water Framework Directive Compliance Assessment) of the Environmental Statement Appendices [APP-176]. However, pollution prevention measures within the drainage design, as detailed in Appendix 13.4 (Drainage Strategy Report) of the Environmental Statement Appendices [APP-179] and within the Register of Environmental Actions and Commitments of the First Iteration Environmental Management Plan [APP-184] have been identified to mitigate potential adverse effects upon surface waters and groundwater from this runoff. These include creating an extensive network of swales, ponds, reedbeds and wet grassland areas as part of the proposed highway drainage. Maintenance of the drainage network will also be undertaken to reduce the risk of blockages which could lead to overflow of the system and result in contaminated runoff. As outlined within Appendix 13.3 (HEWRAT Assessment) of the Environmental Statement Appendices [APP-178], the incorporation of the mitigation measures within the drainage design are considered to provide an improvement in pollution treatment. Therefore, it is not considered that the surface water runoff entering the 'Trent from Soar to The Beck' waterbody will be contaminated.
Issue	Table 5-1 states that upgrades to the existing drainage for the road would prevent contaminated runoff from entering the 'Trent from Soar to The Beck' (water body). The detailed assessment has deemed that WFD compliance is achieved in this catchment as a result.	
Impact	This is potentially misleading, as several outfalls are confirmed to discharge directly into this waterbody. This statement gives the impression that there will be no discharge of road runoff into this catchment. As a result, it is unclear whether the detailed assessment is accurate.	
Solution	This section should not state that contaminated runoff will be prevented.	
EAWQ-004 Water Framework Directive (WFD) – detailed assessment		
Document references	APP-176 – 6.3 Environmental Statement - Appendix 13.1 Water Framework Directive Compliance Assessment (ref. TR010065/APP/6.3, Revision 1, April 2024)	The drainage strategy for the Scheme, as detailed in Appendix 13.4 (Drainage Strategy Report) of the Environmental Statement Appendices [APP-179] is considered to provide an improvement in pollution treatment, compared to the existing system. A Highways England Water Assessment Tool (HEWRAT) assessment has been carried out for all outfalls proposed within the Scheme, to assess the potential effects from sediment and soluble pollutants within the surface water run-off on water quality in the local watercourses. The results are detailed within Appendix 13.3 (HEWRAT Assessment) of the Environmental Statement Appendices [APP-178].
Issue	The detailed assessment described in Tables 5-1 to 5-4 does not confirm whether a comparison of the proposed drainage impacts shows an improvement or deterioration from the existing baseline.	
Impact	Without making this assessment clear, it cannot be deemed that the Scheme achieves compliance with WFD for Physico- Chemical, Specific Pollutant or Chemical elements.	
Solution	The detailed assessment should reference the Highways England Water Risk Assessment Tool (HEWRAT) assessment	

Environment Agency position		Applicant response
	and confirm whether the proposed drainage strategy offers an improvement on the existing baseline. This is particularly pertinent, as transport drainage has been identified as a RNAG status for almost all of the assessed waterbodies. The mitigation must ensure that the proposed development does not increase the contribution from this RNAG.	The existing drainage mitigation measures in place for the existing A46 are kerbs, gullies, and concrete ditches alongside the majority of the existing highway. Site visits during the design development show that the existing system does not appear to be working as designed. The proposed drainage strategy for the Scheme will retrofit or replace the majority of the existing drainage. As a sensitivity check, five HEWRAT assessments were run for the baseline, with and without the existing mitigation measures. All assessments showed that there were no differences in the results since the existing mitigation measures did not have any treatment capacity and the existing mitigations are not working as designed. The HEWRAT assessments therefore assumed that the baseline reflects a "no existing mitigation measures" scenario. Therefore, the 'Step 2' results which show the impact of pollution at the outfall without mitigation represent the 'Baseline' conditions for the Scheme and 'Step 3' which refers to in river impact with mitigation represents the proposed mitigation measures with the Scheme. The HEWRAT assessment tool assesses the impact of soluble pollutants (associated with acute pollution impacts – zinc and copper) and sediment related pollutants (associated with chronic pollution impacts on surface water). The HEWRAT assessment concluded the Scheme would not lead to an exceedance of the Environmental Quality Standards (EQS) (for zinc and copper) or sediment accumulation, and the spillage assessment concluded the mitigation within the drainage design would be sufficient to not cause a significant adverse effect on the receiving watercourses. The HEWRAT assessment was carried out for all outfalls proposed within the Scheme with the Metals Bio-availability Tool (M-BAT). This showed two outfalls 'Failing' the HEWRAT assessment at 'Step 2' and 'Passing' the HEWRAT assessment at 'Step 3', indicating the Scheme offers an improvement from the existing baseline. The HEWRAT assessment 'passes' for all outfalls for the Scheme, indicating that the proposed drainage strategy treats surface water run-off sufficiently to not impact the wider water environment. More information on the current iteration of HEWRAT assessments can be seen in Appendix 13.3 (HEWRAT Assessment) of the Environmental Statement Appendices [APP-178]. The Scheme, therefore, will not result in a deterioration in WFD Physico-Chemical, Specific Pollutant or Chemical elements.
EAWQ-005 Highways England Water Risk Assessment Tool (HEWRAT) – baseline		
Document references	APP-178 – 6.3 Environmental Statement - Appendix 13.3 HEWRAT Assessment (ref. TR010065/APP/6.3, Revision 1, April 2024)	A Highways England Water Risk Assessment Tool (HEWRAT) assessment has been carried out for all outfalls proposed within the Scheme, to assess the potential effects from sediment and soluble pollutants within the surface water run-off on water quality in the local watercourses. The results are detailed within Appendix 13.3 (HEWRAT Assessment) of the Environmental Statement Appendices [APP-178]. The existing drainage mitigation measures in place for the existing A46 are kerbs, gullies, and concrete ditches alongside the majority of the existing highway. Site visits during the design development show that the existing system does not appear to be working as designed. The proposed drainage strategy for the Scheme will retrofit or replace the majority of the existing drainage. As a sensitivity check, five HEWRAT assessments were run for the baseline, with and without the existing mitigation measures. All assessments showed that there were no differences in the results since the existing mitigation measures did not have any treatment capacity and the existing mitigations are not working as designed. The HEWRAT assessments therefore assumed that the baseline reflects a "no existing mitigation measures" scenario. Therefore, the 'Step 2' results which show the impact of pollution at the outfall without mitigation represent the 'Baseline' conditions for the Scheme and 'Step 3' which refers to in river impact with mitigation represents the proposed mitigation measures with the Scheme. This is described in Section 3.2 of Appendix 13.3 (HEWRAT Assessment) of the Environmental Statement Appendices [APP-178]. The HEWRAT assessment was carried out for all outfalls proposed within the Scheme with the Metals Bio-availability Tool (M-BAT). This showed two outfalls 'Failing' the HEWRAT assessment at 'Step 2' and 'Passing' the HEWRAT assessment at 'Step 3', indicating the Scheme offers an improvement from the existing baseline. These results can be seen in Table 3-11 on Page 29 and 30 of Appendix 13.3 (HEWRAT Assessment) of the Environmental Statement Appendices [APP-178]. The HEWRAT assessment 'passes' for all outfalls for the Scheme, indicating that the proposed drainage strategy treats surface water run-off sufficiently to not impact the wider water environment. More information on the current iteration of HEWRAT assessments can be seen in Appendix 13.3 (HEWRAT Assessment) of the Environmental Statement Appendices [APP-178].
Issue	EAWQ-005	
Impact	The HEWRAT results do not offer the results from the existing baseline for comparison.	
Solution	Without these results for comparison, it is unclear whether the Scheme offers an improvement or deterioration from the existing baseline.	
EAWQ-006: Surface water quality monitoring – frequency		
Document references	APP-184 – 6.5 Environmental Statement - First Iteration Environmental Management Plan (ref. TR010065/APP/6.5, Revision 1, April 2024)	

Environment Agency position		Applicant response
	APP-180 – 6.3 Environmental Statement - Appendix 13.5 Surface Water Quality Monitoring Report (ref. TR010065/APP/6.3, Revision 1, April 2024)	The Applicant is in agreement to increase the frequency of monitoring of surface water quality to monthly during the construction phase. The Applicant proposes to update commitment RDWE7 in the Register of Environmental Actions and Commitments of the First Iteration Environmental Management Plan [APP-184] that requires an update is made to the Surface Water Monitoring Report during the development of the Second Iteration Environmental Management Plan, prior to construction. Adherence with the Second Iteration Environmental Management Plan is secured by Requirement 3 of the draft Development Consent Order [APP-021]. The proposed updates to the wording of commitment RDWE7 have been agreed with the Environment Agency. The agreed updates will be made and an updated version of the First Iteration Environmental Management Plan will be submitted at Deadline 2.
Issue	The Surface Water Quality Monitoring Report proposes quarterly monitoring of water quality during the construction phase.	
Impact	Quarterly monitoring may be insufficient for identifying significant but short-term impacts. Additionally, it risks impacts to the water environment not being detected for prolonged periods of time.	
Solution	The Applicant should increase the frequency of monitoring to at least monthly, or to reflect the monitoring conditions of any environmental permits that they may apply for.	
Additional comments	This requirement should be secured within the Surface Water Quality Monitoring Report as part of Second Iteration EMP.	
EAWQ-007: Surface water quality monitoring – ecological monitoring		
Document references	APP-184 – 6.5 Environmental Statement - First Iteration Environmental Management Plan (ref. TR010065/APP/6.5, Revision 1, April 2024) APP-180 – 6.3 Environmental Statement - Appendix 13.5 Surface Water Quality Monitoring Report (ref. TR010065/APP/6.3, Revision 1, April 2024)	The Register of Environmental Actions and Commitments within the First Iteration Environmental Management Plan [APP-184] includes a number of measures to protect the water environment. During construction these include measures such as: • Silt curtains to mitigate sediment disturbance and smothering of gravel during construction • The use of cut-off ditches to collect site run-off passed through settling lagoons or silt traps to allow removal of sediments prior to discharge • Reinstatement of natural bank and riparian vegetation along the Scheme following construction, where possible (areas of scour protection cannot be reinstated) • Biosecurity measures • Environmental permit to cover any temporary dewatering activities. • Any over-pumping would be carried out at the same flow rate as the waterbody to reduce the impact of changes to quantity and flow dynamics. Fish rescue would be undertaken and silt traps deployed where necessary. Mesh screen to be installed on pump. • Best practice methods would be adhered to for sheet piling works and would be subject to an appropriate piling risk assessment. • Stockpile maintenance, such as cordoned off soil stockpiles with secure fencing or tape to prevent any disturbances or contamination by other construction activities These measures will be further detailed in a number of detailed management plans including as part of the Second Iteration Environmental Management Plan such as: Pollution Prevention Plan, Erosion and Sediment Management Plan, Soil Management Plan and INNS Management Plan. Adherence with the Second Iteration Environmental Management Plan and associated detailed management plans is secured by Requirement 3 of the draft Development Consent Order [APP-021]. The Environment Agency's Pollution Prevention Guidelines (PPG) were formally withdrawn in 2015, nonetheless they provide clear and useful best practice advice. The following standard guidance will be adhered to: • EA PPG1: Basic good environmental practices • EA PPG5: Works in, near or over watercourses • EA PPG6: Construction and demolition sites • CIRIA Guidance C532 'Control of water pollution from construction sites - Guidance for consultants and contractors' In additional to the above, Chapter 13 (Road Drainage and the Water Environment) of the Environmental Statement [APP-057] details further relevant guidance which informed mitigation: • CIRIA's Guidance C811 'Environmental good practice on site' • CIRIA's Guidance C648 'Control of water pollution from linear construction projects: Technical Guidance • Environment Agency's 'Protect groundwater and prevent groundwater pollution' • PPG7 'The safe operation of refuelling facilities' • PPG13 'Vehicle washing and cleaning'
Issue	The Surface Water Quality Monitoring Report does not propose any ecological monitoring.	
Impact	A lack of ecological monitoring means that the Applicant will not have any oversight on the ecological impact of their activities, and therefore will be unable to manage them accordingly.	
Solution	Ecological monitoring should be incorporated into the monitoring of the water environment to ensure that ecological impacts can be appropriately managed.	
Additional comments	This requirement should be secured within the Surface Water Quality Monitoring Report as part of Second Iteration EMP.	

Environment Agency position		Applicant response
		In addition, Appendix 13.4 (Drainage Strategy) of the Environmental Statement Appendices [APP-179] details upgrades to the drainage system to mitigate adverse impacts of pollution during the operation of the Scheme. The proposed drainage strategy is considered to provide an improvement in pollution treatment, compared to the existing system. Due to the inclusion of these mitigation and design measures which have prevented the occurrence of significant effects of the scheme on the ecology of any watercourses it is not proposed to undertake ecological monitoring within any of the watercourses. Appendix 13.5 (Surface Quality Water Monitoring Report) of the Environmental Statement Appendices [APP-180] was developed following consultation with the Environment Agency on the 13 June 2022. The proposed locations, frequencies, methodology and parameters were discussed and agreed during this meeting. The report outlines, as well as in-situ measurements and visual inspections, samples would be collected and sent for laboratory analysis for the following parameters: • pH; • Biochemical Oxygen Demand (BOD); • Total Suspended Solids (TSS); • Total and dissolved Metals (Copper, Cadmium, Lead, Nickel, and Zinc); • Total petroleum hydrocarbons (TPH); • Polycyclic aromatic hydrocarbons (PAH); • Chloride; • Nitrates; and, • Phosphate. Following review of literature, water quality standards have been proposed (shown in Table 3-1 of Appendix 13.5 (Surface Quality Water Monitoring Report) of the Environmental Statement Appendices [APP-180]) which the baseline conditions will be compared to pre-construction. The samples taken during construction and post-construction will be compared to the baseline values, and any results which exceed the water quality standards will be reviewed to understand whether there has been a deterioration in the water quality.
EAWQ-008: Surface water quality monitoring – baseline		
Document references	APP-180 – 6.3 Environmental Statement - Appendix 13.5 Surface Water Quality Monitoring Report (ref. TR010065/APP/6.3, Revision 1, April 2024)	The Applicant confirms that sampling commenced in January 2023 and has continued throughout 2024. The surface water quality monitoring sampling completed during the year of 2023 was used to inform Appendix 13.5 (Surface Quality Water Monitoring Report) of the Environmental Statement Appendices [APP-180] and was used to establish an initial baseline only for the assessment reported in Chapter 13 (Road Drainage and Water Environment) of the Environmental Statement [APP-57]. The Applicant confirms that sampling will continue quarterly until construction starts, as detailed in commitment RDWE7 of the Register of Environmental Actions and Commitments in the First Iteration Environmental Management Plan [APP-184]. The Applicant is of the view that this pre-construction monitoring will provide sufficient baseline for the construction and post-construction monitoring to be compared to.
Issue	In section 4.1.1, Table 4-1 provides the results from the surface water quality monitoring to date. Sampling has only been completed on 3 occasions and has returned some extreme results (i.e. 62.1 mg/l Biochemical Oxygen Demand).	
Impact	This current level of monitoring is unlikely to provide a representative picture of the baseline environment. Any assessment that utilises this data risks underestimating the quality of the existing baseline and therefore could also underestimate the likely impacts of the Scheme.	
Solution	Any assessment that relies on this data should be reconsidered to ensure impacts are not being underestimated. If the Applicant does not believe the results of these assessments are impacted by relying on this data, they should provide a clear explanation on why they believe this is so.	
Additional comments	If the Applicant deems an assessment needs to be completed with more accurate data, they may wish to consider requesting Environment Agency data as a proxy.	
EAWQ-009: DCO Requirement 3 – Second Iteration Environmental Management Plan (EMP)		
Document references	APP-021 – 3.1 draft Development Consent Order (ref. TR010065/APP/3.1, Revision 1, April 2024)	The Applicant confirms that the Environment Agency will be added as a consultee to the Second Iteration Environmental Management Plan, under Requirement 3, on matters related to its functions. An updated draft DCO showing this change will be submitted at Deadline 1.
Issue	The Environment Agency is not listed as a consultee for the Second Iteration EMP.	

Environment Agency position		Applicant response
Impact	The Second Iteration EMP is an essential tool for controlling impacts to the water environment and ensuring compliance with environmental permits. The EMP could be less effective if it has been developed without consultation from the Environment Agency.	
Solution	The Environment Agency should be listed as a consultee for the Second Iteration EMP.	
Additional comments	Please also refer to Appendix 2 – Issue ref. EAREQ-001.	
Groundwater and contaminated land		
EAGWCL-001: British Sugar authorised (active) landfill site		
Document references	APP-053 – 6.1 Environmental Statement - Chapter 9 Geology and Soils (ref. TR010065/APP/6.1, Revision 1, April 2024) APP-064 – 6.2 Environmental Statement - Figure 2.2 - Environmental Constraints Plan Superseded by AS-025 [Sheet 3 of 4]	Upon receipt of this Relevant Representation, the Environment Agency has confirmed to the Applicant that the existing Environment Agency mapping (Permitted Waste Sites - Authorised Landfill Site Boundaries), which is publicly available via GOV.UK website, shows the British Sugar Borrow Pits authorised landfill site intersecting the current A46 road and proposed Scheme. Figure 2.2 (Environmental Constraints Plan) (Sheet 3 of 4) [AS-025], was produced using the mapped polygon on the available Permitted Waste Sites - Authorised Landfill Site Boundaries mapping. The Environment Agency has also confirmed to The Applicant, that the most recent permit for the British Sugar authorised Borrow Pit landfill (ref. EPR/VP3732LH), which was issued on 12/04/2007, shows that the landfill site plan does not intersect the existing A46 road or the Scheme's Order Limits. The Environment Agency has confirmed that this is the most up to date site boundary for the British Sugar authorised permitted landfill, and that the mapped polygon on the available Permitted Waste Sites - Authorised Landfill Site Boundaries mapping extends further than the actual permitted boundary of the British Sugar authorised landfill. The site plan included in the permit documents for the British Sugar authorised (active) landfill site, ref. EPR/VP3732LH does not show the location of the 4 groundwater monitoring boreholes (BP1-BP4). BP1 is located upgradient and BP2, BP3 & BP4 are downgradient. However, the Environment Agency's local Regulated Industry Team have recently inspected the site and have confirmed that the proposed changes to the A46 as a result of the Scheme would not affect the operation, nor should they interfere with any of the existing monitoring infrastructure, and that the most recent drawing of the landfill boundary, included within permit ref. EPR/VP3732LH, is considered to be correct. Figure 2.2 (Environmental Constraints Plan) will be updated using the most recent boundary of the British Sugar Borrow Pit landfill, as shown on the Schedule 2 - Site plan of permit ref. EPR/VP3732LH. The updated version of Figure 2.2 (Environmental Constraints Plan) will be re-submitted at Deadline 2.
Issue	The presence of the British Sugar authorised (active) landfill site within the Order Limits (red line boundary) and environmental and permit-related impacts associated with the development proposal have not been adequately addressed.	
Impact	There remains the potential for the development proposal to impact on controlled waters through the mobilisation of contaminants during construction, if the issue is not satisfactorily assessed. The authorised landfill is regulated by the Environment Agency through the Environmental Permitting regime. In this regard, it is unclear as to: • how the development may impact the active permit boundary; • whether the proposed works extend onto the landfill site, and if they may affect the locations of existing monitoring boreholes on or around the site.	
Solution	Clarification should be provided by the Applicant on the issues detailed above. The Applicant should demonstrate the proposed development will not detrimentally impact controlled waters or the authorised landfill. The existing boreholes must be identified, protected and not damaged by any of the proposed works. The boreholes are critical for ongoing monitoring, risk assessment and environmental protection and must not be damaged or affected by the proposed works. As such, we require confirmation that the boreholes will be retained and protected from damage. If the boundaries (i.e. authorised landfill site boundary / Order Limits), as shown on the submitted plans, are incorrect then these should be amended to the correct boundary to avoid confusion and unnecessary concerns.	
Additional comments	Approximate location where the authorised landfill is shown to encroach within the Order Limits: National Grid Reference SK7976654750 (X: 479766, Y: 354750). This is shown on Sheet 3 of 4 of the submitted Environmental Constraints Plan (Figure 2.2) [AS-025].	
EAGWCL-002: Dewatering Management Plan (DWMP)		
Document references	APP-184 – 6.5 Environmental Statement - First Iteration Environmental Management Plan (ref. TR010065/APP/6.5, Revision 1, April 2024)	The Applicant will include the commitment to produce a De-watering Management Plan in the First Iteration Environmental Management Plan [APP-184]. The First Iteration Environmental Management Plan [APP-184] will be developed into the Second Iteration Environmental Management Plan for implementation during construction and is secured by Requirement 3 of the draft Development Consent Order [APP-021] . The Environment Agency will be consulted during its development to ensure agreement with mitigation and commitments. The Applicant will submit an updated First Iteration Environmental Management Plan [APP-184] and updated draft Development Consent Order [APP-021] at Deadline 2 to reflect the additional management plan.
Issue	The requirement for a dewatering management plan (DWMP) to be submitted as part of the Second Iteration EMP has not been included.	
Impact	For a project of this nature and scale, without a DWMP to set out the approach to dewatering, there is a risk that unexpected dewatering may be necessary and associated delays to the delivery of the Scheme, particularly where Environment Agency permits and/or licences may be required.	
Solution	The Applicant should commit to preparing and putting a dewatering management plan in place.	
Additional comments	An effective DWMP should ensure that good practice relating to the site is adhered to throughout the development, and that there is a pre-planned procedure for dealing with any unexpected challenges or issues	

Environment Agency position		Applicant response
	that occur which require dewatering in certain areas of the site. A DWMP will also aiding the permitting process and contribute to timely decision making. The provision of a dewatering management plan should be included in the First Iteration EMP and reflected in the Consents and Agreements Position Statement. The requirement for DWMP should also be listed in Requirement 3 (Second Iteration EMP) of the DCO.	
EAGWCL-003: Piling method statements and risk assessments		
Document references	APP-184 – 6.5 Environmental Statement - First Iteration Environmental Management Plan (ref. TR010065/APP/6.5, Revision 1, April 2024)	The Applicant proposes to update commitment GS4 of the Register of Environmental Actions and Commitments in the First Iteration Environmental Management Plan to state that a Piling Works Method Statement will be produced specific to the piling locations. This is secured by Requirement 3 of the draft Development Consent Order [APP-021] that confirms a Second Iteration Environmental Management Plan must be produced prior to commencement of the works which will be developed from the First Iteration Environmental Management Plan [APP-184]. Preparation of the Second Iteration Environmental Management Plan must be done in consultation with the local planning authority and, as per our response above, now in consultation with the Environment Agency. Part (v) of Requirement 3 of the draft Development Consent Order [APP-021] states that a Piling Works Method Statement will be produced for the works. This method statement will be specific to the piling locations and will include an appropriate risk assessment. It is anticipated that there will be no piled foundations in areas of known contamination. Given the fact that there will be a detailed Piling Works Method Statement and risk assessment prepared in consultation with the Environment Agency and local planning authority and approved by the Secretary of State, it is the Applicants view that an additional specific requirement covering the piling works is unnecessary. The Applicant will submit an updated First Iteration Environmental Management Plan [APP-184] and updated draft Development Consent Order [APP-021] at Deadline 2 to reflect the proposed change.
Issue	There is a lack of clarity regarding the specificity of piling method statements and piling risk assessments. Piling method statements and piling risk assessments need to be site-specific, and the risks assessed based on the site hydrogeology and potential for contamination.	
Impact	• Method statements must demonstrate that the piling risk assessment which has been undertaken assesses site- specific site investigation and hydrogeological information, in order to justify the selected piling method, and which clearly demonstrate that there are no risks or impacts to controlled waters arising from the proposed piling works. Without this there is a risk of groundwater impacts. • Furthermore, site-specific piling method statement and risk assessments must be submitted to the Local Planning Authority (LPA) in consultation with the Environment Agency for approval *prior* to commencing piling works on the site. It is not acceptable to submit these documents for approval after the piling works have started or have been completed on the site. In this case, we will not agree the documents until further site investigation works and risk assessment is undertaken on the site to ensure that no adverse impacts have occurred, which risks project delays. • Given the above, there is the potential for environmental impacts if works carried out before approval is sought and delays to project delivery until any issues are resolved.	
Solution	• The Applicant should update the First Iteration EMP to address the above issue and identify the requirement for site-specific piling method statements and risk assessments, which are to be submitted to the LPA in consultation with the Environment Agency prior to piling activities commencing. • We would also request a DCO Requirement to be included in relation to piling and will work with the developer to agree this.	
Additional comments	Please refer to Appendix 2 – Issue ref. EAREQ-007.	
EAGWCL-004: Surface water and groundwater monitoring		
Document references	APP-184 – 6.5 Environmental Statement - First Iteration Environmental Management Plan (ref. TR010065/APP/6.5, Revision 1, April 2024)	The Applicant is in agreement with the Environment Agency to increase the frequency of both surface water and groundwater monitoring to monthly during the construction phase, and quarterly for one year post-construction. The Applicant proposes to update commitment RDWE7 in the Register of Environmental Actions and Commitments of the First Iteration Environmental Management Plan [APP-184] to capture these monitoring commitments and will re-submit an updated version of the First Iteration Environmental Management Plan [APP-184] at Deadline 2 of the examination. The Applicant has already liaised with the Environment Agency who have agreed the proposed wording. Adherence with the Second Iteration Environmental Management Plan is secured by Requirement 3 of the draft Development Consent Order [APP-021]. The Applicant is also in agreement to send the Environment Agency the surface and groundwater monitoring results. This includes the results obtained to date, as well as the results obtained going forwards pre-construction, during construction, and post-construction. The Applicant has liaised with the Environment Agency to confirm where the information should be submitted. The Applicant proposes to update commitment RDWE7 in the Register of Environmental Actions and Commitments of the First Iteration Environmental Management Plan [APP-184] to state that monitoring results will be sent to the Environment Agency pre-construction, during construction, and post-construction. The Applicant has already liaised with the Environment
Issue	There is a lack of clarity in relation to surface water and groundwater monitoring commitments.	
Impact	• The document states in the Record of Environmental Actions and Commitments (REAC) table (actions RDWE6 and RDWE7) that “surface water monitoring to be carried out before, during and after construction to ensure no adverse impact on water quality” and “groundwater monitoring to be undertaken preconstruction for at least 12 months, during construction and post construction”. • Due to the size and complexity of the project, the Environment Agency request that the surface and groundwater monitoring results are sent to us monthly for the duration of the project (i.e. before, during and after construction). This is so we have sufficient time to review the data and identify any arising impacts in a timely manner.	
Solution	The First Iteration EMP should be amended to reflect the above position and confirm that the monitoring results are to be sent to the Environment Agency on a monthly basis.	

Environment Agency position		Applicant response
Additional comments	We will separately confirm with the Applicant where the information should be submitted (i.e. appropriate email address).	Agency who have agreed the proposed wording. Adherence with the Second Iteration Environmental Management Plan is secured by Requirement 3 of the draft Development Consent Order [APP-021].
DCO Requirement 8 - Contaminated land and groundwater		
Document references	APP-021 – 3.1 draft Development Consent Order (ref. TR010065/APP/3.1, Revision 1, April 2024)	Please see the Applicant's response to Issue Reference EAREQ-004.
Comments	Please refer to Appendix 2 – Issue ref. EAREQ-004.	
Waste		
EAWA-001: Disposal of waste – British Sugar landfill		
Document references	APP-184 – 6.5 Environmental Statement - First Iteration Environmental Management Plan (ref. TR010065/APP/6.5, Revision 1, April 2024)	The Applicant has not approached British Sugar on this matter. The Applicant accepts the Environmental Agency's requirements should such a proposal be pursued. The use of landfills is to be avoided by the Scheme where possible and only used as a last resort. All waste will be dealt with by an appointed licensed waste management company. Should the Applicant's position change, the Environment Agency will be consulted to discuss the use of the landfill. The Applicant accepts the Environmental Agency's requirements should such a proposal be pursued.
Issue	It is not clear if the Applicant intends to pursue an option to deposit any waste arisings at the British Sugar authorized landfill site.	
Impact	If the Applicant approaches British Sugar with a proposal to deposit waste arisings at their landfill site, the Environment Agency would need to be satisfied that such waste was allowed under the existing environmental permit. This therefore has implications for the waste management strategy and potential delays to the project.	
Solution	The Applicant should confirm their intentions regarding waste disposal and the British Sugar authorised landfill site, and discuss any permit implications with our National Permitting Service (NPS).	
Additional comments	• Our understanding is that this is not allowed as the existing environmental permit only allows the deposit of wastes arising from British Sugar's production process. • British Sugar may consider varying their permit to allow deposition of waste arisings from the development works, but this may prove problematic given the current limits on the permit for the deposit of production process waste.	
Water resources		
EAWR-001: Water usage – abstraction licencing		
Document references	APP-023 – 3.3 Consents and Agreements Position Statement (ref. TR010065/APP/3.3, Revision 1, April 2024)	The Applicant anticipates the requirement for abstraction licences to enable the main construction works. Abstraction will be required where groundwater is encountered during excavation with key areas identified but not limited to Farndon Borrow Pits. Any abstracted waters would be initially discharged into the River Trent until pond creation has been completed within the borrow pits, which would then be used as storage areas for water to be used for dust suppression. Where capacity is reached within the new ponds, any further ground water encountered during excavation works would be discharged into the River Trent. Where stored waters for dust suppression are depleted, the Scheme proposes abstraction from the River Trent unless any restrictions are placed on the watercourse. In the event that restrictions are enforced, alternative sources would be sought including using water from local hydrants following approval by the local water and sewerage undertaker. There are no other activities associated with the Scheme that will require the consumptive use of abstracted waters as this will generally be sourced by mains abstracted water to prevent possible contamination of materials or damage to tools and machinery.
Issue	The documentation submitted acknowledges the requirement for abstraction licences for de-watering and anticipates short term low risk (being exempt) and longer term (requiring a licence) needs. However, there is inadequate information on other consumptive uses of water required for the construction phase of the development.	
Impact	• In the absence of further information on other consumptive uses of water, the abstraction licencing requirements are not clear, which impacts our understanding of this issue and therefore how it could impact the Scheme. • The impact of licence restrictions (see comment below) may therefore affect design and on-site operations during construction. There could also be in delays to the implementation of the Scheme where licences are required from the Environment Agency post-decision.	
Solution	We recommend considering potential consumptive demands for water in more detail and a further investigation of options for different sources of supply as this may affect the project design (e.g. if site storage is needed for times of unavailability).	
Additional comments	The documentation submitted acknowledges the requirement for abstraction licences for de-watering and anticipates short term low risk (being exempt) and longer term (requiring a licence) needs. However, there is inadequate information on other consumptive uses of water required for the construction phase of the development.	
General / cross-cutting comments		
EAGCC-001: Required Environment Agency permits and licences		
Document references	APP-023 – 3.3 Consents and Agreements Position Statement (ref. TR010065/APP/3.3, Revision 1, April 2024)	

Environment Agency position		Applicant response
Issue	The list of consents and agreements may not be conclusive and, depending on situations encountered, others may be needed that have yet to be identified, for example, relating to water resources licencing, water discharge permits and waste management.	The Applicant has considered all potential licensing requirements for the Scheme and cannot foresee any requirement for additional licences to be attained. Water resource licensing has been considered and abstraction has been identified as the only licensable activity as no impoundment of watercourses is to be undertaken. The Applicant has included the need for water discharge permits within Appendix A of the Consents and Agreements Position Statement {APP-023] and these will be required for removal of surface waters from the works areas to be discharged into watercourses in close proximity to the Scheme that fall within the Order Limits, but only where ponds do not have enough capacity for storage. Any discharge will be treated before discharge and only where this has been agreed with the Environment Agency. The Applicant is currently awaiting a review of licences for waste management by an appointed specialist and where any gaps are identified, Appendix A of the Consents and Agreements Position Statement [APP-023] will be updated and submitted to the Examining Authority as appropriate.
Impact	There is a risk of delays to the delivery of the Scheme where consents and agreements are insufficiently comprehensive to allow the Environment Agency to effectively deal with permit applications, queries and fully understand what the project requires.	
Solution	• The Applicant should review the Consents and Agreements Position Statement document and further consider what is required. • To avoid any delays during the project the Applicant should ensure that the Consents and Agreements Position Statement comprehensively covers a range of scenarios that may, or may not occur, insofar as it is possible.	
Additional comments	We recommend early engagement and pre-application advice is sought to ensure that all the consents, agreements and supporting management strategies are in place and issued without undue delay.	
Appendix 2 – Draft Development Consent Order and other documents – key issues and advice		
Disapplication of other Environment Agency permits and licences		
Document references	APP-021 – 3.1 draft Development Consent Order (ref. TR010065/APP/3.1, Revision 1, April 2024) APP-023 – 3.3 Consents and Agreements Position Statement (ref. TR010065/APP/3.3, Revision 1, April 2024)	The Applicant is not currently seeking to disapply the Environmental Permitting Regulations for flood risk activities. Therefore, there are no Protective Provisions within the draft Development Consent Order [APP-021]. Should this position change, the Applicant will contact the Environment Agency to agree the terms of the protective provisions.
Comments	**Disapplication of flood risk activity permits (FRAPs)** • We acknowledge that the Applicant is not currently seeking to disapply the Environmental Permitting Regulations (EPR) for flood risk activities in the draft Development Consent Order (DCO) but, it is indicated in the Consents and Agreements Position Statement that they may seek to do so. The applicant should therefore confirm if they are indeed seeking the disapplication of the EPR for flood risk activities. • It should be noted that the EPR for flood risk activities cannot be disapplied without our consent. Should we agree to disapplication following further discussions with the Applicant, the draft DCO will need to be updated to include our protective provisions. **Disapplication of other Environment Agency permits and licences** We acknowledge that the Applicant is not seeking to disapply any other Environment Agency permits and licences, as confirmed in the Consents and Agreements Position Statement.	
Development Consent Order (DCO) Requirements		
Document reference: APP-021 – 3.1 draft Development Consent Order (ref. TR010065/APP/3.1, Revision 1, April 2024)		
EAREQ-001: Requirement 3 – Second Iteration Environmental Management Plan (EMP)		
Document references	Draft DCO, Schedule 2, Requirements, Part 1 Requirements, page 61	The Applicant can confirm that the Environment Agency will be added as a consultee to the Second Iteration Environmental Management Plan, under Requirement 3 of the draft Development Consent Order [APP-021], on matters related to its statutory functions. An updated draft Development Consent Order has been submitted at Deadline 1 to reflect this change.
Issue	The Environment Agency is not listed as a consultee for the Second Iteration EMP.	
Impact	Where the Second Iteration EMP is developed without consultation with the Environment Agency, it could be less effective and the range of environmental matters (such as surface water and groundwater quality, water resources, aquatic ecology, flood risk and waste management, for example) within our remit may not be adequately addressed, which could lead to avoidable impacts if not satisfactorily managed.	
Solution	The Environment Agency should be listed as a consultee for the Second Iteration EMP.	
EAREQ-002: Requirement 4 – Third Iteration Environmental Management Plan (EMP)		

Environment Agency position		Applicant response
Document references	Draft DCO, Schedule 2, Requirements, Part 1 Requirements, page 61	The Applicant can confirm that the Environment Agency will be added as a consultee to the Third Iteration Environmental Management Plan, under Requirement 4 of the draft Development Consent Order [APP-021], on matters related to its statutory functions. An updated draft Development Consent Order has been submitted at Deadline 1 to reflect this change.
Issue	The Environment Agency is not listed as a consultee for the Third Iteration EMP.	
Impact	Where the Third Iteration EMP is developed without consultation with the Environment Agency, it could be less effective and environmental matters within our remit may not be adequately addressed.	
Solution	The Environment Agency should be listed as a consultee for the Third Iteration EMP.	
EAREQ-003: Requirement 6 – Landscaping		
Document references	Draft DCO, Schedule 2, Requirements, Part 1 Requirements, page 62	The Applicant has considered the Environment Agency's comment and has reviewed various other made Development Consent Orders (DCOs), including the A12 Chelmsford to A120 Widening DCO 2024, the M3 Junction 9 DCO 2024 and the A47/A11 Thickthorn Junction DCO 2022. The proposal to include the Environment Agency as a consultee in relation to the landscaping scheme in Requirement 6 of the draft Development Consent Order [APP-021] is not precedented and the Applicant does not consider it necessary or appropriate to agree to this amendment. The Applicant has engaged with the Environment Agency throughout the development of the environmental design in the form of the quarterly Environmental Technical Working Group (TWG). This Environmental TWG was established to inform consultation bodies of the progress and timescales for the Scheme, and also to review and discuss specific Scheme issues, to consider appropriate design solutions and seek to agree statements of common ground (SoCGs) on environmental matters. The Environmental TWG also provided a format for technical review of the ES assessments such as EIA methodology and documents supporting the ES, and associated surveys, development, review and agreement of environmental design, mitigation requirements, and environmental opportunities and enhancements. The Applicant is therefore satisfied that it has sufficiently consulted with the Environment Agency to address its concerns. The Applicant asks the Environment Agency to clarify their specific concerns which the Applicant will address in full.
Issue	The Environment Agency is not listed as a consultee for landscaping details.	
Impact	Where we are not listed as a consultee, there is a risk that matters within our remit are not adequately address. Principally, our concerns in this regard relate to potential impacts on main rivers, flood defences and works in flood risk areas (Flood Zone 3).	
Solution	The Environment Agency should be listed as a consultee to ensure that we are consulted on matters related to our functions.	
EAREQ-004: Requirement 8 - Contaminated land and groundwater		
Document references	Draft DCO, Schedule 2, Requirements, Part 1 Requirements, page 63	The Applicant has updated the draft Development Consent Order [App-021] to reflect drafting agreed between the Applicant and the Environment Agency to address this issue. The updated draft Development Consent Order [APP-021] will be submitted at Deadline 1.
Issue	The current wording of Requirement 8 does not require construction to stop if unsuspected contamination is discovered pending investigation and remediation where required.	
Impact	There is a risk that contaminants are mobilised if construction continues without appropriate investigation and remediation where required, which could impact on controlled waters.	
Solution	To address the above, the wording of the Requirement should be amended. We have the following suggested wording (to be agreed): • If contamination is found, the construction activity should stop in the affected area, pending the undertaking of risk assessment, production of a remediation scheme/programme and undertaking of the remediation itself.	
Requirement 13 – Surface and foul water drainage		
Document references	Draft DCO, Schedule 2, Requirements, Part 1 Requirements, page 65	Should the Lead Local Flood Authority request to be a consultee in relation to Requirement 13 of the draft Development Consent Order, the Applicant will consider that request at that time.
Comments	We note that the Lead Local Flood Authority (LLFA) is not listed as a consultee in relation to its lead role in surface water flood risk and managing surface water run-off, as such we would recommend their inclusion in this Requirement. This is to be discussed between the Applicant and the relevant LLFA.	
EAREQ-005: Requirement 14 – Flood compensatory storage		
Document references	Draft DCO, Schedule 2, Requirements, Part 1 Requirements, page 65	The Applicant has updated the wording in Requirement 14 of the draft Development Consent Order to refer to the correct climate change allowance referred to by the Environment Agency. An updated copy of the draft Development Consent Order has been submitted at Deadline 1 reflecting this change. In order to assist the Examining Authority and the Environment Agency, the Applicant has set out the proposed amendments to Requirement 14 below: *Flood compensatory storage* *14(1)…*
Issue	Sub-paragraph 2 states the climate change allowance as 35%, which is not correct for this location and does not accord with the flood risk assessment.	
Impact	The Requirement wording does not align with the submitted flood risk assessment, which is based on the correct 39% climate change allowance for this location, therefore there is a risk of misinterpretation and a lack of clarity.	

Environment Agency position		Applicant response
Solution	The wording of this Requirement should be amended to address the above issue.	*(2) The schemes prepared under paragraph (1) must provide suitable flood storage for any flood waters that would be displaced by the authorized development in the 1 in 100 year plus ~~35~~ 39% climate change allowance ~~event~~.*
Additional comments	Rather than correcting the error, we would however recommend that the percentage reference is removed and reworded as per the following suggestion (to be agreed), to ensure the flood risk assessment is the point of reference: • *2) The schemes prepared under paragraph (1) must provide suitable flood storage for any flood waters that would be displaced by the authorised development in the 1 in 100 year plus ~~35%~~ appropriate climate change allowance ~~event,~~ in line with the approved flood risk assessment.*	
EAREQ-006: Requirement 15 – Flood risk assessment		
Document references	Draft DCO, Schedule 2, Requirements, Part 1 Requirements, page 65	The Applicant notes the comments from the Interested Party.
Issue	We currently do not agree with the wording in sub-paragraph 2, as we have unresolved issues with the flood risk assessment in relation to increases in flood risk elsewhere.	
Impact	We defer to agreeing the wording of the Requirement, subject to the Applicant satisfactorily addressing the issues we have identified with the flood risk assessment in relation to increases in flood risk elsewhere as a result of the development.	
Solution	The wording of the Requirement will need to be agreed with us pending a resolution of the flood risk issues we have identified and may need to be amended. We will continue to work with the Applicant to address this issue.	
EAREQ-007: Additional Requirement – Piling		
Document references	Draft DCO, Schedule 2, Requirements, Part 1 Requirements	The Applicant has considered the Environment Agency's proposed inclusion of a requirement in the draft Development Consent Order [APP-021] for piling risk assessments. The CDM 2015 require a piling risk assessment to be carried out in accordance with the specific requirements set out in Regulations 4, 8, 12 and 13. The Applicant is satisfied that these Regulations secure the necessary protections sought by the Environment Agency without the need for a specific requirement in the draft Development Consent Order [APP-021]. The Environment Agency will have been consulted on the detailed Piling Works Method Statement which will form part of the Second Iteration Environmental Management Plan in accordance with Requirement 3 of the draft Development Consent Order. Therefore, it is the Applicant's view that there is no need or justification for the Environment Agency's draft requirement.
Issue	We request the inclusion of a DCO Requirement for piling risk assessments.	
Impact	This is to secure the completion of piling risk assessments to be agreed with the Environment Agency prior to commencing any piling activities.	
Solution	Include a suitably worded Requirement in the DCO.	
Comments	• Please refer to Appendix 1 – Issue ref. EAGWCL-003. • Suggested wording for the piling DCO Requirement (to be agreed): 1. No part of the authorised development may be commenced until a piling risk assessment for that part has been submitted to and approved by the relevant planning authority in consultation with the Environment Agency. 2. Construction works for the authorised development must be carried out in accordance with the approved piling risk assessment	
Book of Reference		
Document references	APP-027 – 4.3 Book of Reference (ref. TR010065/APP/4.3, Revision 1, April 2024)	The Applicant notes the clarification regarding land interests of the Interested Party.
Comments	We confirm that the Environment Agency does not have any land interests that fall within the limits of the DCO.	
EAGWCL-005: Groundwater and contaminated land - Contamination hotspot at WS46 Note this issue was submitted to the Applicant after publication of the Environment Agency's Relevant Representation however the issue has been responded to as part of the Applicant's responses to the Relevant Representations].		
Issue	Contamination hotspot at WS46 has been identified as localised contamination thought to be from site won material from the demolition of chemical manure factory. Given that this material should not have been deposited at the site, responsibility should be taken for removing it from the site.	Appendix 9.2 (Contaminated Land Risk Assessment) of the Environmental Statement Appendices [APP-164] contains an initial quantitative assessment of the potential risk to controlled waters at the WS46 hotspot location. To summarise, elevated concentrations of hydrocarbons were recorded in soil samples and arsenic, chromium, chromium hexavalent, mercury, and vanadium exceeded the EQS values in leachate extract from soil samples at the hotspot location. It should be noted that a direct comparison of leachate testing results with the selected assessment criteria is a conservative method, as the aggressive test methodology overestimates the availability of determinants to dissolve under naturally occuring conditions. It is considered likely that the source of this contamination is associated with the former glue factory. The results of the leachate extract from soil confirms that this material is leachable, however further delineation GI work identified that the
Impact	Where the contamination remains there is a risk of pollution to controlled waters when there is an opportunity to deal with it as part of the DCO.	
Solution	We expect the contaminated material to be removed. It should be relatively easy to either remediate it in situ or excavate and remove it from the site for appropriate waste disposal.	

Environment Agency position		Applicant response
		contamination is isolated and post-GI monitoring recorded that the metal and hydrocarbon contamination is not present in the surrounding ground water or in adjacent surface water samples. The revised conceptual site model included in Appendix 9.2 (Contaminated Land Risk Assessment) of the Environmental Statement ES Appendices [APP-164] concluded that the risk to controlled waters from contamination at the WS46 hotspot area has been determined to be Low Risk, on the basis that no excavation works, or vegetation clearance are anticipated at this location. The proposed works are therefore unlikely to create new or worsen existing potential contaminant pathways into the superficial deposits. In addition, surface run-off from the new embankment will be intercepted by a new surface water drainage channel, before it reaches the hotspot area, thereby reducing the potential for leachate generation at the hotspot area. In addition, the existing dense vegetation at this location will also reduce infiltration of incident rainwater through evapotranspiration and therefore reduce potential for leachate production and reduce potential mobilisation of soil particles.h Further to this, GS6 within Table 3-2 Record of Environmental Actions and Commitments of the First Iteration Environmental Management Plan [APP-184] states “the location of the contamination hotspot at Nether Lock will be recorded and documented by the Detailed Design Consultant and shared to the PC. Before construction commences, the PC will install fencing and signage, clearly identifying and restricting access to the area.” The road embankment widening (Work No 56) and access track (Work No 69) have been designed to avoid impacting the contamination hotspot by designing the widened road within the footprint of the existing embankment. This has reduced the need for ground improvement/replacement works within this area. If the Applicant was required to remove the contamination at this area, vegetation clearance and habitat removal would be required which has not been assessed as part of the Scheme. Any vegetation clearance would need to be accounted for in the statutory biodiversity metric calculations. Given the depth of the recorded contamination, , it is anticipated that a large long-arm excavator would be required to reach that depth. This would therefore require significant vegetation clearance and habitat removal beyond the proposed area of hotspot excavation to allow for: i). Approximately 100 metre-long temporary haul and access road; ii). Turning circle for excavator bucket/arm; iii). Creation of a working area for the temporary stockpiling of non-contaminated soils and for the pre-treatment of hazardous waste prior to disposal; and... iv). At 3m depth, potential excavation support will be required to prevent collapse, which may require additional plant and working area. In addition to the habitat destruction and ecological disturbance, excavation and removal of the hotspot has wider sustainability impacts including increased vehicle movements, transfer of material from elsewhere on site, potentially excavations of clean virgin material for reuse as haul/access road and importation as excavation backfill. There are also engineering risks associated with deep excavation works at this location, notably the potential settlement of the adjacent railway line and slope stability integrity of the existing A46 embankment. To conclude, the Applicant is of the view that the contamination hotspot within the Order Limits presents a low risk to controlled waters if left in situ. Therefore, the Applicant proposes to leave the contamination in situ at the hotspot location due to the absence of planned excavation or vegetation clearance activities. The Applicant proposes to undertake further assessment, in the form of controlled waters detailed quantitative risk assessment (DQRA), in line with the Land Contamination Risk Management guidance, in relation to the hotspot of contamination identified in the vicinity of WS46. The completed DQRA will be discussed with the Environment Agency and submitted into the Examination at Deadline 4, if not sooner. Furthermore, since the Applicant is not responsible for the source contamination and the risk assessment indicates a low risk to controlled waters, it is deemed appropriate to keep the contamination in situ.