A1 in Northumberland: Morpeth to Ellingham

Scheme Number: TR010059

7.24 Applicant's Response to Deadline 5 and 5a Submissions

Rule 8(1)(c)

Infrastructure Planning (Examination Procedure) Rules 2010

Planning Act 2008

May 2021

Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Examination Procedure) Rules 2010

The A1 in Northumberland: Morpeth to Ellingham

Development Consent Order 20[xx]

Applicant's Response to Deadline 5 and 5a Submissions

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1 APPLICANT'S RESPONSE TO DEADLINE 5 AND 5A SUBMISSIONS

1.1 INTRODUCTION

1.1.1. This document relates to an application for a Development Consent Order (DCO) made on 7 July 2020 by Highways England (the 'Applicant') to the Secretary of State for Transport via the Planning Inspectorate (the 'Inspectorate') under section 37 of the Planning Act 2008 (the '2008 Act'). If made, the DCO would grant consent for the A1 in Northumberland: Morpeth to Ellingham (the 'Scheme').

1.1.2. The Scheme comprises two sections known as Part A: Morpeth to Felton (Part A) and Part B: Alnwick to Ellingham (Part B), a detailed description of which can be found in Chapter 2: The Scheme, Volume 1 of the Environmental Statement (ES) [APP-037].

1.1.3. The purpose of this document is to set out the Applicant's response to submissions made at Deadline 5 and 5a. The Applicant notes that Historic England made a submission at Deadline 5 [REP5-045] but confirmed that they had no comments.

1.1.4. The Applicant also notes that Northumberland County Council (NCC) re-submitted their Deadline 4 submission with a correction. The Applicant has no further comment to make on that document [REP5-042].

Table 1-1 – Environment Agency – Deadline 5

Ref. No.	Response:	Applicant's Response:
Summary of Written Representations		
Deadline 4 Change Request Environment Statement Addendums		
1	The proposed activities outlined in the Deadline 4 Environmental Statement Addendums are considered to be a significant variation to the original proposals. If implemented as outlined, it will result in the loss of and/or significant damage to the riparian and in-channel habitats within the DCO boundary.	1. The Applicant acknowledges – and the Examining Authority has found – that the changes to the Application in the Addenda are material. It also acknowledges and predicts significant effects as a result of the proposed changes, as set out within Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]: – Significant effect (direct, permanent, Moderate Adverse) due to the loss of riverbank habitat in the River Coquet and Coquet Valley SSSI as a result of the proposed hard engineered scour protection to the north and south banks of the river. – Significant combined residual effect (Moderate Adverse) during construction as a result of both the biodiversity and road drainage and the water environment effects on the River Coquet.
2	We are dissatisfied with the level of assessment and compensation for the hard engineering rock amour proposed on the northern bank. The Coquet River Site of Special Scientific Interest (SSSI) has been formally recognised as a Habitat of Principal Importance (HoPI). The mitigation measures outlined in the Deadline 4 Environmental Statement Addendums only partially lessen the impact, and cannot be viewed as an appropriate alternative to a naturally functioning system.	1. The Applicant disagrees that the level of assessment and compensation is unsatisfactory, and the Applicant would note that the assessments have been undertaken in accordance with agreed assessment methodologies. Measures have been described in the Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064] to mitigate the environmental effects reported. 2. The Applicant acknowledges that as a Habitat of Principal Importance (HPI) and habitat of a SSSI, compensation should be provided to the extent appropriate having regard to the impacts of the Scheme. The Applicant is exploring opportunities for compensation for the loss of riverbank habitat through discussion with landowners. This may involve, for example, the restoration of bankside habitat elsewhere along the River Coquet to removal of an existing structure (such as a weir). The Applicant has recently conducted a site visit (20 April 2021) near Holystone and Hepple, located upstream of the Scheme, to meet with Forestry England and a private landowner. The options for compensation are currently being reviewed and will be discussed further with the Environment Agency. The Applicant also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation. 3. In their Deadline 5 response [REP5-044] the Environment Agency outlined that the impacts of the Scheme could be offset / compensated outside of the DCO boundaries, this remains under discussion.
3	We consider the impact to be major adverse over the lifetime of the scheme, and therefore consider the need for compensation to be essential. A compensation scheme must be developed recognising that the proposals will lead to the local deterioration of a largely unmodified priority river SSSI.	1. A major adverse effect is not predicted over the lifetime of the Scheme and the asserted effect claimed by the Environment Agency is not supported by the assessment methodology. 2. The Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] (8.10 Assessment of Likely Significant Effects) and Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064] (7.10 Assessment of Likely Significant Effects), report that the loss of riverbank habitat represents an adverse impact to an ecological receptor of National importance. As such, in strict accordance with the DMRB, the loss of riverbank habitat might be considered to result in a Very Large adverse effect to the SSSI.

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		3. However, the extent of impact to riverbank habitat as a result of the land stabilisation north of the River Coquet (comprising 62 m of rock armour and 24 m of green-grey bank protection) represents approximately 0.19% of the total bank length of the SSSI unit (Unit 5) and when assessed together with the Southern Access Works (90 m of rock armour and 41 m of green-grey bank protection), represents approximately 0.29% of the total bank length of the SSSI unit (Unit 5). As such, the impact of the works is unlikely to affect the integrity of the SSSI or its ecological function and therefore, the significance of effect is downgraded. The loss of riverbank habitat of the SSSI as a result of the Stabilisation Works and Southern Access Works is properly assessed to result in a direct, permanent Moderate Adverse effect. 4. The Applicant acknowledges that as a HPI and habitat of a SSSI, compensation should be provided to the extent appropriate having regard to the impacts of the Scheme. The Applicant is exploring opportunities for compensation for the loss of riverbank habitat through discussion with landowners. This may involve, for example, the restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir). The Applicant is also considering a proposal for funding of compensation received from the Environment Agency. The options for compensation are currently being reviewed and will be discussed further with the Environment Agency. The Applicant also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation.
4	The Flood Risk Assessment (FRA) must be updated to reflect the latest proposals, including the flood risk implications of the proposed temporary bridge in certain scenarios. We also expect the proposed computational modelling to be referenced within the FRA along with discussions on any issues it raises.	1. As set out in the Summary of Proposed Changes to Application [AS-017], the flood risk assessment was scoped out as part of Change Request. For the Stabilisation Works, this was due to the minimal changes to the Scheme design next to the watercourse. For the Southern Access Works it was anticipated that these may increase flood levels during construction but would not significantly change the conclusions of the flood risk assessment presented in Appendix 10.1: Flood Risk Assessment Part A [APP-254] and Chapter 10: Road Drainage and the Water Environment Part A [APP-050] due to the distance between the Southern Access Works and the closest receptor and the mitigation already included. The Applicant's expectation is that the hydraulic modelling will confirm this position. 2. At the request of the Environment Agency, an addendum to the Flood Risk Assessment will be submitted at Deadline 7, once hydraulic modelling has been completed.
6.36 Environmental Statement Addendum: Earthworks Amendments - Rev 1 [REP4-061]		
5	The changes in the proposed earthworks will result in substantial dewatering of groundwater and require a water resources abstraction licence from the Environment Agency (EA). The dewatering assessment should consider impacts to unknown licensed and private water supplies and groundwater dependent designations such as peat bogs if present.	1. The Applicant accepts that there will be substantial dewatering. Additional mitigation is set out in Table D-1 – Additional Mitigation Measures for the Register of Environmental Actions and Commitments in the Environmental Statement: Earthworks Amendments [REP4-061] has been incorporated into the Outline CEMP [REP5-012 and 013] and submitted at Deadline 6. As detailed in commitment EA-W1 of Table 3-4 of the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6), a dewatering appraisal will be undertaken at detailed design stage to support a water resources abstraction licence application if required. 2. A dewatering assessment has been undertaken and will be submitted at Deadline 7. The impact of groundwater dewatering during the construction phase has been assessed and a summary provided here. The assessment has used conservative estimates of the area likely to be impacted. The estimated groundwater radius of influence and groundwater inflow rates have been calculated based on Ground Investigation data for boreholes located out of the borrow pit footprints. There is currently no groundwater level monitoring data for the borrow pits, however, this is scheduled as a part of the next Ground Investigation in summer 2021 and will be used to refine the conservative assumptions,

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		which should result in reduction in the impacts of the assessment. On this basis, water strikes have been used from the closest borehole locations for each borrow pit and extrapolated to determine the impact form each structure, and further supplemented by literature values which include hydraulic conductivity where no in-situ vales are available. 3. Private licensed abstraction information has now been provided by Northumberland County Council and is presented in Appendix ii Figure 10.1 Water Constraints Plan Part B [APP-175] (updated and submitted at Deadline 6) to show the proximity of water supplies identified in area surrounding the Scheme. As such the dewatering assessment now takes account of all licensed and private water supplies and groundwater dependent designations. No further abstractions are foreseen given all regulatory bodies have been consulted and their data obtained. Appendix ii Figure 10.1 Water Constraints Plan Part B shows the location of public and private abstractions in respect to the Scheme. The estimated groundwater radius of influence from the borrow pits has been calculated based on literature ground permeability values in the absence of site-specific information. This provides an estimation of worst-case scenario impact from the borrow pits. A radius of influence of 24m, 45m and 17m has been calculated for Borrow Pit 1, 2 and 3 respectively. A private water abstraction is located approximately 450m east of the Order limits, to the north-east of Charlton Mires Junction, and is outside of the borrow pit radius of influence. Therefore, it is anticipated that there will not be an impact on the private water abstraction from any of the borrow pits. 4. As detailed in commitment EA-W1 of Table 3-4 of the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6), further dewatering appraisal will be undertaken at detailed design stage to support a water resources abstraction licence application if required. Groundwater level monitoring will be undertaken to supplement the dewatering appraisal. A dewatering strategy will be developed preconstruction and implemented during construction. 5. The dewatering appraisal will consider impacts to unknown licensed and private water supplies and groundwater dependent designations. In relation to this: – The Applicant has obtained information on the licenced public water supplies from the Environment Agency and private water supply information from NCC. NCC would be further consulted at detailed design stage to identify any further information that could assist with the dewatering appraisal. – As peat deposits are absent at the borrow pit locations it is assumed that lateral connectivity with water bearing deposits is also limited and therefore any dewatering is unlikely to impact sensitive receptors (i.e. abstractions).
6	Borrow pit 4 is to be retained as a detention pond. It was noted that the drainage strategy stated that all detention ponds were to be lined. Therefore, the dewatering should not be an issue long term, but the documents submitted do not make this clear. However, the lining proposals need to be provided to convert the borrow pit 4 into a detention basin or else long term dewatering will be necessary and may require licensing. Borrow pits 1 and 2 will be backfilled to surface with unknown methodology and it is unclear what will be done with borrow pits 3 and 5. As such further information is required.	1. The Environmental Statement: Earthworks Amendments [REP4-061] clearly sets out that detention basin will be lined. As detailed in paragraph 2.4.5 of the Environmental Statement: Earthworks Amendments [REP4-061], Borrow Pits A2E-CH590-SB-BPT-3 (Borrow Pit 3) and A2E-CH569-NB-BPT-4 (Borrow Pit 4) would be backfilled with suitable material and lined to form detention basins as set out in Appendix 10.5: Drainage Strategy Report Part A of the ES [APP-258] and Appendix 10.4: Drainage Strategy Report Part B of the ES [APP-314]. 2. Borrow Pits A2E-CH586-SB-BPT-1 (Borrow Pit 1), A2E-CH591-SBBPT-2 (Borrow Pit 2) and A2E-CH570-NB-BPT-5 (Borrow Pit 5) would be backfilled with suitable materials comprised of similar composition to the material excavated and hydraulic properties as detailed in Appendix A: Proposed Amendment to Temporary and Permanent Earthworks Schedule of the Environmental Statement: Earthworks Amendments for Change Request [REP4-061]. 3. As the Examining Authority has accepted the change requests, Table D-1 – Additional Mitigation Measures for the Register of Environmental Actions and Commitments in the Environmental

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		Statement: Earthworks Amendments [REP4-061] has been incorporated into the Outline CEMP [REP5-012 and 013] and submitted at Deadline 6. As detailed in Commitment EA-W2 in Table 3-4 of the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6), the design and implementation of backfilled material within the borrow pits will be suitable fill material. 4. The impermeable lining for the detention basin DB24 and DB27 will be selected by the Main contractor, and specified in the detail design. The surface water drainage system will be approved by the Secretary of State, in consultation with the relevant planning authority and local flood authority, as set out in Requirement 8 of the dDCO [REP5-034 and 035].
7	The site investigation boreholes do not record peat. But all borrow pits have base elevations below groundwater level in the bedrock. A plan which identifies the borrow pits, which require dewatering and daily quantity and duration/ restoration proposals should be submitted as part of the DCO submission.	1. A plan showing the borrow pits which require dewatering and daily quantity and duration/ restoration proposals was submitted at Deadline 5 of the Examination [REP5-040].
6.38 Environmental Statement Addendum: Stabilisation Works for Change Request		
8	The Applicant fails to address the local severe adverse effect of rock armouring, loss of natural riverbank which forms an important component of the HoPI and therefore fails to provide mitigation or compensation. The current mitigation only reflects the loss of broadleaved woodland, and does not acknowledge the riparian zone which is being lost and is classed as a different habitat type with different functions and value that is likely found on the banks and around the wetted channel. This is a quality element and therefore a key consideration under the Water Framework Directive (WFD).	1. The Applicant disagrees that there is a failure to address the local severe adverse effect of rock armouring, loss of natural riverbank which forms an important component of the Within Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063], Section 8.8, the HPI designation of the River Coquet is recognised, with impacts assessed as part of the impact assessment of the SSSI designation. A direct permanent moderate adverse effect is reported within Section 8.10. 2. The Applicant acknowledges that as a HPI and habitat of a SSSI, compensation should be provided is exploring opportunities for compensation for the loss of riverbank habitat through discussion with landowners. , .to the extent appropriate having regard to the impacts of the Scheme. This may involve, for example, the restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir). The Applicant is also considering a proposal for funding of compensation received from the Environment Agency. The options for compensation are currently being reviewed and will be discussed further with the Environment Agency. The Applicant also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation. 3. Conversely, in the Water Framework Directive Addendum for Change Request [REP4-068], the conclusion is reached that the works proposed would not cause deterioration to the waterbody's WFD status and that the wider waterbody objectives set out in the published River Basin Management Plans would not be compromised. The Applicant notes the Environment Agency's agreement that the Scheme is unlikely to result in a deterioration to the WFD status of the Coquet from Forest Burn to Tidal Limit waterbody.
9	We have also requested further clarity regarding a number of matters and amendments to the document narrative including Appendix D.	1. The pre-consultation and formal consultation comments provided by the Environment Agency for the Change Request have been addressed in Appendix D and Appendix E of the Consultation Statement for Change Request [REP4-073], respectively.
6.40 Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]		

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10	We have requested further clarity regarding a number of matters and amendments to the document narrative.	1. The pre-consultation and formal consultation comments provided by the Environment Agency for the Change Request have been addressed in Appendix D and Appendix E of the Consultation Statement for Change Request [REP4-073], respectively.
11	We consider the combined effects of the proposed engineering works, either during construction or operation have not been fully considered by the Applicant.	1. This is not correct. 2. As set out within Section 1.2 of Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064], the assessments of likely significant effects reported in Chapters 4 to 11 [APP-039 to 053] consider the combined effects of the Stabilisation Works, together with the Southern Access Works. The combined effects of the proposed engineering works during construction and operation have been fully considered by the Applicant. 3. In addition, available information on groundwater levels has been used in producing the Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]. The assumption that groundwater levels on the southern bank are comparable to those on the north bank is a reasonable assertion. Due to the proximity to the River Coquet, groundwater flow would be directed towards to the river and be a contributor of baseflows to the river and near the surface. Limited information is available for the south bank due to challenging logistics inherent in getting ground investigation plant down the southern valley slope and hence as set out at Paragraph 8.7.5 of Chapter 8 in the Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064] conservative assumptions are made for the purposes of assessment. 4. The design of any drainage requirements will be considered and incorporated, where required, as the detailed design process for the works evolves. This mitigation has been incorporated into the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6). As detailed in commitment SW-W1 of Table 3-5 of the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6), drainage arrangements will be designed to prevent the build-up of groundwater behind the installed piles, where necessary.
6.28 Biodiversity No Net Loss Assessment for the Scheme (Tracked) - Rev 1a [REP4-059]		
13	We are pleased to see a re-evaluation and drastic reduction in the reported loss of watercourses associated with Parts A and B of the scheme. However, there appears to be a heavy reliance on the planting of woodland as mitigation or compensation for the loss of watercourse. Tree planting is not like for like compensation. This is often described as 'wet woodland' creation, which we believe is an incorrect definition of the habitat created and should be reclassified as riparian woodland, unless this woodland is adjacent to a watercourse. Any woodland created away from the watercourse should be correctly recorded as broadleaved woodland.	1. This comment is a replication of the Environment Agency's Deadline 4 submission [REP4-076]. The Applicant provided a response at Deadline 5 [REP5-029], which is quoted below. 2. "Woodland planting is not recognised or proposed as like-for-like compensation for the loss of watercourse and acknowledges that it is not possible to compensate for loss of watercourse with a different habitat type. Proposed woodland planting along watercourses and channels has been identified as one of the measures that could improve the watercourses by providing bank strength, sediment capture and shading (for aquatic life) and also improving the linear connectivity of the watercourse for wildlife. Additional improvement measures identified that collectively form the current package of compensatory works include design of realigned watercourse channels (138m, Part A) to be better (in terms of environmental condition and biodiversity value) than that lost, retrospective installation of fish baffles on the existing culvert of the River Lyne (Part A), replacement of the wooden baffles within an existing culvert of Longdike Burn (Part A) to increase the life span of this feature and improvements to the 850m of Longdike Burn that falls within the Order limits. 3. The Applicant agrees that the term "wet woodland" does not accurately represent the habitat types that are proposed. As discussed during a meeting with the Environment Agency on 19/03/2021, it was agreed that such woodland creation along watercourses should more accurately be described as

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		"riparian woodland." This is acknowledged within Item 4.16 of the Applicant's Written Summary of Oral Submissions to Hearings [REP4-025]." 4. The Culvert Mitigation Strategy as submitted at Deadline 5 [REP5-022] details the lengths of riparian woodland that are to be planted on each watercourse as a result of the Scheme.
14	Section 4.1.4 states that 'the Scheme does demonstrate a measurable overall gain for priority woodland and wetland habitats.' We question these claims as we believe wetland habitats are referring to the 'marginal planting' within the detention basins. These are required as part of the drainage scheme and planting them with wetland species is a best practice technique. This cannot be claimed as mitigation or compensation.	1. In regard to the ecological impact assessment, the Environment Agency is not correct that best practice techniques cannot be claimed as mitigation. There is no published policy of which the Applicant is aware that supports this position. Best practice is developed to avoid or reduce the impacts of an activity, which is the definition of mitigation. In addition, habitat creation can represent compensation as well as being recognised as best practice. The logical extension of the Environment Agency's position is that where a new habitat is created it cannot be taken into account in respect of any benefits and, in particular, any collateral benefits. 2. In relation to the specific point raised here, the Environment Agency is correct that reference to wetland habitat relates to the marginal planting associated with detention basins. The Biodiversity No Net Loss Assessment for Change Request [REP5-038 and 039] is separate to the ecological impact assessment and does not identify mitigation or compensation measures. As detailed in paragraph 1.1.7 [REP5-038 and 039], "*The biodiversity assessment provides a quantitative benchmark to inform avoidance, mitigation and compensation measures designed to mitigate for habitat loss due to the Scheme. This includes informing habitat restoration and reinstatement proposals as well as new habitat creation*." Mitigation and compensation measures are identified as part of the ecological impact assessment presented within Chapter 9: Biodiversity Part A [APP-048] and Part B [APP-049]. 3. The Biodiversity No Net Loss Assessment identifies the change in biodiversity (measured in habitat biodiversity units) as a result of the Scheme. The change in biodiversity is identified by comparing all baseline habitats (i.e. existing habitats, informed by field surveys) with post-development habitats (informed by the Landscape Mitigation Masterplans (Part A [REP4-060] and Part B [REP4-053]), irrespective of their reason for being in place. The marginal planting represents habitat creation that provides a net gain in wetland habitat as a result of the Scheme.
15	We would welcome a package of works that would provide meaningful compensation for the loss of watercourses. We would encourage opportunities to compensate for this loss with equivalent river based units. Where river units or length are lost, common compensation measures could include the re-naturalising and re-meandering of heavily modified and straightened watercourses.	1. The Applicant considers the package of improvements detailed within Item 13 above to be sufficient to mitigate and/or offset the impacts of the Scheme with regard to loss of watercourse channel. However, in addition to the current package of works, the Applicant is exploring opportunities to improve lengths of other existing watercourses that fall within the Order limits to further compensate for the loss of watercourse channel. This forms part of the ongoing discussions with the Environment Agency, with the next meeting scheduled for 30/04/21. 2. In the Environment Agency's Comments on responses submitted for Deadline 4, Responses to ExQ2, Response to the Rule 17 request dated 30 March 2021 and Position Statement [REP5-044], the Environment Agency outlined that the culverting and loss of watercourses as a result of the Scheme could be offset / compensated outside of the DCO boundaries, this remains under discussion. A further meeting with the Environment Agency is scheduled for 7 May 2021 to discuss this matter.
6.32 Environmental Impact Assessment - River Coquet Geomorphology Modelling Assessment) [REP3-009]		
16	This assessment must be updated to reflect the activities outlined in the Deadline 4 Change Request Environmental Statement Addendums.	1. This approach has been considered and forms the basis for the approach adopted in dialogue with the Environment Agency. 2. A preliminary geomorphology assessment covering the Change Requests has been produced and considered within the assessment provided in Chapter 9 of the Environmental Statement Addendum:

Ref. No.	Response:	Applicant's Response:
		Stabilisation Works for Change Request [REP4-063] as well as Chapter 8 of the Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]. 3. The provision of a full geomorphology assessment based on outputs from hydraulic modelling will be provided and submitted at Deadline 7 of the Examination. These timescales have been agreed in discussion with the EA.
7.9.1.1 Annex A - Culvert Mitigation Strategy - Rev 0 [REP1-066]		
17	It is noted that the culvert mitigation strategy has been updated since deadline 1. We disagree that the 'new wetland' (sometimes referred to as marginal planting) can be claimed as mitigation. Therefore, the Applicant is misrepresenting the schemes benefits. Detention basins and SuDS are required as part of the drainage scheme and planting them with wetland species is a best practice technique. However, this cannot be claimed as a wetland and be provided as mitigation for the culverts.	1. Please refer to response ref 14 above. It is not correct that the applicant is misrepresenting benefits in any way.
18	The Applicant is not following the industry best practice for the culverts. We wish to see the design of the new channel influenced by some of the ideas presented in the River Restoration Centre Design Manual.	1. In relation to the culverts, the Applicant previously responded to this question in response 47 of Table 1-4 of REP5-029 which states: – The Scheme has been developed over a number of years, during which time the best practise guidance has been updated, the original design was undertaken in accordance with The CIRIA Culvert Design and Operation Guide (C689). However, in the intervening period this has been superseded by the CIRIA Culvert, Screen and Outfall Manual (C786). It should be considered that the best practise guidance has been developed to enable the safe passage of coarse fish, brown trout, sea trout and salmon. These would not be present in the vast majority of the watercourses crossed by the Scheme and therefore not directly relevant. Full justification of this on a watercourse by watercourse approach is provided in the Culvert Mitigation Strategy [REP1-066], as revised and submitted as part of Deadline 5 [REP5-022]. – The standards for the design of the Scheme, at the time of design, was HA107/04 Design of Culvert and Outfall Details, this requires a bed level of 150mm or 75mm for a ditch culvert. It is this standard which was applied in the design and previously discussed with the Environment Agency. – For Part A this was on 09/01/18, during which the Environment Agency agreed with the design approach of using the CIRIA Culvert Design and Operation Guide (C689). A further meeting was held with the Environment Agency on 05/09/18 during which details on the proposed bed levels and fish passage were discussed and agreed. – For Part B no specific meeting was held with the Environment Agency, and instead the Applicant adopted the same principles for Part B as there are only three watercourses here, which can accommodate a natural bed and all of which are culvert extensions. – The Applicant considers that the four broad principles outlined by the Environment Agency are not directly applicable to all the culverts impacted by the Scheme, for the reasons outlined below. This is because in a number of the watercourses there is insufficient water flow to support fish or other aquatic organisms for the majority of the year, these have been identified as ditches, it is these water features in which the applicant considers the four principles do not apply.

Ref. No.	Response:	Applicant's Response:
		– The inclusion or not of a natural bed within the new or extended culverts has taken many aspects into consideration, these include: • Carbon neutrality; • Potential for the natural bed to silt up; • Impacts on culvert size; • Construction impacts on the watercourses; and • Potential for changes in flow conveyance / flood risk. 2. The inclusion of a greater depth of natural bed than currently proposed would require a greater amount of embedded carbon as a result of a larger culvert. The larger culvert would result in greater bed and channel disturbance as a result of increased construction works. Full justification of this on a watercourse by watercourse approach is provided in the Culvert Mitigation Strategy [REP1-066], as revised and submitted as part of Deadline 5 [REP5-022]. 3. The Applicant therefore considers that the most appropriate depth of natural bed has been provided within the design, as previously agreed with the Environment Agency. Where a natural bed is not proposed, it is considered that any other aquatic organisms would be conveyed through the culverts in much the same manner as a relatively straight section of channel. 4. Notwithstanding the above, the Applicant remains in discussion with the Environment Agency over the design of the new culverts. This is detailed in the Environment Agency SoCG submitted at Deadline 5 [REP5-017]. It should also be noted that culvert design would be re-evaluated at the detailed design stage against the updated CIRIA guidelines with additional bed depths included where feasible. – In terms of the new channels the Applicant previously responded to this question in response 18 of Table 1-4 of REP5-029 which states: – The Applicant did not explore re-meandering of heavily modified and straightened watercourses because this would result in additional impacts (albeit short-term) and because, as outlined in the response to Item 2, the Applicant considers the package of improvements (detailed within Item 2) to be satisfactory to mitigate and offset the impacts of the Scheme with regards to loss of watercourse channel. However, in addition to the current package of works, the Applicant remains in discussions with the Environment Agency, over the need for further mitigation and/or compensation, and if required what form this will take. – The detailed design stage of the Scheme will use best practise such as those found within the Manual of River Restoration Techniques by the River Restoration Centre to support the detailed design of the Scheme, where this is relevant to any mitigation being proposed.
7.3 Outline Construction Environmental Management Plan - Rev 3 (CEMP) [REP4-013]		
19	We would welcome further details of how the Applicant is going to compensate for the loss of 86m to the River Coquets riparian and marginal habitat.	1. The Applicant assumes that the loss of 86m of riparian and marginal habitat of the River Coquet relates to the Stabilisation Works, as detailed in the Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063]. This value is correct when considering the Stabilisation Works alone. The Applicant notes that the works comprised in the Change Request (Stabilisation Works and Southern Access Works (as detailed in the Environmental Statement Addendum: Southern Access Works for Change Request [REP4-64])) would collectively result in the permanent loss of 131m of riverbank habitat as a result of proposed permanent scour protection measures. A response is provided against ref 47. 2. The Applicant acknowledges that as a HPI and habitat of a SSSI, compensation should be provided to the extent appropriate to the effects of the Scheme. The Applicant is exploring opportunities for

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		compensation for the loss of riverbank habitat through discussion with landowners. This may involve, for example, the restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir). The Applicant is also considering a proposal for funding of compensation received from the Environment Agency. The options for compensation are currently being reviewed and will be discussed further with the Environment Agency. The Applicant also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation.
20	We welcome the introduction of marginal planting as part of the road drainage system for the scheme. However, we would like confirmation from the Applicant that this marginal planting of detention basins has not been 'double counted', and classed as mitigation and/or compensation for the loss of watercourse due to the culverting and introduction of road drainage outfalls into the riparian environment. We have also reiterated our comments outlined in our response dated 12 March 2021 (reference NA/2020/115170/02-L01) which has not been addressed or incorporated into the CEMP by the Applicant.	1. Please refer to response ref 14. 2. The Applicant notes that the Environment Agency have stated that they have reiterated points from their 12 March 2021 response (Deadline 4) to which the Applicant responded to at Deadline 5. As such the Environment Agency would not have had sight of the responses as part of their Deadline 5 submission. The areas where there are key duplication of questions, include the definition of watercourses, riparian woodland, the nature of the compensation provided (including woodland planting, inclusion of natural beds in the culverts and the approach to otters). 3. In regard to the comments on the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6) these are addressed in the relevant sections below, noting that given the Applicant was and is in discussion with the Environment Agency over the nature of the compensation it was deemed premature to update the Outline CEMP. However, the Outline CEMP was amended to confirm that *"the CEMP will be approved by the Secretary of State following consultation with Northumberland County Council and other relevant bodies comprising the Environment Agency, Natural England and Historic England, to the extent that it relates to matters relevant to its function."*
Deadline 4 Submission - 7.17.6 Written Summaries of the Applicant's Oral Submissions to Hearings: Appendix F - Proposed Woodland and Marginal Planting Plan (Part A and B) [REP4-031]		
21	This clearly shows the vast majority of the woodland being planted as mitigation and compensation for the impact on the watercourse is neither 'wet woodland' as originally claimed nor riparian and is in fact broadleaf woodland. This habitat is not a water dependant habitat, has a different form and function and does not improve the watercourses affected by the scheme as the vast majority of this planting is disconnected from the watercourses. Therefore, we do not believe the proposals put forward by the Applicant adequately mitigates or compensates for the disturbance and damage to, and the loss of watercourses associated with the scheme.	1. As already noted, the term "wet woodland" is not now used. The term now used is "riparian woodland", to reflect that the planting that is incorporated in the Culvert Mitigation Strategy [Rep 5-022] is on the banks of the channels. The culvert mitigation strategy (and supported by Written Summaries of the Applicant's Oral Submissions to Hearings: Appendix F – Proposed Woodland and Marginal Planting Plan (Part A and B) [REP 4-031]) details the lengths of riparian woodland that are to be planted on each channel as part of the Scheme. 2. This riparian woodland is part of wider woodland planting as detailed in the Landscape Mitigation Masterplan Part A [REP4-060] and Landscape Mitigation Plan Part B [REP4-053], as previously requested by the Environment Agency, who requested that it forms part of a wider woodland and thus more sustainable and manageable. The parts of the woodland which are being counted towards the mitigation are the lengths adjacent to the channels, as shown Written Summaries of the Applicant's Oral Submissions to Hearings: Appendix F – Proposed Woodland and Marginal Planting Plan (Part A and B) [REP 4-031], and not the wider planting block. It should be noted that the exact species / mixture of planting as detailed in the landscape strategy will be finalised during detailed design to ensure that the most suitable riparian species for each reach are incorporated. 3. The Environment Agency have agreed with the Applicant that new watercourses cannot be constructed as part of the Scheme as to do this a source of water is required. The Applicant therefore considers that to offset the loss of channel improvements to the channels (which taking into account all constraints the most suitable approach is generally via planting) and enhancing culverts (where

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		feasible, given flood risk and Health and Safety considerations) are the most appropriate means to provide the required mitigation / compensation, where sufficient mitigation cannot be provided.
Water Framework Directive (WFD) Addendum [REP4-068]		
22	The scheme will result in significant disturbance to the water environment resulting from both the temporary works and loss of habitat due to the engineered bank stabilisation solution that is being proposed as part of the amendments to the scheme. This said, we do agree that it is unlikely the scheme will result in a deterioration to the WFD status of the Coquet from Forest Burn to Tidal Limit waterbody.	1. The Applicant considers that the statement by the Environment Agency over-emphasises the acknowledged impacts of the Scheme about which the Applicant has been perfectly frank. 2. In respect of the WFD, this is covered within Section 4 Compliance Assessment of the Water Framework Directive Addendum for Change Request [REP4-068], which concludes that the works proposed would not cause deterioration and that the wider waterbody objectives set out in the published River Basin Management Plans would not be compromised. The impact assessment concluded that the impacts would not conflict with compliance or cause deterioration to water body status. The Applicant notes the EA's agreement with respect to deterioration to the WFD status.
23	However, we do not agree with paragraph 5.1.5 which suggests rock armour will provide adequate and suitable mitigation for the loss of 62m of riparian marginal habitat. The action of replacing a natural riparian marginal habitat with an engineered one will result in the loss of valuable riparian habitat. Appropriate compensation for the loss of this riparian habitat has not yet been provided. We would welcome further details of how the applicant is going to compensate for this loss of 86m of river bank.	1. It is important to note that there are a number of assessment regimes under consideration here. In relation to impacts upon habitat of principal importance, it is accepted that to the extent there is a replacement of riparian marginal habitat by a hard engineered habitat then compensation is an appropriate response. The Applicant continues to work constructively with the Environment Agency in this regard. 2. However, under the provisions of the Water Environment (WFD) regulations, there is no legal requirement for compensation. This is further supported by the overarching Directive that also does not have a provision/requirement for compensation. 3. Therefore, the suggestion by the Environment Agency that there is a need for compensation under the WFD head is not correct. 4. As noted above at line 22, the Agency has accepted that "*we do agree that it is unlikely the scheme will result in a deterioration to the WFD status of the Coquet from Forest Burn to Tidal Limit waterbody*."
Statement of Common Ground [REP4-018]		
24	We are working with the Applicant to address the issues outlined in this letter and in our previous correspondence.	1. No response required.
Draft DCO		
25	We require further discussion with the Applicant before we can comment on the acceptability of the Protective Provisions and the Requirements. The proposed changes submitted on 12 March 2021 and if accepted, may have implications on the Protective Provisions and Requirements required for the DCO	1. It is noted that the EA indicate that revisals may be required to the protective provisions and requirements. The Applicant has sought clarification from the EA of any changes sought (most recently on 28 April) but no response has yet been received,
Written Representations		
Deadline 4 Change request Environment Statement Addendums [REP4-058, REP4-060 REP4-061 REP4-062 REP4-063 REP4-064 REP4-065]		

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Environmental Impacts and Compensation Measures		
26	The proposed activities outlined in the Deadline 4 Environmental Statement Addendums are considered to be a significant variation to the original proposals. It will result in the loss of and/or significant damage to the riparian and in-channel habitats within the DCO boundary. The mitigation measures outlined in 6.40 Environmental Statement Addendum: Southern Access Works - Rev 1 [REP4-064] only partially lessen the impact, and cannot be viewed as an appropriate alternative to a naturally functioning system.	1. The Applicant acknowledges significant effects as a result of the proposed changes, as set out within Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]: – Significant effect (direct, permanent, Moderate Adverse) due to the loss of riverbank habitat in the River Coquet and Coquet Valley SSSI as a result of the proposed hard engineered scour protection to the north and south banks of the river. – Significant combined residual effect (Moderate Adverse) during construction as a result of both the biodiversity and road drainage and the water environment effects on the River Coquet. 2. The Applicant considers the mitigation measures outlined in Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064] to be reasonable and appropriate. 3. However, The Applicant acknowledges that as a HPI and habitat of a SSSI, compensation should be provided to reflect the extent of change experienced. The Applicant is exploring opportunities for compensation for the loss of riverbank habitat through discussion with landowners. This may involve, for example, the restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir). The Applicant is also considering a proposal for funding of compensation received from the Environment Agency. The options for compensation are currently being reviewed and will be discussed further with the Environment Agency. The Applicant also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation.
27	We are dissatisfied with the level of assessment and compensation for the hard engineering rock amour proposed on the north and south banks. The River Coquet and Coquet Valley Woodland Site of Special Scientific Interest (SSSI) has been formally recognised as a Habitat of Principal Importance (HoPI). This habitat is identified under England's Biodiversity Strategy (EBS) and is listed under section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Section 40 (Duty to conserve biodiversity) of the NERC Act 2006 states that a public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity. This approach is also supported by paragraphs 5.20 – 5.38 National Policy Statement for National Networks which states that Applicant's should ensure that the environmental statement clearly sets out any likely significant effects on internationally, nationally and locally designated sites of ecological or geological conservation importance on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity and that development should avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives.	1. The Applicant does not accept that the assessment is unsatisfactory. 2. The Applicant considers their duty as a public authority under Section 40 of the NERC Act 2006 to be met with respect to the Scheme. 3. Highways England was appointed as a strategic highways company by way of an Order in accordance with section 1 of the Infrastructure Act 2015. Its legislative functions are set out in a licence which states that, "*In complying with 4.2(g) and its general duty under section 5(2) of the Infrastructure Act 2015 to have regard to the environment, the Licence holder should: a. Ensure that protecting and enhancing the environment is embedded into its business decision-making processes and is considered at all levels of operations*". As such, Highways England has regard to the purpose of conserving biodiversity and in particular has regard to the United Nations Environmental Programme Convention on Biological Diversity of 1992. 4. Environmental Statement - Chapter 3 Assessment of Alternatives [APP-038] sets out the process the Applicant has completed to consider reasonably alternatives to the Scheme and documents the environmental assessment undertaken when considering these reasonably alternatives. As part of the evolution of the scheme design, the Applicant considered a number of options for both the design of the River Coquet bridge and its construction; the option with the lowest environmental impact on the river channel was selected. 5. Chapter 9 Biodiversity Part A [APP-048] documents the biodiversity assessment undertaken, with mitigation measures provided to reduce effects which could not be avoid through scheme design. 6. On-going Scheme design development has necessitated additional works as described in Chapter 2 of Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]. It is noted in Chapter 2 of Environmental Statement Addendum: Southern Access Works for Change

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		Request [REP4-064] that a benefit of the Southern Access Works is to reduce impact on the southern bank of the River Coquet and Coquet Valley Woodland Site of Special Scientific Interest (SSSI) by removing the need for vehicular access from the south. 7. Chapter 3 (Assessment of Alternatives) of both Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064] set out how the design has further evolved to minimise impacts on the SSSI and HPI designations. 8. The assessments reported in Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064] have taken full account of the River Coquet and Coquet Valley Woodland SSSI and HPI designations and clearly set out the likely significant effects on these designations. Within Section 8.8 (Environmental Statement Addendum Stabilisation Works for Change Request [REP4-063]) and Section 7.8 (Environmental Statement Addendum Southern Access Works for Change Request [REP4-064]), the HPI designation of the River Coquet is recognised, with impacts assessed as part of the impact assessment of the SSSI designation. A direct permanent moderate adverse effect is reported within Section 8.10 (Environmental Statement Addendum Stabilisation Works for Change Request [REP4-063]) and Section 7.10 (Environmental Statement Addendum Southern Access Works for Change Request [REP4-064]). 9. The Applicant acknowledges that as a HPI and habitat of a SSSI, compensation should be provided so far as appropriate having regard to the impacts of the Scheme. The Applicant is exploring opportunities for compensation for the loss of riverbank habitat through discussion with landowners. This may involve, for example, the restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir). The Applicant is also considering a proposal for funding of compensation received from the Environment Agency. The options for compensation are currently being reviewed and will be discussed further with the Environment Agency. The Applicant also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation.
28	The proposals outlined in the 6.40 Environmental Statement Addendum: Southern Access Works - Rev 1 [REP4-064] will result in the local deterioration of a largely unmodified section of river SSSI. River SSSIs represent the best examples of the different types of rivers within England. The multiple pressures our rivers are under means that only a small percentage of England's rivers are still considered unmodified.	1. Whilst the Environment Agency refers to the location as "*a largely unmodified section of River SSSI*", this accepts that this is not an unmodified system. As such, the Applicant considers that its approach is supported. 2. Site information collated by the Applicant and set out in Section 9.7 of Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Section 8.7 of Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064] demonstrates that the reach (defined by the confined gorge channel typology (approximately 1.4 km)) is more modified than is suggested. The north bank within the reach of the proposed works exhibits evidence of previous modification. This includes modifications associated with the construction of the existing crossing, including means for access, and a highway related drainage outfall (with associated rock armour protection). The south bank also exhibits modification with encroachment into the channel from river training works associated with the existing southern bridge pier. A total length of 35m, including the pier and the river training works upstream and downstream of the pier. Approximately 640m downstream of the proposed works, a river-wide weir impounds the river creating a backwater effect which extends approximately 300-350m upstream (to within 300-350m of the proposed works). 3. As such, this particular reach is not "*largely unmodified*" and its sensitivity to change of the nature and extent proposed is reduced.

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29	It is unclear how the Applicant considers the ancient semi-natural woodland within the SSSI as irreplaceable, equating its loss as a major adverse impact. Yet the loss of similar habitats within the riparian corridor, combined with the loss of aquatic habitat and the fixing and simplification of the channel as a minor adverse impact. They are both finite, vulnerable resources, and we consider it unacceptable for the Applicant to conclude that the proposals submitted have a minor to negligible adverse impact, and therefore do not require compensatory provision.	1. The Applicant would note that the woodland and river components of the SSSI are separate and has assessed these components separately. The ancient woodland of the SSSI (south bank) is not adversely affected by the works comprised in the Change Request beyond the extent assessed and addressed within Chapter 9: Biodiversity Part A [APP-048] and the Ancient Woodland Strategy for Change Request [REP4-054 and 055]. 2. The loss of riverbank habitat is unlikely to affect the integrity of the SSSI or its ecological function, due to the short length of bank habitat affected (in comparison to the wider SSSI unit) and the predicted minor adverse impacts to geomorphology (Table 9-8, Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Table 8-8, Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]). However, the loss of riverbank habitat is concluded to result in a significant effect (direct, permanent Moderate adverse effect) to the SSSI (paragraph 8.10.6, Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and paragraph 7.10.6, Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]). As such, it is incorrect for the Environment Agency to suggest that the impact is in some way down-played. 3. On the contrary, the Applicant acknowledges that as a HPI and habitat of a SSSI, compensation should be provided to reflect the extent of change experienced. The Applicant is exploring opportunities for compensation for the loss of riverbank habitat through discussion with landowners. This may involve, for example, the restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir). The Applicant is also considering a proposal for funding of compensation received from the Environment Agency. The options for compensation are currently being reviewed and will be discussed further with the Environment Agency. The Applicant also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation.
Geomorphology		
30	The Applicant has failed to take into account the medium to long term impacts of the proposals. Specifically, the rock armouring of the riverbanks will permanently fix the riverbed and banks, restricting and influencing the form and function of the river well past 125 year lifetime of the bridge.	1. It is incorrect to state that the Applicant has "*failed to take into account the medium to long term impacts of the proposals*." 2. On the contrary, Table 9-8 Chapter 9 Road Drainage and the Water Environment of the Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] acknowledges that the change in materials from which the north bank is composed, would reduce the channel's ability to adjust. Paragraphs 9.10.40 and 9.10.41 set out that presence of bank protection is unlikely to alter future sediment supply to the reach, of which the north bank is not considered to be an important source of sediment. The impacts from the Stabilisation Works are local to the works and unlikely to affect the form or function of the river beyond the immediate locality of the works. The bank protection works are not considered to change the morphological behaviour of the reach, or the function as a sediment transfer zone. 3. The impacts on sediment regime, natural fluvial processes and morphology will be set out following analysis of the outputs from the hydraulic modelling. This will be reported and submitted to the Examination at Deadline 7 as the Environment Agency itself has helpfully acknowledged. 4. Should the structure (bridge) not plan to remain operational beyond the intended 120 year design life, then it would be decommissioned along with all other supporting elements of the scheme (rock armour etc.). However, it should also be noted that the assessment design year should be – as is normal – 15 years and not 125 years.

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31	The three Geomorphological Assessments (6.32 Environmental Impact Assessment - River Coquet Geomorphology Modelling Assessment [REP3-009], 6.7 Environmental Statement - Appendix 10.7 Geomorphology Assessment - River Coquet Parameter 10 - Part A [APP-260], and 6.7 Environmental Statement - Appendix 10.4 Geomorphology Assessment - River Coquet Part – A [APP-257]) describe a stable, bedrock controlled, reasonably uniform channel. If the rock armour is installed in a fashion that mimics the natural bank profile, and does not extend into the channel, then as reported, the impact on current flow and sediment regime will be largely limited. However, rivers are rarely stable for extended period's time, and generally exhibit dynamic equilibrium. 6.7 Environmental Statement – Appendix 10.7 Geomorphology Assessment – River Coquet Parameter 10 - Part A [APP-260] and the Valley Slope Assessment within 6.38 Environmental Statement Addendum: Stabilisation Works - Rev 1 [REP4- 063] both record slope processes that will and have actively influenced the channel. These include rock falls, slope failures, landslides and individual large boulders. When these process reach the channel they drive change, add complexity, and alter flow and sediment dynamics.	1. The Applicant accepts the characterisation of the gorge and its geomorphology. The Applicant's assessment takes account of the features of the gorge and the River Coquet. 2. There have been a number of valley side failures within the gorge, which have delivered sediment to the river. These failures will have historically supplied material to fluvial system and, at some locations in the gorge, continue to do so through the erosion of their toes. The change to planform caused by these failures is likely to be temporary and localised as fluvial action removes finer failed sediment, however large boulders may continue to have an influence on local flow conditions over longer periods. 3. Specifically, at the location of the north bank works, a wide, relatively gently sloping area adds significant lag to input of sediment from failures of the upper valley side to channel, as it will rest in this gently sloping area until removed by flooding. 4. On the south bank, the primary route for delivery of material from the valley side to the river is rockfall. Some rockfall will be arrested by the presence of trees and some will make it to the river. In the long term, the presence of rock armour on the south bank is unlikely to affect rockfall pathways to the river, if such rockfalls would have been sufficiently energetic to reach the river anyway.
32	The large boulders recorded within the study reach are an example of these random events. These boulders provide pockets of reduced flow velocity, and therefore provide the conditions for the deposition of sediment. Depositional features within a bedrock dominated channel are infrequent. These areas provide habitat niches for invertebrates, fish, aquatic and terrestrial plants. Without the random supply of material from the surrounding gorge slopes they wouldn't occur.	1. These characteristics have been taken into account in its assessment as set out in the overarching baseline conditions of Appendix 10.7 Part A Geomorphology Assessment of the ES [APP-260]. 2. The Applicant acknowledges that these events are an important characteristic of the gorge as a whole and episodically supply sediment to the fluvial system, but the Applicant does not consider these events to individually fundamentally alter the nature of the gorge and cause a formative threshold to be crossed. These events will nonetheless continue to occur outwith the extent of the stabilisation works, and will therefore be unaffected. 3. At the specific location of the north bank stabilisation which covers a short extent of the gorge, whilst landsliding has occurred in the past under post-glacial climatic conditions the area it is unlikely to naturally supply sediment or alter the planform of the river through failure during the design life of the bridge were the stabilisation measures not to be put in place. However, there is a risk of reactivation of instability affecting the bridge at this location necessitating stabilisation. 4. The Applicant agrees that depositional features within a bedrock dominated channel are infrequent. The Applicant sets out mitigation in Table 9-5 and Table 9-6, Chapter 9: Road Drainage and the Water Environment of the Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063], where impacts on depositional features may be impacted during the proposed works. This includes mapping and photographing features (boulders) prior to construction, with these removed and stored at the onset of construction. Upon completion of construction, these depositional features would be reinstated where practicable, with placement according to the surveyed data. 5. As the Examining Authority has accepted the change requests, Table E-1 – Additional Mitigation Measures for the Register of Environmental Actions and Commitments in the Environmental Statement: Stabilisation Works for Change Request [REP4-063] has been incorporated into the Outline CEMP [REP5-012 and 013] and submitted at Deadline 6. As detailed in commitment SW-W4 of Table 3-5 of the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6), prior to construction, any sedimentary bed features that will be mapped and photographed, and boulders (>0.5 m) will be surveyed, numbered and marked to show orientation relative to the channel bed. At onset of the

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		construction phase, these sediments will be removed and stored. Upon completion of construction, the sedimentary bed features will be reinstated where practicable, with boulders placed according to the surveyed data.
33	There is also evidence that larger slope failures play a role in influencing channel change and diversity. Towards the bottom end of the study reach, the river followed a more north course, before it was forced southwards by a landslip. Such occurrences are described as threshold events. These events temporally override the dominant control mechanism. By their nature they add sediment to the channel (fine and coarse) diversify flow conditions, and support the development of features such as bars, riffles etc that are generally absent or rare within bedrock dominated channels.	1. The Applicant agrees with the overarching processes described, which is acknowledged in the baseline description of the Study Area presented in Appendix 10.7 Part A Geomorphology Assessment of the ES [APP-260]. 2. However, the slope stabilisation works are intended to be localised in their extent to the slopes around the proposed north bank pier location and necessary for the integrity of the bridge pier foundations. In this location, as described in response 31, the slope is not likely to provide sufficient sediment supply to replicate these occurrences noted downstream. In addition, the processes described would likely operate on a much longer timescale than is being considered in the context of the River Coquet bridge crossing.
34	By only considering the short term impacts of the rock armouring, the River Coquet Geomorphology Modelling Assessment [REP3-009] fails to consider these medium and long term drivers that add diversity to a bed rock dominated channel.	1. The River Coquet Geomorphology Modelling Assessment [REP3-009] does not contain the analysis of the proposed rock armouring that report deals with the submitted in the original application. 2. The report specifically address the Environment Agency responses raised to Appendix 10.4 Part A Geomorphology Assessment [APP-257] and Appendix 10.7 Part A Geomorphology Assessment [APP-260] of the ES. 3. The scope of the geomorphological modelling which is reported in REP3-009 was agreed in advance at a consultation meeting with the Environment Agency on 10 December 2020 and the minutes of that meeting were shared with the Environment Agency. 4. It was agreed that the scope would focus specifically on assessing the impacts of the two alternative designs assessed in Appendix 10.4 Part A Geomorphology Assessment [APP-257] and Appendix 10.7 Part A Geomorphology Assessment [APP-260] of the EA only. 5. To address the points to which the Environment Agency refers, reference should instead be made to Chapter 9: Road Drainage and the Water Environment of Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Chapter 8: Road Drainage and the Water Environment of Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064] presents a geomorphological assessment for the Stabilisation Works and Southern Access Works which includes consideration of the long term potential impacts of the proposed works. Further geomorphological analysis is being undertaken for the Stabilisation Works and Southern Access Works and will be submitted at Deadline 7 of the Examination, as agreed with the Environment Agency.
35	The proposals associated with the stabilisation works and southern access will decouple the slopes from the channel, thereby preventing the processes described above from happening. They will also significantly restrict how the channel responds if any of these slope process occur up or downstream of the rock armoured reach.	1. The Applicant agrees that the north bank proposals may have the potential to decouple the slopes from the channel. However, as outlined in response reference 33 above, the north bank slope in the location of the works does not provide a sufficient supply of sediment or rockfall inputs to the channel. 2. For the south bank, the primary route for delivery of material from the valley side to the river is from rockfalls. It is anticipated that any rockfalls on the south bank could still reach the channel, as the slope is steeper compared to the north bank, with some being arrested by the presence of trees. On this basis, it is not anticipated that the south bank slope processes would be decoupled from the channel by the presence of rock armour. 3. As noted in response ref 33, the location of the Stabilisation Works is intended to be local to the proposed north pier location, and for the south bank works are again in the immediate vicinity to proposed works associated with the southern pier.

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		4. On this basis, the proposals will not significantly restrict how the channel responds should these slope processes occur upstream or downstream.
36	The rock armour, will permanently fix the river channel and bed in its current position. The slope stabilisation piles will decouple the channel from the gorge sides, thereby preventing the supply of sediment to the channel. Flow and channel features will become these varied, thereby reducing the number and diversity of the species able to utilise the area. The proposals will also influence channel response and development beyond the footprint of the works (both up and downstream), thereby extending the potential range of deterioration.	1. The form of the catchment is controlled by the underlying geology and topography, the dominance of bedrock suggests that the timescales for adjustment are over hundreds to thousands of years, with lateral adjustment of the channel and bed constrained by the valley form. The rock armour would not be a barrier to any lateral movement, which would be non-existent anyway. 2. As detailed in response 31 above, specifically at the location of the north bank works, a wide, relatively gently sloping area adds significant lag to input of sediment from failures of the upper valley side to channel, as it will rest in this gently sloping area until removed by flooding. Furthermore, the north bank at the proposed location of the Stabilisation Works does not provide an important supply of sediment to the channel. 3. The Applicant does not agree that the proposals would impact the channel response beyond the footprint of the works and extend the potential range of deterioration for the reasons set out above. The bank protection works are not considered to change the morphological behaviour of the reach, or the function as a sediment transfer zone
37	By restricting or preventing these infrequent, yet clearly active slope processes, and by preventing the river from responding to them, there will be a progressive, long term deterioration of the channel, and the species it supports.	1. From the responses given above (31, 33 and 35) the Applicant acknowledges that there have been a number of valley-side failures within the gorge which has delivered sediment to the river. This situation is set out in the baseline description of the Study Area presented in Appendix 10.7 Part A Geomorphology Assessment of the ES [APP-260]. 2. Specifically, at the location of the proposed works on the north bank, exists a wide, relatively gently sloping area which adds significant lag to the input of any sediment from failures of the upper valley side to the channel. On the south bank, the primary route for delivery of material from the valley side to the river is rockfall. Some rockfall will be arrested by the presence of trees and some will make it to the river. 3. At the specific location for the north bank stabilisation which covers a very short extent of the gorge, while slips have occurred in the past under post-glacial climatic conditions the area is unlikely to naturally supply sediment or alter the planform of the river through failure during the design life of the bridge. However, there is a risk of reactivation of instability affecting the bridge at this location. 4. For these reasons, the Applicant does not agree that these processes being affected will lead to a progressive, long-term deterioration of the channel and the species it supports.
38	We welcome the commitment to undertake a quantitative geomorphological dynamics assessment, to assess potential changes in sediment transport, erosion and deposition, using additional topographic survey data and further hydraulic analysis. We would request that this enhanced undertaking includes a fresh assessment of the mobile sediment within the study reach. An assessment on the role the gorge plays in influencing channel planform and complexity through the supply of sediment either through landslips or large boulders is also requested. An assessment on the role the gorge plays in influencing channel planform and complexity through the supply of sediment either through landslips or large boulders is also requested.	1. The Applicant acknowledges the EA's response to the commitment of undertaking a quantitative geomorphological dynamics assessment. This will be completed with consideration of the outputs from the hydraulic modelling which is underway. This assessment will be submitted as part of the Examination at Deadline 7.

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39	The Applicant fails to adequately address the local yet permanent, moderate adverse effect of the river training works. Bank and bed features, including riparian vegetation, would be lost within the footprint of the temporary works. There may also be a requirement to 'key in' the temporary river training works to the bed, which may include removal of some bed material (including bedrock) to create a level surface on which to construct the retaining wall. The package of mitigation measures for the slope stabilisation and southern access have been updated, and we welcome this. However we believe delivering the measures will be challenging, and they will only partially lessen the impact, and cannot be viewed as an alternative to a naturally functioning system.	1. The Applicant disagrees with the comment *"moderate adverse effect"* for the river training works and that it has failed to address the effect. 2. The Applicant sets out the criteria for determining the magnitude of impact in Table 9-2 and Table 8-2 of Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064] respectively, which has been adapted from Table 5-2 of Appendix 10.7 Geomorphology Assessment – River Coquet Parameter 10 Part A of the ES [APP-260]. When assessing the proposed works, it was determined that the magnitude of impact on geomorphology is considered to be of minor adverse magnitude, as a result of the localised nature and limited extent of any changes. 3. The Applicant agrees with the comment that some of the bed and bank features would be lost within the footprint of the temporary works. This includes the potential removal of bed material (including bedrock) to create a level surface. The Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Environmental Statement Addendum: Southern Access for Change Request [REP4-064] sets out this impact in Chapter 9 and Chapter 8, respectively. 4. The Applicant acknowledges the complexity and potential challenges associated with the proposed mitigation. All mitigation plans will be further developed as the detailed design progresses and where necessary will seek the views of the relevant statutory consultees prior to the commencement of construction. 5. The Applicant does not suggest that measures incorporating a hard-engineered solution would be an "*alternative to a naturally functioning system*." Accordingly, it is considering the provision of compensatory habitat as well as alternative engineering solutions.
40	We consider the impact to be major adverse over the lifetime of the scheme, and therefore consider the need for compensation to be essential. A compensation scheme must be developed recognising that the proposals will lead to the local deterioration of a largely unmodified priority river SSSI.	1. The Applicant disagrees that the assessment should conclude that *"the impact [is] major adverse over the lifetime of the scheme"*. The Environment Agency has not carried out a reasoned assessment in line with a published methodology to arrive at this conclusion. As such, the assessment by the Environment Agency is unsupported. 2. The Applicant sets out the criteria for determining the magnitude of impact in Table 9-2 and Table 8-2 of Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064] respectively, which has been adapted from Table 5-2 of Appendix 10.7 Geomorphology Assessment – River Coquet Parameter 10 Part A of the ES [APP-260]. When assessing the proposed works, it was determined that the magnitude of impact on geomorphology is considered to be of minor adverse magnitude, as a result of the localised nature and limited extent of any changes. 3. The Applicant acknowledges that as a HPI and habitat of a SSSI, compensation should be provided to the extent appropriate having regard to the impacts of the Scheme. The Applicant is exploring opportunities for compensation for the loss of riverbank habitat through discussion with landowners. This may involve, for example, the restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir). The Applicant is also considering a proposal for funding of compensation received from the Environment Agency. The options for compensation are currently being reviewed and will be discussed further with the Environment Agency. The Applicant also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation.
Flood Risk		

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41	If the amendments are accepted we would expect to see the Flood Risk Assessment to be updated to reflect the latest proposals. More specifically, the flood risk implications of the proposed temporary bridge in certain scenarios such as high flow events, blockages and the potential for extreme events (e.g. for it to be washed downstream)	1. An addendum to the Flood Risk Assessment will be submitted at Deadline 7.
42	We are also expecting the proposed computational modelling to be referenced within the Flood Risk Assessment along with discussions on any issues it raises. The previous methods of assessment (Manning's equation) would not be suitable for assessing the risk of the temporary bridge crossing.	2. The Applicant can confirm that computational modelling will be referenced within the Flood Risk Assessment Addendum to be submitted at Deadline 7.
6.36 Environmental Statement Addendum: Earthworks Amendments - Rev 1 [REP4-061]		
Groundwater		
43	The changes in the proposed earthworks will result in substantial dewatering of groundwater. Whilst limited dewatering is exempt, the quantities that have been assessed in this case may be greater than those of the dewatering exemption, and as such may require a water resources abstraction licence from the Environment Agency (EA).	1. The Applicant accepts that there will be substantial dewatering. Additional mitigation is set out in Table D-1 – Additional Mitigation Measures for the Register of Environmental Actions and Commitments in the Environmental Statement: Earthworks Amendments [REP4-061] has been incorporated into the Outline CEMP [REP5-012 and 013] and submitted at Deadline 6. As detailed in commitment EA-W1 of Table 3-4 of the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6), a dewatering appraisal will be undertaken at detailed design stage to support a water resources abstraction licence application if required. Groundwater level monitoring will be undertaken to supplement the dewatering appraisal. A dewatering strategy will be developed preconstruction and implemented during construction. The Environment Agency will be consulted regarding the need for a water resources abstraction licence.
44	The dewatering assessment should consider impacts to unknown licensed and private water supplies and groundwater dependent designations such as peat bogs if present. All borrow pits are below groundwater level but only inflows (for dewatering) have been calculated for 4 and 5 which range between 1835 m3/d – 3670m3/d.	1. See response to item 5 above in relation to potential dewatering impacts to licensed and private water supplies and groundwater dependent designations (peat deposits), additionally, groundwater inflow estimates have also been completed for Borrow Pits 1, 2 & 3. This data is presented in the Borrow Pit Dewatering Plan [REP5-040]. 2. Peat deposits are absent at the borrow pit locations it is assumed that lateral connectivity with water bearing deposits is also limited and therefore any dewatering is unlikely to impact sensitive receptors (i.e. abstractions).
45	Equally the duration of the dewatering may determine whether it is an activity exempt from water resources abstraction licensing. Borrow pit 4 is to be retained as a detention pond. It was noted that the drainage strategy stated that all detention ponds were to be lined. Therefore, the dewatering should not be an issue long term, but the documents submitted do not make this clear. However, the lining proposals need to be provided to convert the borrow pit 4 into a detention basin or else long term dewatering will be necessary and may require licensing. Borrow pits 1 and 2 will be backfilled to surface with unknown	1. The duration of dewatering is presented for Borrow Pits 1, 2, 3, 4 and 5 in the Borrow Pit Dewatering Plan [REP5-040]. The basin schematics and design will be confirmed at detail design and approved by the Secretary of State, in consultation with the relevant planning authority and local flood authority, as set out in Requirement 8 of the dDCO [REP5-034 and 035]. 2. As detailed in paragraph 2.4.5 of the Environmental Statement: Earthworks Amendments [REP4-061], Borrow Pits A2E-CH590-SB-BPT-3 (Borrow Pit 3) and A2E-CH569-NB-BPT-4 (Borrow Pit 4) would be backfilled with suitable material and lined to form detention basins as set out in Appendix 10.5: Drainage Strategy Report Part A of the ES [APP-258] and Appendix 10.4: Drainage Strategy Report Part B of the ES [APP-314]. Borrow Pits A2E-CH586-SB-BPT-1 (Borrow Pit 1), A2E-CH591-SBBPT-2 (Borrow Pit 2) and A2E-CH570-NB-BPT-5 (Borrow Pit 5) would be backfilled with suitable materials as

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	methodology and it is unclear what will be done with borrow pits 3 and 5. As such further information is required.	detailed in Appendix A: Proposed Amendment to Temporary and Permanent Earthworks of the Environmental Statement: Earthworks Amendments [REP4-061]. 3. As the Examining Authority has accepted the change requests, Table D-1 – Additional Mitigation Measures for the Register of Environmental Actions and Commitments in the Environmental Statement: Earthworks Amendments [REP4-061] has been incorporated into the Outline CEMP [REP5-012 and 013] and submitted at Deadline 6. As detailed in Commitment EA-W2 in Table 3-4 of the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6), design and implementation of backfilled material within the borrow pits will be suitable fill material.
46	The site investigation boreholes do not record peat. But all borrow pits have base elevations below groundwater level in the bedrock. A plan which identifies the borrow pits, which require dewatering and daily quantity and duration/ restoration proposals should be submitted as part of the DCO submission.	1. The Borrow Pit Dewatering Plan [REP5-040] shows the borrow pits which require dewatering and daily quantity and duration/ restoration proposals.
6.38 Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063]		
Biodiversity		
47	Section 8.8.4 of '6.38 Environmental Statement Addendum: Stabilisation Works - Rev 1' [REP4-063] and section 7.8.4 of '6.40 Environmental Statement Addendum: Southern Access Works - Rev 1' [REP4-064] currently suggest the loss of 131m of HoPI river bank (north and south combined). The permanent loss of riverbank habitat is a result of construction of the temporary / permanent scour protection measures, and the loss of riverbank habitat represents an adverse impact to an ecological receptor of National importance as stated in section 8.10.6 of this document and paragraph 7.10.6 of 6.40 Environmental Statement Addendum: Southern Access Works - Rev 1 [REP4-064].	1. The works comprised in the Change Request (Stabilisation Works and Southern Access Works) would collectively result in the permanent loss of 131m of riverbank habitat as a result of proposed permanent scour protection measures. The river is identified as a HPI and also a qualifying feature of the River Coquet and Coquet Valley Woodlands SSSI (paragraph 8.8.2, Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and paragraph 7.8.2, Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]). Whilst the River Coquet represents a HPI, the flora and fauna of the river are qualifying features of the River Coquet and Coquet Valley SSSI. As such, impacts to the river habitat have been assessed as part of the impact assessment of the SSSI. The SSSI is correctly recognised within the ES Addendums as an ecological receptor of National importance. The loss of riverbank habitat comprises 90m of rock armour and 41m of green-grey erosion control (as detailed in paragraph 7.10.6 of Environment Statement Addendum: Southern Access Works for Change Request [REP4-064]). 2. The Environment Agency have incorrectly attributed that the statement "*unlikely to affect the integrity of the SSSI*" in relation to loss of bankside habitat as due to the replanting of woodland. The Applicant recognises that the woodland and river components of the SSSI are separate and has assessed these components separately. The ancient woodland of the SSSI (south bank) is not adversely affected by the works comprised in the Change Request beyond the extent assessed and addressed within Chapter 9: Biodiversity Part A [APP-048] and the Ancient Woodland Strategy for Change Request [REP4-054 and 055]. The loss of woodland from within the Coquet River Felton Park LWS (north bank) has been addressed within the Ancient Woodland Strategy for Change Request [REP4-054 and 055]. The woodland creation proposed as part of the Ancient Woodland Strategy for Change Request [REP4-054 and 055] has not been considered within the assessment to the river component of the SSSI. 3. The Applicant confirms that a sympathetic design approach is proposed for the hard-engineered scour protection (rock armour) and the green-grey solution, which would allow this to become naturally
48	Although the Applicant has stated that this is unlikely to affect the integrity of the SSSI or its ecological function as a whole due to the replanting of woodland, this does not address the loss of a specific water dependant habitat that is a major and significant component of the HoPI and a habitat. The loss of riparian habitat, one of the major components of the HoPI cannot be mitigated for by terrestrial block woodland planting disconnected from the watercourse. We do not agree that the banks 'would naturally become vegetated over time' as stated in section 8.9.7 of this document, and be of the same ecological value when viewed locally. The Applicant has failed to differentiate between the SSSI woodland and the HoPI river and only proposes compensation for the SSSI.	

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		vegetated over time. The Applicant has not claimed that this would result in the same ecological value when viewed locally. 4. The Applicant acknowledges that the proposed changes to the Scheme would involve the loss of bankside habitat from within the SSSI. The Applicant acknowledges that as a HPI and habitat of a SSSI, compensation should be provided to the extent appropriate having regard to the impacts of the Scheme. The Applicant is exploring opportunities for compensation for the loss of riverbank habitat through discussion with landowners. This may involve, for example, the restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir). The Applicant is also considering a proposal for funding of compensation received from the Environment Agency. The Applicant has recently conducted a site visit (20 April 2021) near Holystone and Hepple, located upstream of the Scheme, to meet with Forestry England and a private landowner. The options for compensation are currently being reviewed and will be discussed further with the Environment Agency. The Applicant also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation. 5. The loss of riverbank habitat is unlikely to affect the integrity of the SSSI or its ecological function, due to the short length of bank habitat affected (in comparison to the scale of the wider SSSI unit) and the predicted minor adverse impacts to geomorphology (Table 9-8, Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Table 8-8, Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]). However, the loss of riverbank habitat is concluded to result in a significant effect (direct, permanent Moderate adverse effect) to the SSSI (paragraph 8.10.6, Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and paragraph 7.10.6, Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]).
49	The structure of the riparian zone is also a consideration within the Water Framework Directive (WFD) under the morphology assessment. The inclusion of rock amour will result in the loss of natural vegetation interaction with the channel, and natural sedimentation process between the banks and the channel, impacting morphology and natural structure. 6.7 Environmental Statement - Appendix 10.2 Water Framework Directive Assessment Part A [APP-255] states that the 'loss of riparian habitat due to vegetation clearance within the construction zone results in 'consequential impacts on reduced roughness, increased flow velocity, stream power, and the ability for the river to erode and transport sediment.'	1. The Applicant agrees that the inclusion of rock amour will result in the loss of natural vegetation interaction with the channel, and natural sedimentation process between the banks and the channel, impacting morphology and natural structure. The Applicant would however note that locally, the banks are not considered to be an important source of sediment for the channel based on site surveys conducted by the Applicant. 2. The Applicant observes that 6.7 Environmental Statement - Appendix 10.2 Water Framework Directive Assessment Part A [APP-255] states that the 'loss of riparian habitat due to vegetation clearance within the construction zone results in 'consequential impacts on reduced roughness, increased flow velocity, stream power, and the ability for the river to erode and transport sediment.' The Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Environmental Statement Addendum: Southern Access for Change Request [REP4-064] sets out this impact in Chapter 9 and Chapter 8, respectively. When assessing the proposed works, it was determined that the magnitude of impact on geomorphology is considered to be of minor adverse magnitude, as a result of the localised nature and limited extent of any changes. 3. An Addendum to the WFD Assessment was submitted at deadline 4 of the Examination. The Water Framework Directive Addendum for Change Request [REP4-068], concludes that the works proposed will not cause deterioration and that the wider waterbody objectives set out in the published River Basin Management Plans will not be compromised.
50	In terms of mitigation, the Applicant is proposing to 'reinstate vegetation, with an appropriate native species mix, as soon as practicable.' 6.38 Environmental Statement Addendum: Stabilisation Works - Rev 1'	1. The EA appears to refer to the wrong document. The Applicant assumes this should be Water Framework Directive Addendum for Change Request [REP4-068]. The Applicant does not state that the rock armour will have the same ecological potential as the near natural northern river bank. Table 3

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	[REP4-063], '6.40 Environmental Statement Addendum: Southern Access Works - Rev 1' [REP4- 064], and 6.7 Environmental Statement - Appendix 10.2 Water Framework Directive Assessment Part A [APP-255] state that the rock armour will have the same ecological potential as the near natural northern river bank. However, they do not appear to have included any mitigation or compensation for this limiting factor.	of Water Framework Directive Addendum for Change Request [REP4-068] identifies impacts on the hydromorphology WFD quality element: – "Increased flow velocities, stream power and discharge during construction – Disturbance to fish migrations due to noise and vibration – Localised alteration to the cross-sectional area and channel depth within the construction zone – Potential for fine sediment input – Potential for larger particles sizes to become mobilised under high flows during construction – Loss of riparian habitat due to vegetation clearance within the construction zone 2. *The following mitigation is proposed:* – Mitigation, both embedded into design and included within the Outline CEMP [REP3-013 and 014] as updated at Deadline 4, would be implemented to minimise and, where practicable, eliminate impacts. – In river works would not occur during high flows. – Vegetation clearance would be minimised as far as practicable. – Reinstate vegetation, with an appropriate native species mix, as soon as practicable. The natural bed and banks (outside the extent of any permanent rock armour scour protection works) would be reinstated to the baseline profile and where feasible would be planted to facilitate recovery of the riparian structure." 3. The following conclusion is then drawn: "*The impact is not considered to pose a risk of failing current WFD status or preventing watercourse from meeting future WFD objectives.*" 4. The Applicant notes the Environment Agency's agreement that the Scheme is unlikely to result in a deterioration to the WFD status of the Coquet from Forest Burn to Tidal Limit waterbody. 5. Under the provisions of the Water Environment (WFD) regulations, there is no legal requirement for compensation. This is further supported by the overarching Directive that also does not have a provision/requirement for compensation.
51	Furthermore, a second large structure above the banks will likely reduce the direct light available to the vegetation that is currently present or will potentially establish post construction. This reduction in direct light has the potential to change the habitat suitability for large trees and may also limit the possibility for other dominant native species to develop. In turn, this may leave opportunities for undesirable species such as invasive non-native species to colonise the area, potentially reducing the biodiversity.	1. This comment was provided in the Environment Agency's consultation response to the non-statutory consultation for the Change Request. The Applicant provided a response at Deadline 4 within the Consultation Statement for Change Request (Appendix E, Table 3-2, Reference 15 [REP4-073]), which is set out below. 2. "*It is assumed that the reference to "a second large structure" relates to then new bridge over the River Coquet. Significant effects via increased shading have been considered within the assessment of Chapter 9: Biodiversity Part A of the ES [APP-048]. The proposed changes reported upon in Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064] would not alter this assessment*."
52	The assessment claims that the rock armour will vegetate. However, it does not appear to be justified or evidenced. On a modified bank where a large proportion of banks will be replaced with a hard surface, where silt and other potential substrates are deposited around the rock armour to act as a growing medium, it is possible that it will equally replace the existing natural substrate that support the plant communities present. It	1. The rock armour will comprise large boulders that will create voids and gaps, allowing natural deposition of sediment. This would allow for vegetation to naturally develop, as referred to within the ES Addenda (paragraph 8.9,7, Environmental Statement Addendum: Stabilisation Works [REP4-063] and paragraph 7.9.9, Environmental Statement Addendum: Southern Access Works [REP4-064]). 2. The works comprised in the Change Request (Stabilisation Works and Southern Access Works) would collectively result in the permanent loss of 131m of riverbank habitat as a result of proposed permanent scour protection measures. The proposed scour would comprise approximately 90m of rock

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	is likely that the rock armour will support a different vegetation community, likely taller ruderals that would be able to establish lower down and within the crevices and grow up taller through the gaps. This should be acknowledged, assessed and suitable mitigation or compensation provided.	armour and 41m of green-grey erosion control (as detailed in paragraph 7.10.6 of Environment Statement Addendum: Southern Access Works for Change Request [REP4-064]). 3. The Applicant agrees that in this instance, where a two-thirds of the proposed modified bank would be replaced by hard surface (rock armour), there is the potential that silt and other potential substrates would be deposited around the rock armour and act as a growing medium. This therefore has the potential to support the plant communities currently present. The Applicant does not agree that "it is likely" that the rock armour will support a different vegetation community but recognises the potential for this to occur. However, as stated within the Consultation Statement for Change Request (Appendix E, Table 3-2, Reference 16 [REP4-073], "*the assessment does not assume that the rock armour will support the same vegetation community.*" The rock armour would be allowed to naturally revegetate and therefore subject to natural succession of habitat development. 4. The Applicant has acknowledged that natural vegetation would occur within the impact assessments. It remains that a loss of riverbank habitat is identified as a Moderate adverse (significant) effect to the SSSI. The Applicant acknowledges that as a HPI and habitat of a SSSI, compensation should be provided for the loss of riverbank to the extent appropriate having regard to the impacts of the Scheme. The Applicant is exploring opportunities for compensation for the loss of riverbank habitat through discussion with landowners. This may involve, for example, the restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir). The Applicant is also considering a proposal for funding of compensation received from the Environment Agency. The options for compensation are currently being reviewed and will be discussed further with the Environment Agency. The Applicant also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation.
53	We would like clarity to whether the presence of trees near the rock armour would be acceptable from an engineering perspective, due to the impacts roots may have to the stability. If not, this should be factored into the assessment? Furthermore, in both the north bank and southern bank assessments, a single example of the existing riverbank is given in image 1. Image 1 shows some of the existing rocky banks of the southern bank and does not demonstrate the existing habitat and geomorphology of the northern bank in question which is known to be different. As there is no specific mitigation proposed it can only be assumed that the mitigation for works to banks are being counted within the woodland replacement scheme.	1. The rock armour required is large and has been sized at 0.8m -1m (dn50) to resist scour and weigh in excess of 2000kg. Trees close to the rock armour and associated roots would be acceptable and would not lead to instability in the protection system. This has been factored into the assessments undertaken. 2. Image 1 shows some of the existing rocky banks of the southern bank. Images 2 and 3 (Chapter 9 Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Chapter 8 Environment Statement Addendum: Southern Access Works for Change Request [REP4-064]) show areas of the northern banks. 3. It is not correct to state that no specific mitigation is proposed. Paragraphs 8.9.2 and 8.9.7 of Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063], Paragraphs 7.9.2 and 7.9.9 of Environment Statement Addendum: Southern Access Works for Change Request [REP4-064] and Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6) include mitigation measures relating specifically to the permanent scour protection (constructed using suitable materials to avoid changes in water chemistry) (Commitments SW-B1 and SAW-B1), designed so far as possible to be in keeping with existing natural rocky areas of the River Coquet (Commitments SW-B4 and SAW-B2), design should provide suitable sheltering habitat for aquatic invertebrates and juvenile fish and scour protection to naturally become vegetated over time (Commitments SW-B4 and SAW-B2)). 4. As detailed above in the response to Items 47 and 48, the woodland creation as part of the Ancient Woodland Strategy for Change Request [REP4-054 and 055] addressed impacts to woodland habitat associated with the River Coquet and Coquet Valley Woodlands SSSI and the Coquet River Felton Park LWS. This woodland creation has not been considered within the assessment to the river component of the SSSI.

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		5. The Applicant is considering softer, more natural alternatives to rock armour as part of the scour design process and structural design of the bridge foundations. The preliminary scour assessment is presented in Appendix F: Preliminary Scour Assessment of Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Appendix E: Preliminary Scour Assessment of Environmental Statement Addendum: Southern Access Works for Change 6. Request [REP4-064].
54	The current mitigation only reflects the loss of broadleaved woodland, and does not acknowledge the riparian zone, in which its current habitat structure and species composition is being lost as a result of the scheme. This separate habitat type, found on the banks and around the wetted channel, likely has different functions, value and considerations than broadleaved woodland. These habitat types and functions form part of a key consideration of the SSSI, which is of national importance. It is also a quality element and therefore key consideration under the WFD.	1. The Applicant has acknowledged and assessed both the loss of woodland habitat and loss of the riparian zone (termed riverbank) within the impact assessment for the Change Request. The Applicant agrees that the riverbank habitat represents a separate habitat type which likely has different functions, value and considerations to the woodland habitat. 2. Impacts to the woodland habitat (associated with the Coquet River Valley Woodlands LWS, north bank of the river) are addressed within the Ancient Woodland Strategy for Change Request [REP4-054 and 055]. The loss of woodland habitat because of the Change Request would result in a Moderate adverse effect to the LWS (paragraph 8.10.7, Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and paragraph 7.10.8, Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]). 3. The works comprised in the Change Request (Stabilisation Works and Southern Access Works) would collectively result in the permanent loss of 131m of riverbank habitat as a result of proposed permanent scour protection measures. The loss of riverbank habitat comprises 90m of rock armour and 41m of green-grey erosion control (as detailed in paragraph 7.10.6 of Environment Statement Addendum: Southern Access Works for Change Request [REP4-064]). The Applicant recognises the permanent scour protection would impact the current habitat structure and species composition of the riverbanks. 4. As a qualifying feature of the River Coquet and Coquet Valley SSSI, impacts to the river habitat have been assessed as part of the impact assessment of the SSSI. The loss of riverbank habitat is concluded to result in a Moderate adverse (significant) effect to the SSSI (paragraph 8.10.6, Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and paragraph 7.10.6, Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]). 5. The SSSI is correctly recognised within the ES Addendums as an ecological receptor of National importance. Under WFD legislation, there is no specific requirement to assess SSSI sites unless the site is specifically a groundwater dependent terrestrial ecosystem (GWDTE). In any other case, a SSSI has no relevance to WFD. The compliance assessment therefore does not assess the SSSI as the Coquet is not a GWDTE.Marginal/riparian habitat is assessed in the WFD compliance assessment as hydromorphology element.
55	The proposed scheme currently concludes that no further mitigation is proposed for the rock armour to the impacted riparian habitat, as broadleaved woodland compensation is proposed. Yet it also separately states that the installed rock armour would naturalise to reflect the southern bank, which cannot be used as a proxy. Again, this does not consider the current functioning and complexities of the riparian habitat currently present, part of the SSSI, and that it will be lost as a result of	1. It is not correct that a conclusion has been reached that no further mitigation is proposed for the rock armour as woodland compensation is proposed. As detailed in response reference 47/48 above, the woodland creation proposed as part of the Ancient Woodland Strategy for Change Request [REP4-054 and 055] to address the loss of woodland habitat has not been considered within the assessment to the river/riparian habitat. 2. The Applicant has sought to minimise impacts of the scour protection (mitigation) as far as reasonably practicable. The design of the permanent scour protection has been refined to include areas of green-grey solution to reduce the level of hard engineered scour protection. The scour protection comprises 90m of rock armour and 41m of green-grey erosion control (as detailed in paragraph 7.10.6 of

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	structural change that cannot be replaced in the direct envelope of the rock armour.	Environment Statement Addendum: Southern Access Works for Change Request [REP4-064]). Additional mitigation measures are presented in Appendix E, Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Appendix D, Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]. As the Change Request has been accepted by the ExA, these additional mitigation measures have been incorporated into the Outline CEMP [REP5-012 and 013] (updated at Deadline 6), within Tables 3-4, 3-5 and 3-6. Mitigation includes, as examples, the design of the scour protection so far as possible to be in-keeping with existing natural rocky areas of the River Coquet (Commitments SW-B4 and SAW-B2), the design of the scour protection should provide sheltering habitat for aquatic invertebrates and fish (qualifying features of the SSSI) (Commitments SW-B4 and SAW-B2), the design of the scour protection to allow it to become naturally vegetated over time (Commitments SW-B4 and SAW-B2), the use of suitable materials for the construction of the scour protection to avoid changes in water chemistry (Commitments SW-B1 and SAW-B1). 3. The Applicant has not stated "*the installed rock armour would naturalise to reflect the southern bank.*" The Applicant has stated that the permanent scour protection would be designed to be in keeping with existing natural rock areas of the River Coquet, with reference to an image of the southern bank, and that the permanent scour protection would be designed to naturally become vegetated over time (no reference is made to a comparison to the southern bank) (paragraph 8.9.7 and Image 1, Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and paragraph 7.9.9, Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]). 4. As a qualifying feature of the River Coquet and Coquet Valley SSSI, impacts to the riverbank habitat have been assessed as part of the impact assessment of the SSSI. The assessment also does recognise the function of the riverbank habitat and a geomorphology assessment has been undertaken. The geomorphology assessment identified slight adverse or neutral effects on the dynamics of water flow, water velocity, sediment regime and natural fluvial processes as a result of the proposed scour protection. The proposed works are considered unlikely to change the river typology and impacts are local to the works and therefore unlikely to impact the form or function of the river upstream or downstream beyond the immediate locality of the works. As such, a Slight Adverse (not significant) effect on geomorphology has been determined.
Geomorphology		
56	Section 2.4.7 states 'the worst case scenario for the scour protection is 86m of scour protection on the north bank, with 62m of rock armour plus an additional 24m of green-grey bank protection at the downstream end'. Details of appropriate compensation for the loss of this riparian habitat has not been provided. We would welcome further details of how the Applicant is going to compensate for this loss of 86m of river bank.	1. The Applicant acknowledges that as a HPI and habitat of a SSSI, compensation should be provided to the extent appropriate having regard to the impacts of the Scheme. The Applicant is exploring opportunities for compensation for the loss of riverbank habitat through discussion with landowners. This may involve, for example, the restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir). The Applicant is also considering a proposal for funding of compensation received from the Environment Agency. The options for compensation are currently being reviewed and will be discussed further with the Environment Agency. The Applicant also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation.
57	Section 2.2.6 outlines the justification for scour protection. We would welcome the inclusion of information detailing the alternative options that were considered which did not require rock amour and scour	1. The final detailed design of the scour protection has still to be determined and the change request has therefore been prepared to provide a sufficient "Rochdale envelope" in order to assess the impact of the maximum extent of the works and maximum impact. Alternative options that do not require rock

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	protection. A justification of why these options were rejected should also be included.	armour are still under investigation and will be presented in an options appraisal for Deadline 7 which will detail the justification for the preferred option. 2. The following additional options are being considered: 3. Large diameter Secant piles with reinstated bank (no rock armour) – Strengthened soil mix solution to consolidate bank – Sheet piles – No scour protection but regular inspection and potential for maintenance and remedial action 4. Therefore, the position is: – If scour protection in the form of rock armour is required, then the applicant accepts compensation may be appropriate; – If other engineering solutions are possible, these should be presented as well as the consequent impact on the riverine environment alongside the consequence for the provision of compensation 5. Appendix F of Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Appendix E of Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064] provides an overview of the preliminary scour assessment.
58	Section 8.8.4 (River Coquet and Coquet Valley Woodlands SSSI - River Course), point (c) should read 'Loss of and/or temporary damage to in-river habitat during the installation of temporary river training measures'.	1. The Applicant proposes to retain the current wording to reflect that impacts will be temporary, as following construction and removal of the temporary river training measures, in river habitats will re-establish over time.
59	With respect to fish, point (b) should include reference to lamprey. Point (c) should also read as 'Permanent or temporary loss of habitat during installation of river training measures'.	1. Point (b) - This list covers potential impacts to all fish species therefore specific reference to lamprey is not required. Lamprey are specifically mentioned in Section 7.9 Design Mitigation and Enhancement Measures in terms of fish rescues including searches for lamprey ammocoetes. 2. Point (c) – The Applicant proposes to retain the current wording. Permanent loss of bankside habitat is already covered by the existing wording, whilst temporary loss is covered in point (g).
60	Invertebrates section, point (d) should read as 'Permanent or temporary loss of habitat during installation of river training measures"	1. The Applicant proposes to retain the current wording to reflect that the impact will be temporary, as following construction and removal of the temporary river training measures, river habitats will re-establish over time.
61	In terms of section 8.8.5 (Operation), the slope stabilisation and scour protection will prevent this section of northern gorge supplying material to the channel. How significant will this de-coupling be, given that the large boulders and angular rocks within the channel, appear to come from the surrounding slopes? Do the landslips noted in the Appendix D River Coquet Valley Slope Instability play an important role in shaping channel planform, and/or supplying sediment to the channel? We would welcome clarity on these matters.	1. The Applicant acknowledges that there has been a number of valley-side failures in the gorge, which have delivered sediment to the river. The change to planform caused by these failures is likely to be temporary and localised. Specifically, at the location of the north bank works, a wide, relatively gentle sloping area adds lag to the input of sediment from failures of the upper valley side to the channel. 2. Chapter 9 of the Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] sets out that the bank is not considered to be an important source of sediment for the channel, so any decoupling would not have any material effect and not considered significant. 3. At the specific location of the proposed Stabilisation Works which covers a short extent of the gorge, whilst landsliding has occurred in the past under post-glacial climatic conditions the area itself is unlikely to naturally supply sediment or alter the planform of the river through failure during the design

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		life of the bridge were the stabilisation measures not to be put in place. However, there is a risk of reactivation of instability affecting the bridge at this location necessitating stabilisation.
62	Section 8.10.6 states that the loss of riverbank habitat within the SSSI, as a result of the Northern Stability Works will result in a direct and permanent Moderate Adverse effect. We do not accept that the implementation of the proposed mitigation measures will account for the loss, damage and disturbance to the habitat and function of the riparian and marginal zone. Any habitat associated with the scour protection will be degraded as compared to the natural bank, and the scour protection will not interact with the flow and sediment regimes of the river in the way a natural bank will.	1. Paragraph 8.10.6 of Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] states that the Stabilisation Works would result in a Moderate Adverse ecological effect on the River Coquet and Coquet Valley SSSI due to the loss of riverbank habitat. 2. Table 9-7 and Table 9-8 of Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] states that the Stabilisation Works would have a Slight Adverse effect (not significant) on the River Coquet's sediment regimes, channel morphology and natural fluvial processes during construction and operation. The dynamics of water flow are identified to be locally affected by the presence of scour protection at the channel margins due to changes in the bank roughness between the natural bank and proposed scour protection. The decrease in bank roughness results in a negligible change to the sediment entrained across the channel during the 2-year flood event, and +/- 1mm during the 200-year flood event. This would suggest that there would be minimal differences in the interaction of the scour protection compared with the natural bank. 3. The Applicant acknowledges that as a HPI and habitat of a SSSI, compensation should be provided to the extent appropriate having regard to the impacts of the Scheme. The Applicant is exploring opportunities for compensation for the loss of riverbank habitat through discussion with landowners. This may involve, for example, the restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir). The Applicant is also considering a proposal for funding of compensation received from the Environment Agency. The options for compensation are currently being reviewed and will be discussed further with the Environment Agency. . The Applicant also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation.
63	The scour protection is a permanent loss and/or a degradation of the natural riparian and marginal zone. Therefore, despite the successful implementation of mitigation measures, the loss, damage and disturbance to riparian and marginal zone remains at Moderate Adverse.	1. The Applicant agrees that the loss of river bank habitat would result in a moderate adverse effect after the implementation of mitigation. The assessment takes into account impacts to the SSSI already described in paragraph 9.10.2, Chapter 9: Biodiversity Part A of the ES [APP-048] of Very Large Adverse. In the context of the works described in the Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] the scour protection represents an effect on a small (less than 0.19%) section of an individual SSSI Unit which is unlikely to undermine the overall integrity of the SSSI.
64	Section 8.10.20: it is considered that the operational impacts of the scheme on the dynamics of water flow, water velocity, sediment regime and natural fluvial processes as a result of the proposed scour protection have yet to be assessed in detail. Therefore, the Applicant is unable to determine whether the impact will be Minor adverse or Negligible.	1. The geomorphological assessment presented in the Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] to determine operational impacts has been based on the results of hydraulic calculations of water level, velocity, stream power and sheer stress to assess potential changes in sediment transport, erosion and deposition. This allows for the assessment of the magnitude of impact of the proposed works, in line with the magnitude criteria, as presented in the ES Addendum. 2. The Applicant accepts that this has limitations in the assessment conducted with regards to the spatial extent of any changes. However, the geomorphological assessment presented in the Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] to determine operational impacts has been based on the results of hydraulic calculations of water level, velocity, stream power and sheer stress to assess potential changes in sediment transport, erosion and deposition. This method allows for an approximation of the magnitude of impact for the proposed works.

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		3. The Applicant will provide the full quantitative geomorphological dynamics assessment as part of previous commitments. This will be completed with consideration of the outputs from the hydraulic modelling which is underway. This assessment will be submitted as part of the Examination at Deadline 7. The assessment will seek to re-affirm the statement given in Paragraph 8.10.20, Chapter 8: Biodiversity (Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063]). This will allow for verification of the results and assessment presented in the ES Addendum and provide further detail on the spatial extents and changes in flow and sediment behaviours in the vicinity of the proposed works.
65	Section 9.8.14 refers to 11m of riverbank disturbed during the construction of the original bridge. Further details regarding the disturbance and how it differs from the adjacent natural riverbank is required.	1. As outlined in Paragraph 9.7.4 of Chapter 9: Road Drainage and the Water Environment (Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063]), following site visits carried out, the north bank exhibits evidence of previous disturbance as result of the previous bridge construction. This includes modifications associated with access for construction as well as a highways drainage outfall (with associated headwall detail). This is evidenced by the presence of made-ground presented in Figure D-1 of Appendix D: River Coquet Valley Slope Instability submitted in ES Addendum.
66	Table 9.6 (mitigation measures for operation): constructing the scour protection to mimic the natural bank profile will be challenging given the size of boulders required to provide the level of protection. It is also noted that in the Preliminary Fluvial Scour Risk Assessment, the design criteria proposed for the rock revetment comprises a rock size (dn50) of between 0.8m and 1m, installed two rock layers thick with a profile of 1:2 or steeper. The assessment also talks about installing a line of piles on the south bank. Further information regarding whether if it is possible to mimic the natural bank profile given proposals listed above is required.	1. The Applicant does not consider the requirement to mimic the natural bank profile challenging. To install the temporary works on the north bank, excavation of the bank would be required anyway. Upon completion of the temporary works, and where feasible and practicable, the profile of the existing bank would be replicated with the installation of the scour protection material to match the natural bank profile. The final sizing of any scour protection material will be determined as the detailed design process evolves. The Applicant is also looking at alternative engineering solutions.
67	Section 9.10.22: 3% of the riverbank within the gorge, within a SSSI, either lost or degraded is considered to be a significant impact. Documents 6.7 Environmental Statement – Appendix 10.7 Geomorphology Assessment – River Coquet Parameter 10 - Part A [APP-260], and 6.7 Environmental Statement - Appendix 10.4 Geomorphology Assessment - River Coquet Part – A [APP-257] previously stated that these habitats have evolved and developed over a long period of time. Not only is there a direct and permanent loss of habitat, but there is also the disruption to natural processes. Given the context of the site, it would be fair to assume that sections of riparian habitat would have taken 10's if not 100's of year to develop, and in some cases, would be on a par with the ancient semi natural woodland. The loss of ancient semi natural woodland is viewed as a major adverse impact, yet the loss of riparian habitat is considered minor adverse.	1. The Applicant disagrees with the characterisation of the loss/degradation as this does not reflect the calculations it has performed in its assessment. 2. The extent and proportion of bank loss as presented in Paragraph 9.10.22 of Chapter 9: Road Drainage and the Water Environment (Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063]) as a value of 3% is not accurate. The paragraph referred to states "the *context of the reach as defined by the confined gorge channel typology […], the proposed impacted bank length comprises approximately 2% of the total bank length within the gorge*." Paragraph 9.10.23 goes on to describe the impacted bank lengths in relation to the SSSI unit within which the Site is located. The proposed rock armour constitutes approximately 0.14% of the north bank length of the SSSI unit. The percentage 3% is not used. 3. It is correct that the proposed works would lead to a permanent loss of habitat. In terms of the assessment presented in Chapter 9: Road Drainage and the Water Environment (Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063]) any changes to natural fluvial processes would be very local, and minor. 4. The Applicant disagrees with the comparison between the loss of ancient woodland and the loss of riparian habitat. The riparian habitat (riverbank) of the River Coquet is not recognised as an irreplaceable habitat, unlike ancient woodland. There is no policy or guidance whatsoever that supports the assertion as to environmental equivalence made.

Ref. No.	Response:	Applicant's Response:
		5. As described in Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] the proposed works represent an effect on a small (0.19%) section of an individual SSSI Unit which is unlikely to undermine the overall integrity of the SSSI. As reported in the Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] the Stabilisation Works would result in a direct, permanent Moderate Adverse effect. This does not exceed the Very Large Adverse effect to the SSSI already reported for Part A as a result of the loss of ancient woodland habitat within the SSSI, as detailed in paragraph 9.10.2, Chapter 9: Biodiversity Part A of the ES [APP-048]. 6. As described in Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] an additional 0.28ha of ancient woodland is permanently lost as a result of the proposed changes. However, following the implementation of the revised Ancient Woodland Strategy Part A for Change Request [REP4-054 and 055]and additional measures detailed in paragraph 8.9.8 of the Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063], it is considered that the significance of effect to the LWS due to the loss of habitat remains the same, Moderate Adverse, as detailed in paragraph 9.10.3, Chapter 9: Biodiversity Part A of the ES [APP-048].
68	Images 2 and 3 (page 65 of 6.38 Environmental Statement Addendum: Stabilisation Works - Rev 1) [REP4-063] and images 1, 2 and 3 (page 41 and 64 of the 6.40 Environmental Statement Addendum: Southern Access Works - Rev 1) [REP4-064] highlight the complexity, variability and dynamic nature of the riparian zone. Can the Applicant explain why the loss of this complex habitat on the riverbank is minor yet when within the woodland it is considered major.	1. The Applicant would note that the impact assessment for loss of ancient woodland and that of riparian habitat are not directly comparable and whilst both are components of the SSSI, are separate and have been assessed separately. The ancient woodland of the SSSI (south bank) is not adversely affected by the works comprised in the Change Request beyond the extent assessed and addressed within Chapter 9: Biodiversity Part A [APP-048]. Paragraph 9.10.2, Chapter 9: Biodiversity Part A of the ES [APP-048] explains that the loss of 0.27ha ancient woodland habitat as a result of the Scheme would incur a very large direct, permanent adverse effect due to the irreplaceable nature of the habitat and the time to re-establish a woodland of similar ecological function. 2. The loss of riverbank habitat is unlikely to affect the integrity of the SSSI or its ecological function, due to the short length of bank habitat affected (in comparison to the wider SSSI unit) and the predicted minor adverse impacts to geomorphology (Table 9-8, Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Table 8-8, Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]). However, the loss of riverbank habitat is concluded to result in a significant effect (direct, permanent Moderate adverse effect) to the SSSI (paragraph 8.10.6, Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and paragraph 7.10.6, Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]).
69	Sections 9.10.25 – 9.10.31: we would welcome a better understanding of the Applicant's calculations, the number and location of the channel cross sections, and how these relate the baseline channel morphology.	1. The Applicant will provide the full quantitative geomorphological dynamics assessment as part of previous commitments to the Examination. 2. This will be completed with consideration of the outputs from the hydraulic modelling which is underway. This assessment will be submitted as part of the Examination at Deadline 7.
70	Section 9.10.35: in the absence of an updated geomorphological assessment to reflect the change requests to the scheme, we consider it too early to consider the operational impacts as Minor adverse.	1. The geomorphological assessment presented in the Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] to determine operational impacts has been based on the results of hydraulic calculations of water level, velocity, stream power and sheer stress to assess potential changes in sediment transport, erosion and deposition. This method allows for an assessment of the magnitude of impact of the proposed works, in line with the magnitude criteria set

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		out in the ES Addendum. The Applicant considers that it is not too early to determine the impacts as Minor adverse. 2. The Applicant will provide the full quantitative geomorphological dynamics assessment as part of previous commitments. This will be completed with consideration of the outputs from the hydraulic modelling which is underway. This assessment will be submitted as part of the Examination at Deadline 7. The assessment will seek to re-affirm the statement given in Paragraph 9.10.35 (Chapter 9: Road Drainage and the Water Environment (Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063])) that operational impacts on geomorphology is considered to be Minor adverse. 3. This will allow for verification of the results and assessment presented in the ES Addendum and provide further detail on the spatial extents and changes in flow and sediment behaviours in the vicinity of the proposed works.
71	Table 9.8 (Assessment of Effects During Operation), section 'north bank stabilisation including erosion protection': constructing the scour protection to mimic the natural bank profile will be challenging given the size of boulders required to provide the level of protection. It is also noted that in the Preliminary Fluvial Scour Risk Assessment, the design criteria proposed that the rock revetment comprises a rock size (dn50) of between 0.8m and 1m, installed two rock layers thick with a profile of 1:2 or steeper. The assessment also talks about installing a line of piles on the south bank. Further information regarding whether if it is possible to mimic the natural bank profile given proposals listed above.	1. See Ref. 66 for response.
72	Section 9.10.40: it is considered that the level of evidence to support this statement has not been adequately presented. In particular, we wish to have greater understanding of the following: The supply of sediment, especially boulders from the gorge sides has not been adequately assessed; • an accurate description of the changes to flow and sediment dynamics is reliant on the still to be updated hydraulic model; • whether the mobile sediment deposits within the channel will remain; and □ it is acknowledged that destroyed and damaged habitat will take years if ever to recover.	1. The geomorphological assessment presented in the Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] to determine operational impacts has been based on the results of hydraulic calculations of water level, velocity, stream power and sheer stress to assess potential changes in sediment transport, erosion and deposition. The Applicant would therefore suggest that there is sufficient evidence provided which allows for an assessment of the magnitude of impact of the proposed works. 2. In relation to the points raised: • The Applicant will provide the quantitative geomorphological dynamics assessment as part of previous commitments. This will be completed with consideration of the outputs from the hydraulic modelling which is underway. This assessment will be submitted as part of the Examination at Deadline 7. The assessment will seek to re-affirm the statement given in Paragraph 9.10.40, Chapter 9: Road Drainage and the Water Environment (Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063]), which states that the magnitude of impact on geomorphology process is considered to be minor adverse. The assessment will also provide further detail on the changes to flow and sediment dynamics. • Analysis, as detailed in the ES Addendum (Paragraph 9.10.31), shows that there may be very localised, very minor changes in depositional features adjacent to the scour protection but that there is unlikely to be any significant impact on the depositional features in the channel, away from the toe of the scour protection .

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		• The Applicant does acknowledge in the ES Addendum (Paragraph 9.10.12) that sedimentary bed features show indications of long-term stability and that impacted habitats may take a longer period of time to reform through natural deposition.
Appendix D Valley Slope Instability		
73	The report suggests that there have been a number of slope failures within the gorge, and it also infers that these historic events have influenced the planform of the river.	1. See response 74 below.
74	If this is the case, is it possible to describe the impact these would have had on the channel, both in terms of planform and the large rapid supply of materials?	1. There have been a number of valley side failures within the gorge, which have delivered sediment to the river. These failures will have historically supplied material to fluvial system and, at some locations in the gorge, continue to do so through the erosion of their toes. The change to planform caused by these failures is likely to be temporary and localised as fluvial action removes finer failed sediment, however large boulders may continue to have an influence on local flow conditions over longer periods. 2. Specifically at the location of the north bank works, a wide, relatively gently sloping area adds significant lag to input of sediment from failures of the upper valley side to channel, as it will rest in this gently sloping area until removed by flooding. 3. On the south bank, the primary route for delivery of material from the valley side to the river is rockfall. Some rockfall will be arrested by the presence of trees and some will make it to the river. In the long term, the presence of rock armour on the south bank is unlikely to affect rockfall pathways to the river, if such rockfalls would have been sufficiently energetic to reach the river anyway.
75	Furthermore, is it possible to determine whether these rare, but significant threshold events are an important driver in determining the nature of the channel within the gorge? If they are, what are the consequences of stabilising the area around the bridges?	1. These events are an important characteristic of the gorge as a whole and episodically supply sediment to the fluvial system, but as set out in Appendix 10.7 Geomorphology Assessment – River Coquet Parameter 10 Part A of the ES [APP-260] it does not consider these events to individually fundamentally alter the nature of the gorge and cause a formative threshold to be crossed. These events will in any event continue to occur outwith the extent of the stabilisation, and will therefore be unaffected. 2. At the specific location of the north bank stabilisation which covers a short extent of the gorge, whilst landsliding has occurred in the past under post-glacial climatic conditions the area it is unlikely to naturally supply sediment or alter the planform of the river through failure during the design life of the bridge were the stabilisation measures not to be put in place. However, there is a risk of reactivation of instability affecting the bridge at this location necessitating stabilisation.
76	The final point on page 1 of the report references erosion. We request that the area of erosion should be highlighted on the geomorphology field maps.	1. Mapping showing this will be submitted with the updated geomorphological assessment at Deadline 7. This does not affect the outcomes or assessment presented previously.
77	Where alternative pile configurations considered that would avoid the need for scour protection. If so, why were they discounted? We would welcome the inclusion of this information.	1. See Ref. 57 for response.

Ref. No.	Response:	Applicant's Response:
78	Figure D-1 is too small to read. We would therefore welcome the inclusion of clear scalable copy of the map.	1. A greater resolution map depicting the contents of Figure D-1 is provided in Appendix i Geomorphological Mapping.
Appendix F (Preliminary Scour Assessment)		
79	In developing the preferred option, can the Applicant confirm whether the environmental impacts considered as part of the assessment procedure? Furthermore, are there any options that will deliver the necessary level of protection without negatively impacting on the river? We would welcome the inclusion of this information.	1. Environmental impacts have been assessed based on an engineered rock armour solution. This scour protection solution has been selected for assessment as a reasonable worst case in advance of the detailed hydraulic assessment and the design process which is ongoing. Alternative options that are potentially less impactful are still under investigation and will be presented in an options appraisal for Deadline 7 which will detail the justification for the preferred option. It can be confirmed that environmental impacts will be considered for the options as part of the options assessment procedure.
Groundwater		
80	There are no mapped superficial deposits. Therefore, groundwater within the bedrock limestone unit (blue) and the stainmore formation (green) will be in hydraulic connectivity with the river and most likely providing baseflow. The groundwater is 0.6-4m below ground level in 6 peizometers where 5 are on the north bank, and only one on the south bank. Assuming that groundwater is 1m below ground and baseflow reduction to be not significant, localised atleration of flow path and or increased groundwater may still result from the development which may increase the flood risk, instability and erosion.	1. The groundwater level is shown to be between 0.6 m and 4m below ground level and is likely to be in connectivity with the river and provides a contribution to baseflows. 2. As the Applicant acknowledges in the ES Addendum, the proposed piling works would most likely cause increased and-or diverted groundwater and may cause minor increases for groundwater flooding. The Applicant has provided mitigation, as detailed in the paragraph below, by means of a preferential drain behind the piles. It is possible other activities could lead to minor changes in groundwater levels and flows, e.g. through ground compaction, possibly with a small increased contribution to flooding. The consideration of a preferential drain will be considered, where required, as the detailed design process evolves. 3. Table E-1 – Additional Mitigation Measures for the Register of Environmental Actions and Commitments in the Environmental Statement: Stabilisation Works for Change Request [REP4-063] has been incorporated into the Outline CEMP [REP5-012 and 013] and submitted at Deadline 6. As detailed in commitment SW-W1 of Table 3-5 of the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6), drainage arrangements will be designed to prevent build-up of groundwater behind the installed piles, if necessary.
81	Mitigation of a preferential drain behind the barrier/ piling (bridge footings) to redirect groundwater to a known and favourable location is accepted as a suitable and probably necessary mitigation.	1. The Applicant welcomes the acceptance of the mitigation proposed, which is set out in commitment SW-W1 of Table 3-5 of the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6), drainage arrangements will be designed to prevent build-up of groundwater behind the installed piles, if necessary..
6.40 Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]		
Geomorphology		
82	Section 7.8.4 Construction impacts (Construction - River Coquet and Coquet Valley Woodlands SSSI – river course: we recommend that points B, C and D replace "Temporary damage of" with "Permanent damage or degradation"	1. The Applicant notes that permanent damage or degradation is already identified in point B. 2. The Applicant proposes to retain the current wording of point C to reflect that impacts will be temporary, as following construction and removal of the temporary river training measures, in river habitats will re-establish over time.

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		3. The Applicant proposes to retain the current wording of point D. As explained in Table 8-7 of Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064], construction of the temporary bridge and temporary river training measures could create a short-term increase in the volume of fine sediment directly entering the channel and consequently increase turbidity. The restriction of flow and reduced channel width at all flows may alter the sediment transport capability of the river, enabling the transport of larger material at lower flows compared to the baseline. Impacts are likely to be temporary and reversible following completion of construction and reinstatement works. Presence of the temporary bridge, abutments and temporary river training works could alter the channel dynamics, which could result in increased erosion and sediment transport rates. Impacts may cease following end of construction.
83	Section 7.8.4 – fish, option D: the wording "Temporary damage of in-river habitat" should be replaced with "Permanent damage or degradation…"	1. This is not correct – see response above for Item 82.
84	Section 7.8.5 (Operation): the Environment Agency were also concerned about the loss of, and disturbance to the riparian zone and marginal habitats.	1. The loss of, and disturbance to the riparian zone and marginal habitats is specifically considered as part of the construction impacts in Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]. The paragraph referred to in this comment (Section 7.8.5) is discussing operational impacts of which the release of materials from scour protection may occur during flood events or following natural degrading of the scour protection over its lifespan.
85	Section 7.10.7 (Assessment of likely significant effect): we do not accept that the implementation of the proposed mitigation measures will account for the loss off and damage and disturbance to the habitat and function of the riparian and marginal zone. Any habitat associated with the scour protection will be degraded as compared to the natural bank, and the scour protection will not interact with the flow and sediment regimes of the river in the way a natural bank will.	1. The statement regarding implementation of the proposed mitigation measures is not correct. The proposed mitigation will not fully account for the loss of and damage to the riparian habitat. The assessment takes into account impacts to the SSSI already described in paragraph 9.10.2, Chapter 9: Biodiversity Part A of the ES [APP-048] of Very Large Adverse. In the context of the works described in Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064] the scour protection represents an effect on a small (less than 1%) section of an individual SSSI Unit which is unlikely to undermine the overall integrity of the SSSI. Therefore, it is considered that the assessment is appropriate to scale of the proposed changes presented in Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]. 2. The Applicant acknowledges that as a HPI and habitat of a SSSI, compensation should be provided to the extent appropriate having regard to the impacts of the Scheme. The Applicant is exploring opportunities for compensation for the loss of riverbank habitat through discussion with landowners. This may involve, for example, the restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir). The Applicant is also considering a proposal for funding of compensation received from the Environment Agency. The options for compensation are currently being reviewed and will be discussed further with the Environment Agency. The Applicant also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation.
86	The scour protection is a permanent loss and/or a degradation of the natural riparian and marginal zone. We therefore believe that despite the successful implementation of mitigation measures, the loss, damage and disturbance to riparian and marginal zone remains at Moderate Adverse.	1. The Applicant agrees that installation of the scour protection (90 m of rock armour and 41 m of green-grey erosion control measures) will result in a permanent loss and/or degradation to the riparian habitat. 2. The Applicant also agrees that with the implementation of mitigation measures, the significance of effect of this permanent loss of habitat would remain as moderate adverse.

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		3. The Applicant acknowledges that as a HPI and habitat of a SSSI, compensation should be provided to the extent appropriate having regard to the impacts of the Scheme. The Applicant is exploring opportunities for compensation for the loss of riverbank habitat through discussion with landowners. This may involve, for example, the restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir). The Applicant is also considering a proposal for funding of compensation received from the Environment Agency. The options for compensation are currently being reviewed and will be discussed further with the Environment Agency. The Applicant also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation.
87	Section 7.10.20: the operational impacts of the scheme on the dynamics of water flow, water velocity, sediment regime and natural fluvial processes as a result of the proposed scour protection have yet to be assessed in detail. It is too early to say that the impact will be Minor adverse or Negligible.	1. The geomorphological assessment presented in the Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064] to determine operational impacts has been based on the results of hydraulic calculations of water level, velocity, stream power and sheer stress to assess potential changes in sediment transport, erosion and deposition. This method allows for an assessment of the magnitude of impact of the proposed works, in line with the magnitude criteria set out in the ES Addendum. 2. The Applicant accepts that this has limitations in the assessment conducted with regards to the spatial extent of any changes. However, the Applicant will provide the quantitative geomorphological dynamics assessment as part of previous commitments to verify the assessments already reported. This will be completed with consideration of the outputs from the hydraulic modelling which is underway. This assessment will be submitted as part of the Examination at Deadline 7. The assessment will seek to re-affirm the statement given in Paragraph 7.10.20, Chapter 7: Biodiversity (Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]). 3. This will allow for verification of the results and assessment presented in the ES Addendum and provide further detail on the spatial extents and changes in flow and sediment behaviours in the vicinity of the proposed works. 4. The Environment Agency are now in receipt of the associated hydraulic models for their review requirements.
88	Section 8.8.13: the most recent geomorphological survey (26 January and 26 Feb 2021) identified approximately 11m of riverbank disturbed during the construction of the first bridge. To understand the role and impact of this feature, we request a short description accompanied by photos showing the feature, including the riverbank directly up and downstream.	1. As outlined in Paragraph 8.7.4 of Chapter 8: Road Drainage and the Water Environment (Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]), following site visits carried out, the north bank exhibits evidence of previous disturbance as result of the previous bridge construction. This includes modifications associated with access for construction as well as a highways drainage outfall (with associated headwall detail). 2. Photographic evidence will be provided as part of the detailed geomorphological dynamics assessment which will be submitted to the Examination at Deadline 7.
89	We recognise that off the 131m of riverbank protected by the scour protection, 41m will use a grey/green solution. However, whether grey/green or grey, bank protection fixes the bank permanently, cuts of a source of sediment, decouples the slope from the river and creates a hard edge altering flow and sediment dynamics along the margins.	1. The Applicant agrees that 41m of the 131m of riverbank protected by scour protection will use a green/grey solution, as set out in Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]. The Applicant agrees that any bank protection fixes the bank. As described in Paragraph 8.10.40 of Chapter 8: Road Drainage and the Water Environment (Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]), the banks in the vicinity of the proposed works are not considered to be an important source of sediment for the channel. Similarly, and impacts to natural fluvial processes would be localised to the area of permanent works.

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		2. Therefore, the Applicant does not agree that the consequences of the bank protection have a material impact.
90	8.10.19 states 'the loss of some bank features is unlikely to be reversible through natural processes in the short term. Bank features such as exposed roots, undercut banks, and exposed bedrock would have developed over a long period of time through the balance between fluvial bank erosion and stabilisation by tree growth'. Despite the best intentions of the mitigation measures they will not replace or emulate the function and complexity of the natural bank that is being lost.	1. The Applicant has acknowledged the loss of bank features as described in Paragraph 8.10.19 of Chapter 8: Road Drainage and the Water Environment (Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]). The extents of bank loss have been minimised as much as possible to accommodate the necessary scour protection measures. The Applicant also acknowledges that the design of the scour protection and its function cannot replace the complexity of the natural bank which is being lost. 2. In recognition of this, the Applicant acknowledges that compensation should be provided to the extent appropriate having regard to the impacts of the Scheme. The Applicant is exploring opportunities for compensation for the loss of riverbank habitat through discussion with landowners. This may involve, for example, the restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir). The Applicant is also considering a proposal for funding of compensation received from the Environment Agency. The options for compensation are currently being reviewed and will be discussed further with the Environment Agency. The Applicant also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation.
91	Section 8.8.17: the slopes of the gorge are a source of sediment, especially large boulders. The role of these boulders has been referenced a number of times in their role as anchor points allowing finer sediment to shelter around them. These depositional features within a bedrock	1. Part of the rationale for referring to the presence of large boulders and their presence on the banks/in the channel (likely sourced from rockfall) was to demonstrate their sizing in relation to the proposed rock armour, to show similarities and comparison. This illustrates a diversity in the river and allows for finer sediment to collect around them. As these are important bed features, mitigation measures have been detailed in the OCEMP to reinstate any directly impacted features. 2. The Applicant agrees that the presence of these features promote diversity in the habitats and allow for finer sediment to be sheltered.
92	The stabilisation of the north slope, combined with the scour protection on both banks could reduce or cut of this supply. The risks associated with this loss of large sediment needs to be assessed.	1. Refer to response 74 above for details on the supply of sediment to the channel. 2. The Applicant has provided the hydraulic models to the Environment Agency and will provide to the Examination at Deadline 7 the full quantitative geomorphological dynamics assessment as part of previous commitments. This will be completed with consideration of the outputs from the hydraulic modelling which is underway. This assessment will be submitted as part of the Examination at Deadline 7.
93	Table 8-4 (Potential Impacts on Fluvial Geomorphology During Operation), Natural fluvial processes section states 'the change in materials from which the bank is composed would, by necessity of design, reduce the channel's ability to adjust'. The bank protection works will locally prevent the channel's ability to adjust. Therefore, we recommend the word is 'reduce' is removed.	1. The Applicant notes the suggested wording change, and would suggest that it does not fundamentally change the assessment presented.
94	Table 8-5 (Mitigation Measures for Construction): we welcome the proposals to map and remove the sedimentary bed features, reinstating them on removal of the channel retaining wall. However as mentioned previously, these features are complex with finer substrate hidden by boulders, and protected by an imbricated surface layer. The boulders will be partially embedded into the finer sediment, and pioneer plant	1. The Applicant acknowledges the complexity and potential challenges associated with the proposed mitigation. 2. The third bullet of Commitment SW-W4 of Table 3-5 and Commitment SAW-W3 of Table 3-6 of the Outline CEMP [REP5-012 and 013] (updated and submitted at Deadline 6), has been updated to: *Prior to construction, any sedimentary bed features that may be will be mapped and photographed, and boulders (>0.5 m) will be surveyed, numbered and marked to show orientation relative to the channel*

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	species provide an additional layer of stability. Is it considered that mimicking this complexity during reinstatement will be challenging.	*bed. At onset of the construction phase, these sediments will be removed and stored. Upon completion of construction, the sedimentary bed features will be reinstated where practicable, with boulders placed according to the surveyed data. There is a risk of failure associated with the reinstatement of depositional features. Consequently, all mitigation plans will be further developed as the detailed design progresses and where necessary will seek the views of the relevant statutory consultees prior to the commencement of construction.* 3. This is because these features play a role in the diversity of the reach with these bed deposits indicating a long-term stability.
95	Section 8.10.20 states 'where impacted, such deposits are unlikely to reform in the short term through natural deposition but over time would develop, if boulders exhibiting long-term stability can be replaced or reinstated at their original locations'. It needs to be stated within the relevant mitigation measure that there is a risk of failure associated with reinstating channel depositional features and/or it will take a number of years before these features reform again.	1. The Applicant has considered the inclusion of the suggestion of reinstatement failure within the associated mitigation measure as follows: 2. The third bullet of Commitment SW-W4 of Table 3-5 and Commitment SAW-W3 of Table 3-6 of the Outline CEMP [REP5-012 and 013] (updated and submitted at Deadline 6), has been updated to: Prior to construction, any sedimentary bed features that may be will be mapped and photographed, and boulders (>0.5 m) will be surveyed, numbered and marked to show orientation relative to the channel bed. At onset of the construction phase, these sediments will be removed and stored. Upon completion of construction, the sedimentary bed features will be reinstated where practicable, with boulders placed according to the surveyed data. There is a risk of failure associated with the reinstatement of depositional features. Consequently, all mitigation plans will be further developed as the detailed design progresses and where necessary will seek the views of the relevant statutory consultees prior to the commencement of construction.
96	Table 8-6 (Mitigation Measures for Operation): constructing the scour protection to mimic the natural bank profile will be challenging given the size of boulders required to provide the level of protection. It is also noted that in the Preliminary Fluvial Scour Risk Assessment, the design criteria proposed that the rock revetment comprises a rock size (dn50) of between 0.8m and 1m, installed two rock layers thick with a profile of 1:2 or steeper. The assessment also talks about installing a line of piles on the south bank. We would like to understand if it is possible to mimic the natural bank profile given proposals listed in the Scour Assessment report.	1. In order to install the temporary works, excavation of the bank will be required. Upon completion of the works this should allow the profile of the existing bank with the installation of the rock material to be replicated where reasonably practicable. 2. As the southern pier will extend vertically from the water's edge, approximately in line with the existing river training works the existing bank profile will unable to be replicated. There will be a short section of vertical face which will alter the profile at this point. Midway down the pile cap the rock armour will be reinstated to the existing profile. 3. In summary, the Applicant will be unable to reinstate to the existing bank profile in the location of the proposed southern pier, elsewhere, the natural bank profile will be reinstated.
97	Sections 8.10.13 – 8.10.15: we would welcome a greater understanding regarding the calculations, the number and location of the channel cross sections, and how these relate to the baseline channel morphology.	1. The Applicant will provide the full quantitative geomorphological dynamics assessment as part of previous commitments. This will be completed with consideration of the outputs from the hydraulic modelling which is underway. This assessment will be submitted as part of the Examination at Deadline 7.
98	With respect to table 8-7 (Assessment of Effects During Construction), Stabilisation Works and Southern Access Works, bank and bed features including riparian vegetation would be lost within the footprint of the temporary works. There may also be a requirement to 'key in' the temporary river training works to the bed, which may include removal of some bed material (including bedrock) to create a level surface on which to construct the retaining wall. We consider the impacts of the	1. The Applicant agrees with the comment that bed and bank features would be lost within the footprint of the temporary works, including the potential requirement to key-in to the bedrock channel. The Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Environmental Statement Addendum: Southern Access for Change Request [REP4-064] sets out this impact in Chapter 9 and Chapter 8, respectively. 2. The Applicant sets out the criteria for determining the magnitude of impact in Table 9-2 and Table 8-2 of Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Environmental Statement Addendum: Southern Access for Change Request [REP4-064] respectively,

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	temporary works at the local level constitute a permanent, magnitude of impact of moderate adverse.	which has been adapted from Table 5-2 of Appendix 10.7 Geomorphology Assessment – River Coquet Parameter 10 Part A of the ES [APP-260]. When assessing the proposed works, it was determined that the magnitude of impact on geomorphology is of minor adverse magnitude, as a result of the localised nature of any changes. 3. The asserted magnitude stated by the Environment Agency of moderate adverse is not correct because the Applicant has determined on the basis of the geomorphology dynamics assessment that any changes to fluvial processes and impacts to the sediment regime would be localised, short-term and reversible with the commitment to reinstatement following completion of works. This would correspond to a minor adverse magnitude of impact as detailed in Table 9-2 and Table 8-2 of Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Environmental Statement Addendum: Southern Access for Change Request [REP4-064] respectively 4. The Applicant acknowledges the complexity and potential challenges associated with the proposed mitigation. All mitigation plans will be further developed as the detailed design progresses and where necessary will seek the views of the relevant statutory consultees prior to the commencement of construction.
99	Section 8.10.29: 3% of the riverbank within the gorge, within a SSSI, either lost or degraded should be considered as a significant impact. Bankside habitat is complex and dynamic, and as 6.7 Environmental Statement – Appendix 10.7 Geomorphology Assessment – River Coquet Parameter 10 - Part A [APP-260] and 6.7 Environmental Statement – Appendix 10.4 Geomorphology Assessment – River Coquet Part A [APP-257] has previously stated these habitats have evolved and developed over a long period of time. Not only is there a direct and permanent loss of habitat, but there is also the disruption to natural processes.	1. As a habitat of a SSSI, the Applicant agrees that the loss of riverbank is significant and identifies this as a Moderate adverse (significant) effect (paragraph 8.10.6, Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and paragraph 7.10.6, Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]). 2. The cumulative bank lengths disturbed or lost by the proposed works (i.e. those on the north and south bank) equates to approximately 3% of the total bank length within the context of the reach, as defined by the confined gorge channel typology. Paragraph 8.10.30 of Chapter 8: Road Drainage and the Water Environment (Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]) goes on to describe the impacted bank lengths in relation to the SSSI unit within which the Site is located. The proposed rock armour constitutes approximately 0.2% of the bank length (north and south combined) of the SSSI unit. 3. The Applicant agrees with the comment that the proposed works would lead to a permanent loss of riverbank habitat. The extent or scale of any disruption to natural processes through the loss of riverbank will be considered as part of the detailed geomorphological dynamics assessment. In terms of the assessment presented in Chapter 8: Road Drainage and the Water Environment (Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]) any changes to natural fluvial processes would be very local, and minor.
100	Given the context of the site, it would be fair to assume that sections of riparian habitat would have taken 10's if not 100's of year to develop, and in some cases, would be on a par with the ancient semi natural woodland. The loss of ancient semi natural woodland is viewed as a major adverse impact, yet the loss of riparian habitat is considered minor adverse.	1. See response for item 67 above.
101	Images 2 and 3 (page 65 of Deadline 4 Submission - Change Request - 6.38 Environmental Statement Addendum: Stabilisation Works - Rev 1) and images 1, 2 and 3 (page 41 and 64 of 6.40 Environmental Statement Addendum: Southern Access Works - Rev 1) [REP4-064] highlight the complexity, variability and dynamic nature of the riparian	1. See Ref. 68 above for response.

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	zone. We would welcome a greater understanding regarding why the loss of this complex habitat on the riverbank is minor yet when within the woodland it's considered major.	
102	Sections 8.10.32 – 8.10.35: we would welcome further clarity regarding the calculations, the number and location of the channel cross sections, and how these relate the baseline channel morphology.	1. The Applicant will provide the full quantitative geomorphological dynamics assessment as part of previous commitments. This will be completed with consideration of the outputs from the hydraulic modelling which is underway. This assessment will be submitted as part of the Examination at Deadline 7.
103	Section 8.10.42: in the absence of a detailed geomorphological assessment, we feel it is too early to consider the operational impacts as Minor adverse.	1. The Applicant disagrees with the statement *"we feel it is too early to consider the operational impacts as minor adverse."* The geomorphological assessment presented in the Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064] to determine operational impacts has been based on the results of hydraulic calculations of water level, velocity, stream power and sheer stress to assess potential changes in sediment transport, erosion and deposition. Calculations have been performed on two cross sections of the river which have been adjusted to reflect the proposed works during the construction and operational phases. This method allows for an assessment of the magnitude of impact of the proposed works, in line with the assessment criteria set out in the ES Addendum. 2. The Applicant, as set out in Table 8-8 of Chapter 8: Road Drainage and the Water Environment (Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]), determines that the impact on geomorphological process would be small, localised to the channel margins, and limited to the extent of the scour protection areas. With cognisance of the assessment criteria detailed in Table 8-2 this would be considered a minor adverse magnitude of impact. 3. The Applicant accepts that this has limitations in the assessment conducted with regards to the spatial extent of any changes. However, the Applicant will provide the quantitative geomorphological dynamics assessment as part of previous commitments. This will be completed with consideration of the outputs from the hydraulic modelling which is underway. The assessment will verify the conclusions that the magnitude of impact on geomorphological process during operation is considered Minor Adverse. This assessment will be submitted as part of the Examination at Deadline 7.
104	Table 8.8 (Assessment of Effects During Operation), with respect to south bank pier and scour protection, please see comments for table 8.6.	1. See response Ref: 96 above. 2. In addition, as described in Appendix E: Preliminary Scour Assessment of the Environmental Assessment Addendum: Southern Access Works for Change Request [REP4-064], the predicted local scour depth on the southern pier is close to the level of the existing river bed and anticipated bedrock level. Given the location of the proposed pier at the river bank it is likely due to contraction scour and local scour there would be the loss of natural river bank at this location. A number of pier foundation solutions are presented, with the recommended solution indicating a series of interlocking bored concrete pile circumnavigating the pile cap and be tied into the scour protection associated with the existing pier foundation.
105	Section 8.10.46: the level of evidence to support this statement has not been adequately presented. The supply of sediment, especially boulders from the gorge sides has not been adequately assessed, an accurate description of the changes to flow and sediment dynamics is reliant on the still to be updated hydraulic model. It is unclear whether the mobile sediment deposits within the channel will remain, and it has	1. The geomorphological assessment presented in the Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064] to determine operational impacts has been based on the results of hydraulic calculations of water level, velocity, stream power and sheer stress to assess potential changes in sediment transport, erosion and deposition. The Applicant would therefore suggest that there is sufficient evidence provided which allows for an assessment of the magnitude of impact of the proposed works.

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	been acknowledged that destroyed and damaged habitat will take years if ever to recover.	2. In relation to the points raised: • The Applicant will provide the quantitative geomorphological dynamics assessment as part of previous commitments. This will be completed with consideration of the outputs from the hydraulic modelling which is underway. This assessment will be submitted as part of the Examination at Deadline 7. The assessment will seek verify the statement given in Paragraph 8.10.46, Chapter 8: Road Drainage and the Water Environment (Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]), which states that the magnitude of impact on geomorphology process is considered to be minor adverse. The assessment will also provide further detail on the changes to flow and sediment dynamics. • Analysis, as detailed in the ES Addendum (Paragraph 9.10.31), shows that there may be very localised, very minor changes in depositional features adjacent to the scour protection but that there is unlikely to be any significant impact on the depositional features in the channel, away from the toe of the scour protection. 3. The Applicant does acknowledge in the ES Addendum (Paragraph 9.10.12) that sedimentary bed features show indications of long-term stability and that impacted habitats may take a longer period of time to reform through natural deposition.
106	Table 12.2 make reference to the 'temporary damage of in-river habitat'. This should be read 'permanent and temporary damage of in-river habitat'.	1. Permanent and temporary damage to in river habitats are addressed separately within Table 12.2. Permanent loss of habitat is addressed first and given a significance of effect of Moderate Adverse, while temporary damage is addressed second and given a significance of effect of Slight Adverse. Therefore, the current wording in Table 12.2 remains correct.
107	Section 13.3 (conclusion): we do not feel that the combined effects of the proposed engineering works, either during construction or operation have been fully considered.	1. It is not the case that there has been a failure to consider effects. On the contrary, as stated within Section 1.2 of ES Addendum: Southern Access Works for Change Request [REP4-064], the assessment of likely significant effects considers the combined effects of the Stabilisation Works, together with the Southern Access Works. Therefore, the combined effects of the proposed engineering works during construction and operation have indeed been fully considered by the Applicant. 2. In Section 13.3 of ES Addendum: Southern Access Works for Change Request [RESP4-064], reference is made to the Southern Access Works only. This is acknowledged as a textual omission; reference to the Stabilisation Works should also be included within this section, to confirm that ES Addendum: Southern Access Works for Change Request [REP4-064] does indeed consider the combined effects of the Stabilisation Works, together with the Southern Access Works.
108	If as described, the weir at Felton exerts an influence over 300m of the functional gorge, and the proposed works associated with the new bridge alters a further 100m (this is an approximation as the extent of any alterations will extend beyond the downstream end of the bank protection). This will ultimately mean that 30% of the functional gorge could be considered as modified. This needs to be assessed/considered.	1. The Applicant has set out the baseline conditions and setting of the reach, as defined by the confined gorge channel (approximately 1.4km) in Paragraph 8.7.3 of Chapter 8 (Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]) and Paragraph 9.7.4 of Chapter 9 (Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063]). The descriptions provided which reference the presence of modifications and influences on the hydrogeomorphological regime (i.e. the weir) provide justification that the reach within which the proposed works are located is not a 'pristine and unmodified' stretch of river, as has been previously suggested by the Environment Agency. The Applicant has suggested that the influence of the weir at Felton has backwater effects which extends 300m upstream. The Applicant accepts that the proposed works will affect a further potential 100m of river. 2. The Applicant submitted a Water Framework Directive Addendum for Change Request [REP4-068] which concluded that the proposed works would not cause a deterioration in the status of the

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		waterbody nor compromise the wider waterbody objectives. The Coquet is not currently a heavily modified water body, under WFD terms, and the proposed works would not contribute to the criteria set out for determination of such waterbodies.
Groundwater		
109	If the proposed amendments are to be formally submitted, further information is required in terms of groundwater flow and level. Additional mitigation should also be provided in the event that groundwater conditions are found to be different. It is noted that the only site investigation borehole is located on the south bank and an assumption has been made that conditions are same as north bank.	1. This comment is a replica of the Environment Agency's Deadline 4 submission [REP4-076]. The Applicant provided a response at Deadline 5 [REP5-029], which is quoted below. *"The limited information available on groundwater flows and levels for the south bank of the River Coquet is a function of the challenging logistics inherent in getting ground investigation plant down the southern valley slope. The assumption that groundwater level is comparable to that on the north bank is a reasonable assertion. Due to the proximity to the River Coquet, groundwater flow would be directed towards the River Coquet and would be expected to be contributor to baseflows of the river and near the surface."* This is an appropriate set of worst case assumptions for the purposes of assessment. 2. All available information on groundwater levels has been used in producing the Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064].
110	Any piling required should be spaced piles to mitigate impact of piling and to maintain groundwater flowpaths. Where groundwater flow is obstructed and or changed, additional drainage to divert groundwater around the pilings to its natural discharge point will be required to prevent groundwater level rising and causing flooding and or slope instability.	1. This comment is a replica of the Environment Agency's Deadline 4 submission [REP4-076]. The Applicant provided a response at Deadline 5 [REP5-029], which is quoted below. *"Noted. As responded to above for the Stabilisation Works, the provision of any additional drainage to prevent the build-up groundwater was acknowledged. The design of any drainage requirements will be considered and incorporated, where required, as the detailed design process evolves. This mitigation is outlined in Appendix E: Register of Environmental Actions and Commitments of Environmental Statement Addendum: Stabilisation Works for Change Request submitted at Deadline 4 of the Examination."* 2. As the Examining Authority has accepted the change requests, Table E-1 – Additional Mitigation Measures for the Register of Environmental Actions and Commitments in the Environmental Statement: Stabilisation Works for Change Request [REP4-063] has been incorporated into the Outline CEMP [REP5-012 and 013] and submitted at Deadline 6. As detailed in commitment SW-W1 of Table 3-5 of the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6), drainage arrangements will be designed to prevent build-up of groundwater behind the installed piles, if necessary. 3. As suggested part of this response, as the detailed design evolves alternative designs are being considered.
6.28 Biodiversity No Net Loss Assessment for the Scheme (Tracked) - Rev 1a [REP4-059]		
111	We are pleased to see a re-evaluation and drastic reduction in the reported loss of watercourses associated with Parts A and B of the scheme. We also recognise that providing Biodiversity Net Gain (BNG) will not be mandatory for planning applications until the Environment Bill becomes law and that proposals for providing BNG for Nationally Significant Infrastructure Projects within the Environment Bill. However, we believe that it should be used as a guide to provide the best possible outcomes and direct the mitigation designs.	1. This comment is similar to the Environment Agency's Deadline 4 submission [REP4-076]. The Applicant provided a response at Deadline 5 [REP5-029], which is quoted below. "*The Applicant notes that the Environment Agency acknowledges the reduction in the reported loss of watercourse for the Scheme.* *The Applicant also notes that the Environment Agency recognises that biodiversity net gain is not a legal requirement under current planning law and is not prospectively applicable to Nationally Significant Infrastructure Projects (NSIPs) even under the Environment Bill*."

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		"*As confirmed in the Applicant's Written Summary of Oral Submissions at Hearings [REP4-026]*" and in their response at Deadline 5 [REP5-029], "*the Applicant looks to consider biodiversity impacts across its whole network on a national scale as opposed to considering it on a scheme by scheme basis. The biodiversity no net loss report which has been produced will therefore be used to inform biodiversity changes at a national level*."
112	There appears to be a heavy reliance on the planting of woodland as mitigation or compensation for the loss of watercourse. Tree planting is not like for like compensation. This is often described as 'wet woodland' creation, which we believe is an incorrect definition of the habitat created, and should be reclassified as riparian woodland however only if this woodland is adjacent a watercourse. Any woodland created away from the watercourse should be correctly recorded as broadleaved woodland.	1. This comment is a replicate of ref 13 above. A response is provided against ref 13.
113	We would welcome a package of works that would provide meaningful compensation for the loss of watercourses. We note an updated net loss of 11.69% of watercourse and a gain of 7.21% of area based units and a failure of 4 out 10 Net Gain Principles. Therefore, we would encourage opportunities to compensate for this loss with equivalent river based units. Where river units or length are lost, common compensation measures could include the renaturalising and re-meandering of heavily modified and straightened watercourses. Re-naturalising of watercourses that are found to be highly modified and historically straightened will in the long term provide a benefit to ecology and river health, whilst potentially providing gains in river length lost by the scheme.	1. This comment is a replicate of ref 15 above. A response is provided against ref 15.
114	The applicant appears opposed to this due to the impression this would cause larger environmental impacts. Although there may be some short term impacts, it is considered that the majority of short term impacts can be mitigated for through appropriate design and mitigation measures, following best practice, such as those found in the Manual of River Restoration Techniques by the River Restoration Centre. Any mitigation and compensation should also support the attainment of Good Ecological Status by 2027 in the waterbodies within the Order Limits and those connected waterbodies.	1. This comment is a replicate of the Environment Agency's Deadline 4 submission [REP4-076]. The Applicant provided a response at Deadline 5 [REP5-029], which is quoted below. "*The Applicant did not explore re-meandering of heavily modified and straightened watercourses because this would result in additional impacts (albeit short-term) and because … the Applicant considers the package of improvements (detailed within* [Item 13]*) to be satisfactory to mitigate and offset the impacts of the Scheme with regards to loss of watercourse channel. However, in addition to the current package of works, the Applicant remains in discussions with the Environment Agency, over the need for further mitigation and/or compensation, and if required what form this will take*." 2. The detailed design stage of the Scheme will use best practise such as those found within the Manual of River Restoration Techniques by the River Restoration Centre to support the detailed design of the Scheme, where this is relevant to any mitigation being proposed.
115	We do not provide exact examples and the advice given is aimed to support the scheme achieving no net loss which it current does not do. We also note that this may require looking beyond the DCO. It is noted that National Policy Statement for National Networks (2014), paragraph	1. This comment is a replicate of the Environment Agency's Deadline 4 submission [REP4-076]. The Applicant provided a response at Deadline 5 [REP5-029], which is quoted below. "*As detailed in reference 4.10 of the Applicant's Written Summary of Oral Submissions to hearings [REP4-025], there is currently no legal requirement for an NSIP, such as the Scheme, to achieve biodiversity no net*

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	5.25 states that the applicant may also wish to make use of biodiversity offsetting in devising compensation proposals to counteract any impacts on biodiversity which cannot be avoided or mitigated. Where significant harm cannot be avoided or mitigated, as a last resort, appropriate compensation measures should be sought.	*loss or net gain. Nevertheless, a biodiversity no net loss assessment for the Scheme has been undertaken in order to meet the Applicant's own internal biodiversity plan and the National Policy Statement for National Networks (NPS NN). The Applicant looks to consider biodiversity impacts across its whole network on a national scale as opposed to considering it on a scheme by scheme basis. The Biodiversity No Net Loss Assessment for the Scheme for Change Request [REP5-038 and 039]* [updated document reference to quoted text] *will therefore be used to inform biodiversity changes at a national level. The Applicant acknowledges the Environment Agency's advice and will consider this within its national assessment of changes in biodiversity*." 2. The same approach to a biodiversity assessment has been found to be acceptable on other NSIPs, including the recently consented A1 Birtley to Coal House Improvement Scheme (reference TR010031).
116	With respect to table '3-2 – Evidence of Project Compliance with BNG Good Practice Principles' and section 4.1.4, it is claimed that 'the Scheme does demonstrate a measurable overall gain for priority woodland and wetland habitats.' We question these claims as we believe wetland habitats are referring to the 'marginal planting' within the detention basins. These are required as part of the drainage scheme and planting them with wetland species is a best practice technique. This cannot be claimed as mitigation or compensation.	1. This comment is a replicate of ref 14 above. A response is provided against ref 14.
117	7.17.6 Written Summaries of the Applicant's Oral Submissions to Hearings: Appendix F - Proposed Woodland and Marginal Planting Plan (Part A and B) [REP4-031] clearly shows the vast majority of the woodland being planted as mitigation and compensation for the impact on the watercourse is neither 'wet woodland' as originally claimed nor riparian and is in fact broadleaf woodland. This habitat has a different form and function and does not improve the watercourses affected by the site. The plan also shows the 'marginal planting' as being solely within retention basins. These cannot be claimed as net gain, mitigation or compensation as this is scheme requirement and adhering to best practice.	1. In response to the classification of the woodland this is provided against ref 21 above. This riparian woodland is part of wider woodland planting as detailed in the Landscape Mitigation Masterplan Part A [REP4-060] and Landscape Mitigation Plan Part B [REP4-053], as previously requested by the Environment Agency who requested that it forms part of a wider woodland and thus more sustainable and manageable. The parts of the woodland which are being counted towards the mitigation are the lengths adjacent to the channels, as shown in Appendix F of the Written Summaries of the Applicants Oral Hearings [REP4-031], and not the wider planting block. It should be noted that the exact species / mixture of planting as detailed in the landscape strategy will be finalised during detailed design to ensure that the most suitable riparian species for each reach are incorporated. 2. In response to the Environment Agency's comment regarding claiming the marginal planting as net gain, mitigation or compensation, a response is provided against ref 14 above.
Deadline 3: 6.32 Environmental Impact Assessment - River Coquet Geomorphology Modelling Assessment) [REP3-009]		
118	This assessment must be updated to reflect the activities outlined in the Change Request Environmental Statement Addendums.	1. The River Coquet Geomorphology Modelling Assessment [REP3-009] does not reflect the activities outlined in the Change Request Environmental Statement Addendums as its intended purpose was to deal with responses raised in the original application. It would not be appropriate to update this report. 2. Chapter 9: Road Drainage and the Water Environment of Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Chapter 8: Road Drainage and the Water Environment of Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064] sets out and considers the activities reflective of the Change Request. This includes a geomorphological assessment for the Stabilisation Works and Southern Access Works. Further

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		geomorphological analysis is being undertaken for the Stabilisation Works and Southern Access Works and will be submitted at Deadline 7 of the Examination.
Deadline 1 Submission - 7.9.1.1 Annex A - Culvert Mitigation Strategy - Rev 0 [REP1-066]		
119	Is it noted that the culvert mitigation strategy has been updated since deadline 1 and not yet published on the Planning Inspectorate's website. We disagree that the 'new wetland' (sometimes referred to as marginal planting) can be claimed as mitigation. Therefore, the Applicant is misrepresenting the schemes benefits. As stated above, detention basins and SuDS are required as part of the drainage scheme and planting them with wetland species is a best practice technique. This cannot be claimed as a wetland and provided as mitigation for the culverts.	1. The Culvert Mitigation Strategy was revised as part of the Deadline 5 Submission [REP5-022]. 2. In response to the Environment Agency's comment regarding claiming the marginal planting as net gain, mitigation or compensation, a response is provided against ref 14 above.
Part A		
120	There is an increase in culvert length for those channels included in the biodiversity assessment of 93.5m (note this includes the Fenrother Burn). For the watercourses not included in the biodiversity assessment there is an increase of culvert length by 249.7m. For the Floodgate Burn, the River Lyne and the Earsdon Burn, the proposed depth for the natural bed is 150mm or less.	1. This statement is not accurate. 2. There are no culverts proposed along the Fenrother Burn. The "Tributary of Fenrother Burn" [REP5-022] is not included within the biodiversity assessment of watercourse loss (running water) as this was recorded as a ditch. As detailed in the Applicant's Response to Deadline 4 Submissions [REP5-029] (Table 1-4, Ref 1), the channel was recorded as dry during a Phase 1 walkover survey in March 2018. The aquatic macroinvertebrate surveys in May and October 2017 recorded very little water with lots of terrestrial grasses in the channel. In conclusion, the evidence collected during the various site assessments determined the feature was only seasonally wet and remained dry for most of the year. In accordance with the JNCC Phase 1 handbook, the feature is classified as a ditch. Consequently, any culvert length increase associated with the Tributary of Fenrother Burn should not be included in any total. 3. In accordance with the Culvert Mitigation Strategy [REP5-022], there is an increase in culvert length for those watercourses (running water) included in the biodiversity assessment of 161.1m (when including the Tributary of Fenrother Burn, this equates to 195.3m, but as noted, this should be excluded). For the channels (ditches) not included in the biodiversity assessment, there is an increase of culvert length of 283.4m (when excluding the Tributary of Fenrother Burn, this equates to 249.2m). 4. For the Floodgate Burn and Earsdon Burn, a natural depth bed of 150mm is proposed. For the River Lyne, a natural bed depth of 100mm is proposed. This is appropriate because any increase in natural bed would require an increase in culvert section size and likely to require precast box culvert instead of pipe increasing both cost and embodied carbon content of the new structure with no additional benefit for fish passage. Therefore, the depth of natural bed considers the impacts of flood risk and mammal passage, without the requirement to further increase in section size.
121	The depth of the natural bed within the culvert should be sufficiently deep to ensure bed sediment transport continuity and minimise the risk of scour of the bed material (within and downstream) and exposure of the culvert surface. The design principle must be to maintain bed material diversity through the culvert and avoid conditions where the	1. Please In relation to the culverts, the Applicant previously responded to this question in response 47 of Table 1-4 of Applicant's Response to Deadline 4 Submissions [REP5-029] which states: *"The Scheme has been developed over a number of years, during which time the best practise guidance has been updated, the original design was undertaken in accordance with The CIRIA Culvert Design and Operation Guide (C689). However, in the intervening period this has been superseded by*

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	culverts flat surface is exposed. In addition the transition from the natural bed upstream through the culvert and then joining the downstream bed should avoid steps and significant changes in gradient. Failure to do so can led to either ponding or sediment deposition upstream of the culvert or scour downstream of the structure, potentially undermining the structure and causing a barrier to fish migration.	*the CIRIA Culvert, Screen and Outfall Manual (C786). It should be considered that the best practise guidance has been developed to enable the safe passage of coarse fish, brown trout, sea trout and salmon. These would not be present in the vast majority of the watercourses crossed by the Scheme and therefore not directly relevant. Full justification of this on a watercourse by watercourse approach is provided in the Culvert Mitigation Strategy [REP1-066], as revised and submitted as part of Deadline 5* [REP5-022]. *The standards for the design of the Scheme, at the time of design, was HA107/04 Design of Culvert and Outfall Details, this requires a bed level of 150mm or 75mm for a ditch culvert. It is this standard which was applied in the design and previously discussed with the Environment Agency.* *For Part A this was on 09/01/18, during which the Environment Agency agreed with the design approach of using the CIRIA Culvert Design and Operation Guide (C689). A further meeting was held with the Environment Agency on 05/09/18 during which details on the proposed bed levels and fish passage were discussed and agreed.* *For Part B no specific meeting was held with the Environment Agency, and instead the Applicant adopted the same principles for Part B as there are only three watercourses here, which can accommodate a natural bed and all of which are culvert extensions.* *The Applicant considers that the four broad principles outlined by the Environment Agency are not directly applicable to all the culverts impacted by the Scheme, for the reasons outlined below. This is because in a number of the watercourses there is insufficient water flow to support fish or other aquatic organisms for the majority of the year, these have been identified as ditches, it is these water features in which the applicant considers the four principles do not apply.* *The inclusion or not of a natural bed within the new or extended culverts has taken many aspects into consideration, these include:* • *Carbon neutrality;* • *Potential for the natural bed to silt up;* • *Impacts on culvert size;* • *Construction impacts on the watercourses; and* • *Potential for changes in flow conveyance / flood risk.* *The inclusion of a greater depth of natural bed than currently proposed would require a greater amount of embedded carbon as a result of a larger culvert. The larger culvert would result in greater bed and channel disturbance as a result of increased construction works. Full justification of this on a watercourse by watercourse approach is provided in the Culvert Mitigation Strategy [REP1-066], as revised and submitted as part of Deadline 5* [REP5-022]*.* *The Applicant therefore considers that the most appropriate depth of natural bed has been provided within the design, as previously agreed with the Environment Agency. Where a natural bed is not proposed, it is considered that any other aquatic organisms would be conveyed through the culverts in much the same manner as a relatively straight section of channel."*
122	CIRIA's Culvert, Screen and Outfall Manual states that the depth of a natural bed should be between 300-600mm, while the Scottish Environment Protection Agency's (SEPA) good practice guide for River Crossings provides a useful series of recommendations for the design of culverts. SEPA's good practise guide recommends:	1. The design principles and rational for the culverts are discussed in Item 121 above.

Ref. No.	Response:	Applicant's Response:
123	For culverts less than 1.2 m diameter or height (internal height) the invert should be buried at least 15 cm below the natural bed level. For culverts 1.2 - 1.8 m diameter or height (internal height) the invert should be buried at least 20 cm below the natural bed level. For culverts greater than 1.8 m diameter or height (internal height) the invert should be buried at least 30 cm below the natural bed level.	1. The design principles and rational for the culverts are discussed in Item 121 above.
124	It is therefore disappointing that the Applicant are not following the industry best practice for the culverts on these waterbodies.	1. The design principles and rational for the culverts are discussed in Item 121 above.
125	The Fenrother Burn should be included as one of the watercourses included in the Biodiversity Assessment. The Q95 and Qmed are similar to the Floodgate Burn, while the channel is marked on the 1:50000 OS map (CEH use the 1;50000 digital river network to define drainage paths for the flood estimation handbook. Given this is an industry standard, the Fenrother should be considered as a functional watercourse)	1. There are no culverts proposed along the Fenrother Burn. It is a tributary of Fenrother Burn that is impacted by the Scheme. The Applicant does not agree that the Tributary of Fenrother Burn should be included within the biodiversity assessment, at the time of inspection the burn was dry with no flowing water (see further details in Item 120 above). 2. There are differences with the approach to the Q_{95} and Qmed estimates between the Fenrother Burn and the Floodgate Burn. The Culvert Mitigation Strategy [REP5-022] details the flows in the Fenrother Burn and not the tributary under question, these flows are significantly lower (a Qmed of 0.38m3/s, compared to 1.25m^3/s for Floodgate Burn). 3. In relation to the mapping of the burn it is considered that the tributary only has a catchment of 0.5km^2 and thus has the smallest possible catchment in CEH / Flood Estimation Handbook terms, which by its nature does not consider the non-flood flow regime of the watercourse. This means that the Tributary of the Fenrother Burn is a minor channel and not a functional watercourse, especially when its nature as a field boundary drainage ditch is taken into consideration.
126	The diversion of the Fenrother Burn provides the opportunity to significantly improve the channel. Unfortunately the space provided for the new channel is very limiting, and results in a real missed opportunity.	1. The diversion relates to a Tributary of Fenrother Burn, which was recorded as a dry ditch during the Phase 1 habitat survey (Final Phase 1 Plan Part A [APP-105]). The Applicant considers that space available for the diverted channel of the Tributary of Fenrother Burn is sufficient to enable the channel to be designed to provide a significant improvement over the existing condition. The existing channel represents a field boundary ditch with an over-deepened channel. The initial proposals are detailed in Figure 8-3 of the Water Framework Directive assessment [APP-255], which shall be developed further at detailed design in discussion with the Environment Agency.
127	We wish to see the design of the new channel influenced by some of the ideas presented in the River Restoration Centre Design Manual. While obviously not a direct comparison, case study 1.6 Opening up a culverted stream, the River Ravensbourne, highlights a number of techniques that could be incorporated into the design of the new channel.	1. In terms of the example provided by the Environment Agency the Applicant considers that the key aspects are largely for consideration during detailed design of the realignment of the tributary of the Fenrother Burn, as outlined below: - sinuousity – this could not be achieved due to the available space, between the A1 and the access road, however, measures to increase sinuousity within the channel itself have been included within the channel through the inclusion of boulders. - Potential for a low flow channel would be subject to detailed design - Boulders were suggested to be utilised in the channel as opposed to excess gravel due to the long term requirements, however, this would be reviewed during detailed design - Marginal planting would be included where suitable during detailed design 2. Due to the spatial constraints to the channel location due to the side road and the main carriage way it is unlikely that the bank slopes will be able to vary significantly, however, this will be considered during detailed design.

Ref. No.	Response:	Applicant's Response:
128	We wish to see the Applicant being ambitious in the design of the new channel, and we would request that we have the opportunity to comment on any designs.	1. The Applicant considers that this relates to the detailed design stage and the ability of the Environment Agency to comment on the designs of the channel is secured within the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6) as detailed in the Applicant's response to Item 7 of Table 1-4 of Applicant's Response to Deadline 4 Submissions [REP5-029].
129	For part B there is an increase in culvert length for those channels included in the biodiversity assessment of 141.8m. For the watercourses not included in the biodiversity assessment there is an increase of culvert length by 49.5m. All the biodiversity assessment watercourses have natural beds of 150mm, but this doesn't extend into the existing culverts.	1. In accordance with the Culvert Mitigation Strategy [REP5-022], there is an increase in culvert length for those watercourses (running water) included in the biodiversity assessment of 132.1m. For the channels (ditches) not included in the biodiversity assessment, there is an increase of culvert length of 65.8m. It is correct that the extensions to culverts along watercourses included in the biodiversity assessment (running water) include a natural bed with a depth of 150mm. 2. It is not possible to provide natural beds within the existing culverts. This is because, for instance, this would reduce flow conveyance (increasing flood risk upstream), the beds would not be stable as they would be above the existing upstream and downstream bed.
130	The Shipperton is a reasonable sized stream, with records of brown trout. A step at the downstream end of the existing culvert will be removed. Given the nature of the Shipperton Burn, a deeper depth of natural bed must be aimed for. We would expect these to be addressed in the culvert mitigation.	1. Please refer to response ref 18 above, which explains the approach taken to the design of the culverts and the natural bed included. 2. In summary, the Scheme has been developed over a number of years, during which time the best practise guidance has been updated. The original design was undertaken in accordance with The CIRIA Culvert Design and Operation Guide (C689). However, in the intervening period this has been superseded by the CIRIA Culvert, Screen and Outfall Manual (C786). The standards for the design of the Scheme, at the time of design, was HA107/04 Design of Culvert and Outfall Details, which requires a bed level of 150mm or 75mm for a ditch culvert. It is this standard which was applied in the design and previously discussed with the Environment Agency. 3. The natural bed within the culvert extension of Shipperton Burn (culvert Ref 27.1 [REP5-022]) has a depth of 150mm and therefore complies with the standard that was applied to the culvert design.
131	The minor road bridge downstream of the culvert has a small step which could be impeding fish access. This should be addressed as part of the scheme.	1. The minor road bridge referred to is located downstream of the Shipperton Burn culvert (Ref 27.1, Culvert Mitigation Strategy [REP5-022]) and is not impacted by the Scheme. Any implications to fish passage are a baseline condition that is not altered by the Scheme. As such, there is no requirement for this to be addressed as part of the Scheme. At present, it is not proposed to remove the small step associated with the minor road bridge downstream of the Shipperton Burn culvert.
Compensation		
132	Throughout the culvert strategy riparian woodland is being proposed as compensation for the loss of and damage to the watercourses as a result of culverting. We consider this woodland as an inappropriate measure to compensate for the culverted watercourses. In many cases, the planting is supplementing existing riparian woodland, and therefore has less of a benefit.	1. A response to the classification of the woodland this is provided against ref 21 above. In a meeting on 30 April the Environment Agency requested information on the riparian woodland, this will be provided at Deadline 7. In most cases the planting is on bare sections of channel banks, whilst in some instances the planting may be supplementing existing riparian vegetation, it will be selected to enhance this and the understory. It is therefore deemed to be an appropriate measure.
133	The other source of compensation are the various wetlands and associated wetland planting. These areas are part of the SuDS network and water retention basins. We consider this planting as a must do	1. In response to the Environment Agency's comment regarding claiming the marginal planting as net gain, mitigation or compensation, a response is provided against Item 14.

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	linked to the drainage scheme, and therefore not as compensation for the culverted watercourses.	
7.3 Outline Construction Environmental Management Plan - Rev 3 [REP4- 013]		
134	No details has been provided in relation to how the Applicant proposes to provide compensation for the loss of 86m to the River Coquets riparian and marginal habitat due to the introduction of engineered bank stabilisation works. We would welcome further details of how the Applicant is going to compensate for this loss of 86m of river bank.	1. The Applicant acknowledges that as a HPI and habitat of a SSSI, compensation should be provided to the extent appropriate having regard to the impacts of the Scheme. The Applicant is exploring opportunities for compensation for the loss of riverbank habitat through discussion with landowners. This may involve, for example, the restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir). The Applicant is also considering a proposal for funding of compensation received from the Environment Agency. The options for compensation are currently being reviewed and will be discussed further with the Environment Agency. The Applicant also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation.
135	Section S-B3 refers to marginal planting of detention basins. We welcome the introduction of marginal planting as part of the road drainage system for the scheme. However, we would like conformation from the Applicant that this marginal planting of detention basins is not been 'double counted' and also classed as mitigation and/or compensation from the loss of watercourse due to the culverting and introduction of road drainage outfalls into the riparian environment.	1. In response to the Environment Agency's comment regarding claiming the marginal planting as net gain, mitigation or compensation, a response is provided against Item 14.
136	CIRIA's Culvert, Screen and Outfall Manual states that the depth of a natural bed should be between 300-600mm, while Scottish Environment Protection Agency's (SEPA) good practice guide for River Crossings provides a useful series of recommendations for the design of culverts. SEPA's good practise guide recommends:	2. In relation to the culverts, the Applicant previously responded to this question in response 47 of Table 1-4 of Applicant's Response to Deadline 4 Submissions [REP5-029] which states: "The Scheme has been developed over a number of years, during which time the best practise guidance has been updated, the original design was undertaken in accordance with The CIRIA Culvert Design and Operation Guide (C689). However, in the intervening period this has been superseded by the CIRIA Culvert, Screen and Outfall Manual (C786). It should be considered that the best practise guidance has been developed to enable the safe passage of coarse fish, brown trout, sea trout and salmon. These would not be present in the vast majority of the watercourses crossed by the Scheme and therefore not directly relevant. Full justification of this on a watercourse by watercourse approach is provided in the Culvert Mitigation Strategy [REP1-066], as revised and submitted as part of Deadline 5 [REP5-022]. The standards for the design of the Scheme, at the time of design, was HA107/04 Design of Culvert and Outfall Details, this requires a bed level of 150mm or 75mm for a ditch culvert. It is this standard which was applied in the design and previously discussed with the Environment Agency. For Part A this was on 09/01/18, during which the Environment Agency agreed with the design approach of using the CIRIA Culvert Design and Operation Guide (C689). A further meeting was held with the Environment Agency on 05/09/18 during which details on the proposed bed levels and fish passage were discussed and agreed. For Part B no specific meeting was held with the Environment Agency, and instead the Applicant adopted the same principles for Part B as there are only three watercourses here, which can accommodate a natural bed and all of which are culvert extensions.

Ref. No.	Response:	Applicant's Response:
		The Applicant considers that the four broad principles outlined by the Environment Agency are not directly applicable to all the culverts impacted by the Scheme, for the reasons outlined below. This is because in a number of the watercourses there is insufficient water flow to support fish or other aquatic organisms for the majority of the year, these have been identified as ditches, it is these water features in which the applicant considers the four principles do not apply. The inclusion or not of a natural bed within the new or extended culverts has taken many aspects into consideration, these include: • Carbon neutrality; • Potential for the natural bed to silt up; • Impacts on culvert size; • Construction impacts on the watercourses; and • Potential for changes in flow conveyance / flood risk. The inclusion of a greater depth of natural bed than currently proposed would require a greater amount of embedded carbon as a result of a larger culvert. The larger culvert would result in greater bed and channel disturbance as a result of increased construction works. Full justification of this on a watercourse by watercourse approach is provided in the Culvert Mitigation Strategy [REP1-066], as revised and submitted as part of Deadline 5 [REP5-022]. The Applicant therefore considers that the most appropriate depth of natural bed has been provided within the design, as previously agreed with the Environment Agency. Where a natural bed is not proposed, it is considered that any other aquatic organisms would be conveyed through the culverts in much the same manner as a relatively straight section of channel." 3. Notwithstanding the above, the Applicant remains in discussion with the Environment Agency over the design of the new culverts and further information will be provided at Deadline 7 of the Examination. This is detailed in the Environment Agency SoCG submitted at Deadline 5 [REP5-017]. It should also be noted that culvert design would be re-evaluated at the detailed design stage against the updated CIRIA guidelines with additional bed depths included where feasible. 4. In terms of the new channels the Applicant previously responded to this question in response 18 of Table 1-4 of Applicant's Response to Deadline 4 Submissions [REP5-029] which states: "The Applicant did not explore re-meandering of heavily modified and straightened watercourses because this would result in additional impacts (albeit short-term) and because, as outlined in the response to Item 2, the Applicant considers the package of improvements (detailed within Item 2) to be satisfactory to mitigate and offset the impacts of the Scheme with regards to loss of watercourse channel. However, in addition to the current package of works, the Applicant remains in discussions with the Environment Agency, over the need for further mitigation and/or compensation, and if required what form this will take. The detailed design stage of the Scheme will use best practise such as those found within the Manual of River Restoration Techniques by the River Restoration Centre to support the detailed design of the Scheme, where this is relevant to any mitigation being proposed."
137	For culverts less than 1.2 m diameter or height (internal height) the invert should be buried at least 15 cm below the natural bed level. For culverts 1.2 - 1.8 m diameter or height (internal height) the invert should be buried at least 20 cm below the natural bed level. For culverts	1. Please refer to response ref 136 above.

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	greater than 1.8 m diameter or height (internal height) the invert should be buried at least 30 cm below the natural bed level.	
138	Action A-B40 refers to compensation due to the direct loss of ~35m of the Longdike Burn due to the Bockenfiels Culvert (12) extension. It is understood that improvements will be delivered on a ~850m section of the Longdike Burn within the DCO boundary. Although we welcome compensation for the direct loss of ~35m of watercourse, we request further details on this proposal. Improvements are described as 'nutrient management measures to address adverse impacts of run-off from agricultural land, aquatic planting and bankside stabilisation'. Can the Applicant demonstrate that nutrients from agricultural land are impacting the Longdike Burn at the prosed improvement site? Is there an identified source and point of entry to the watercourse that needs to be addressed? What form will work bank stabilisation take? Is bank stabilisation required at the proposed improvement site? We would welcome early engagement during the development of these measures to ensure they are appropriate and effective. We are able to provide alternative locations for the Applicant to deliver mitigation and compensation for this scheme, on waterbodies that are hydraulically linked to the DCO and in need of improvements to improve their WFD status, for example the River Lyne.	1. This comment is a replicate of the Environment Agency's Deadline 4 submission. The Applicant provided a response at Deadline 5 [REP5-029], since then the Applicant has undertaken further assessment of the potential opportunities for improvements on this the Longdike Burn. The improvements will be undertaken along the approximate 1km section between the A1 in the north and East Road to the south (rather than the 850m referenced in the Environmental Statement (measure EM047, Table 9-23, Chapter 9: Biodiversity Part A [APP-048]). The additional assessment identifies that improvements will be contained within discrete parcels amounting to a section of approximately 600m in length. 2. The Applicant remains in discussion with the Environment Agency in regard to the proposals for Longdike Burn and the improvements will be further detailed as these discussions progress. 3. The Proposals for Longdike Burn are shown on Appendix iii Indicative Longdike Burn Proposals, these include: • Riparian woodland planting (subject to detailed design this could include native tree species) • Enhancements to an existing berm with suitable planting particularly wetland tolerant / amphibious vegetation. • Aquatic macrophyte planting to compliment the riparian planting and enhancements to the berm feature • Understorey planting (this may be beneficial along other parts of the reach) this could include amphibious or reeds or rushes 4. Furthermore, when these proposals are combined with the mitigation masterplan for Part A [REP4-060] (change request)the Scheme should deliver additional improvements as the potential for sediments (especially those from the coniferous plantation) and nutrients (from the golf course and existing agricultural land) reaching the channel will be reduced by the nature of the planting. 5. The Applicant confirms that engagement with the Environment Agency will be undertaken early in the detailed design process for the development of these measures, this is secured in the Outline CEMP, via Paragraph 1.1.8 [REP5-012 and 013] (and as updated at Deadline 6) states that "*The CEMP will be approved by the Secretary of State following consultation with Northumberland County Council and the Environment Agency, to the extent that it relates to matters relevant to its function.*" 6. The improvements to the Longdike Burn, are intended to offset the impacts for the direct loss of channel associated with the culvert extension at this location, also help compensate for the loss of channels elsewhere along the Scheme due to culverting. 7. The Applicant considers the package of improvements (detailed within Item 13) to be satisfactory to offset the impacts of the Scheme with regard to loss of watercourse channel because: • The Scheme will not lead to a deterioration in WFD classification of any designated waterbody as a result of the culverting works; • Enhancements to the channels have been proposed, through riparian planting (riparian woodland and understory improvements) up and downstream of the Scheme as detailed in the Culvert Mitigation Strategy [REP5-0422]; • Realigned watercourses are to be designed to be better than the reaches that are lost; • Baffles and natural beds are to be incorporated within the culverts were feasible; • Many of the channels are ephemeral field boundary ditches; • As agreed with the Environment Agency it is not possible to construct new watercourses, as a source of water is required; and

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		• As agreed with the Environment Agency the opportunities within the DCO extents have been maximised. 8. However, in addition to the current package of works, the Applicant remains in discussions with the Environment Agency, over the need for further mitigation and/or compensation, and if required what form this will take. A further meeting with the Environment Agency is scheduled for 7 May 2021 to discuss this matter.
Protection of protected species		
139	Action S-G8 states that 'Any tree felling will be carried out by experienced contractors to reduce direct mortality of protected species according to agreed felling methods between contractors and the ECoW'. A 'reduction' is unacceptable and could potentially constitute a criminal offence if tree felling results in the disturbance, harm, death or damage to resting places of a number of protected species. If any tree felling could result in such an offence then it must either be avoided or a method statement produced and a Natural England licence acquired to enable tree felling whilst ensuring protection and mitigation.	1. This comment is a replicate of the Environment Agency's Deadline 4 submission. The Applicant provided a response at Deadline 5 [REP5-029], which is quoted below. "*Measure S-G8 is a general measure within the Outline CEMP [REP5-012 and 013]* [updated document reference to quoted text]. *It is correct to state that tree felling carried out by experienced contractors will reduce the risk of mortality to protected species. This measure is supported by species or location specific measures, for example S-B7 (update pre-commencement assessments of trees for roosting bats), S-B9 (timing of clearance with regards to nesting birds) and A-B20/A-B21/B-B7/B-B8/B-B9 (pre-commencement inspection and method of works regarding red squirrel).* *Further, protected species licences have been identified and secured by the Outline CEMP [REP5-012 and 013]* [updated document reference to quoted text] *where a likely offence is predicted. These include great crested newts (A-B22), bats (A-B25 and B-B16) and badger (A-B26). Precautionary working methods have also been identified for great crested newts (A-B23), bats (A-B24, BB11), barn owl (A-B28 and B-B22), fish (A-B33) and reptiles (B-B27)*."
140	Action A-B17 states that a pre-commencement walkover survey for otters. However, it does not provide timescales nor does it identify the procedure if an otter rest site is found within the scheme.	1. This comment is a replicate of the Environment Agency's Deadline 4 submission. The Applicant provided a response at Deadline 5 [REP5-029], which is detailed below. 2. The Applicant confirms that the pre-commencement walkover survey would, as a minimum, be undertaken immediately prior to works commencing in proximity of each watercourse. In the event that an otter rest site is recorded and activities may result in an offence, Natural England would be consulted and a licence obtained where necessary. If an otter rest site is recorded but an offence can be avoided through mitigation (either as detailed within the Outline CEMP or additional measures), the Ecological Clerk of Works (ECoW) would develop an appropriate plan and work with the main contractor to implement this. Measure A-B17 of the Outline CEMP [REP5-012 and 013] was updated at Deadline 5 to capture the above detail.
Invasive Non-Native Species (INNS)		
141	With regards to action S-B8, we wish to review Biosecurity Method Statement (reference to S-B8) once produced. Therefore, we request that this action is updated to reflect this.	1. This comment is a replicate of the Environment Agency's Deadline 4 submission. The Applicant provided a response at Deadline 5 [REP5-029], which is detailed below. 2. The Applicant can confirm that measure S-B8 within the Outline CEMP [REP5-012 and 013] was updated at Deadline 5 to reflect the need for consultation with and review by the Environment Agency with regards to the Biosecurity Method Statement (see column 'Achievement Criteria and Reporting Requirements').
ECoW Responsibility		

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142	Table 2-1(Responsibility Matrix - Ecological Clerk of Works (ECoW) (main contractor), states that ECoWs are responsible for ensuring that all ecological mitigation measures are implemented on site and ensuring that the requirements of ecological licences. However, action B-B28 states that 'monitoring will be undertaken throughout the construction period by a site-based ECoW. The ECoW will ensure construction works remain compliant with mitigation measures prescribed within the outline CEMP and then in the CEMP produced by the main contractor'. The role and responsibilities of the ECoW suggests that the ECoW responsible for enforcing compliance with legislation and planning conditions. They do not have legal, and likely do not have contractual powers, to do so and under Construction Design and Management Regulations 2015 they are the responsibly of the principal contractor. As defined by CIEEM (https://cieem.net/iam/current-projects/accredited-ecow/), ECoWs 'oversee the management of the risks on construction sites'.	1. This comment is a replicate of the Environment Agency's Deadline 4 submission [REP4-076]. The Applicant provided a response at Deadline 5 [REP5-029], which is quoted below. "*The legal manner by which the obligations under the CEMP and the Requirements will be secured is the Planning Act 2008. As a result of these controls, there is every incentive on the Applicant, its contractor(s) and the personnel listed under the Outline CEMP to ensure compliance. It is not the role of the CEMP to provide contractual enforcement, and it is not the role of the Examination to investigate contractual matters given the enforceability under the general law.* *The wording of measure B-B28 of the Outline CEMP [REP5-012 and 013]* [updated document reference to quoted text] *with regard to the role of the ECoW does not make reference to enforcing compliance with legislation and planning conditions. Measure B-B28 states that the ECoW will undertake monitoring throughout the construction period and "the ECoW will ensure construction works remain compliant with mitigation measures prescribed in this Outline CEMP and then in the CEMP produced by the main contractor." This would be achieved through appropriate advice and guidance provided to the contractor, to make them aware of the mitigation requirements (as detailed within the Outline CEMP) and support with the implementation of this mitigation. This aligns with CIEEMs definition of an ECoW (https://cieem.net/i-am/current-projects/accredited-ecow/), which identifies the "need for a professional that can work on site with construction contractors to: 1. Advise on protecting valued biodiversity features on construction sites. 2. Provide practical, site-specific and proportionate assistance on how their clients can achieve compliance with environmental legislation…"* *The Applicant acknowledges that it is not the role of the ECoW to enforce compliance with legislation or planning conditions but that their role is to monitor compliance*."
143	We welcome the requirement for a competent, qualified and experienced ECoW during construction that is either an Accredited ECoW by CIEEM or a member of The Association of Environmental Clerks of Works (AECoW). As such, it should be made clear that the ECoW's responsibility is to monitor compliance with environmental legislation, policy or mitigation and advice on compliance with the environmental planning conditions, with preparation of compliance reports for clients and stakeholders and advisory reports for site managers/staff.	1. This comment is a replicate of the Environment Agency's Deadline 4 submission [REP4-076]. The Applicant provided a response at Deadline 5 [REP5-029], which is quoted below. "*The Applicant considers that it is not necessary to restrict this role to accredited individuals or those that are a member of the Association of Environmental Clerks of Works (AECoW). The Applicant also notes that the ECoW training and accreditation by CIEEM is still in its development phase and has not yet been released.* *Table 2-1 of the Outline CEMP [REP5-012 and 013]* [updated document reference to quoted text]*, which identifies the key responsibilities of the ECoW, acknowledges that this person(s) will need to be suitably experienced. With regards to responsibilities associated with the implementation of European Protected Species and relevant licences, the ECoW will also be appropriately licensed. The responsibilities of the ECoW in Table 2-1 of the Outline CEMP has been updated to include "monitor compliance with environmental legislation and policy" and to change "ensure" the implementation of mitigation and licence requirements to "monitor" the implementation. The responsibilities also now include "as required or requested, the ECoW will prepare compliance reports for the Applicant and stakeholders, and advisory reports for site managers/staff.*""
Monitoring		
144	With respect to table 5-1(Monitoring to be Carried out During Construction) it states that monitoring of the freshwater environment will be undertaken by the Environmental Manager (ECoW) and the frequency is 'As required, for instance during fish rescue activities.' It	1. This is secured by S-GS14 of the updated Outline CEMP [REP5-012 and 013] (submitted at Deadline 6).

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	also states that surface watercourses located within 50m of earthworks will be monitored/inspected to identify any pollution as a result of e.g. silt, fuel or chemicals on a weekly basis by the Environmental Manager. This should be updated to comply with the updated S-GS13 which states: 'During construction works surface watercourses located within 50m of earthworks will be monitored/inspected regularly. Watercourses in high risk areas and where construction activities are more intensive will be subject to more regular checks, and clear actions will be defined by the main contractor in consultation with the Environment Agency, such as reporting when limits (such as turbidity NTU levels) are reached so that pollution incidents are appropriately reported to Environment Agency and issues are resolved. A baseline will be established prior to the commencement of construction.'	
Watercourse Protection and Silt Treatment		
145	The inclusion of additional silt mitigation measures and concepts such as those in action S-W9 are highly welcomed. S-GS4 states 'pollution control measures including detention basins and filter drains will be incorporated into the drainage design of the Scheme.' This appears to indicate that the permanent structures designed to handle the operational phase and not the construction phase may be used. We would like to reiterate that detention basins are designed for the operational phase of the scheme, as such these should not be relied upon to deal with the large volumes of contaminated water that are associated with construction activities, as they are highly unlikely to be able to cope, and therefore result in pollution incidents and impacts upon ecology throughout the scheme. We recommend that dedicated sediment traps and settlement ponds should be designed into the scheme, and where these are unlikely to be effective, treatment systems such as lamella tanks and chemical dosing should be costed into the scheme.	1. Mitigation reference S-GS4 has been included in the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6) for the purpose of preventing pollution of controlled water bodies. This mitigation item sets out the principles for sediment and pollution control for the operation of the proposed scheme. Their consideration and inclusion forms part of the design philosophy of the proposed scheme. 2. Early construction of the permanent detention basins and their utilisation in construction phase water management is desirable as they can serve a function in balancing flow rates, particularly during high rainfall events. However, they will not be relied upon to treat sediment in site run off or excavation dewatering. 3. Mitigation Items S-W8 and S-W11 in the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6) set out requirements to manage all risks to the water environment via implementation of best practice and reduction of pollution risk. Prior to discharge to the environment all water will be sufficiently treated. Depending on anticipated flow rates and levels of contamination this may take the form of passive silt control methods such as silt fencing or temporary silt traps. Where circumstances dictate treatment by pumped settlement tanks, including chemical dosing where necessary, will be employed subject to the appropriate consents from the Environment Agency. The Environment Agency will be consulted on the proposed water management system prior to its implementation and during the construction phase as the works develop.
Watercourse mitigation / Compensation		
146	Although the value and claims are disputed, the suggested mitigation of 38ha of 'wet woodland' and 12ha of 'marginal planting' is not contained within Table 3-1 - Register of Environmental Actions and Commitments: The Scheme. Therefore there does not appear to be a defined commitment for mitigation and compensation for the impacts on the watercourses. The applicant should clarify the habitat types, areas or lengths of improvements and include.	1. As outlined in the Environment Agency's question, the approach to mitigation / compensation remains under discussion and Table 3-1 - Register of Environmental Actions and Commitments: The Scheme of the Outline CEMP [REP-012 and 013], has been updated for this deadline to incorporate details on the riparian planting (EXA S-W100) and culvert design, including natural beds (S-W6) to supplement the existing information in A-W2-A-W13 and S-W1 which was previously included. This information will be updated at the appropriate stage of the discussions, noting that the next meeting was held on 30 April and a further meeting arranged for 7 May 2021.

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Actions		
147	With respect to actions SW-W3, W4, W5, W6, the Environment Agency wish to consulted on developing the design of these actions. Therefore, the CEMP should be updated to reflect this.	1. Measures SW-W3, W4, W5 and W6 of the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6) have been updated to reflect that consultation with the Environment Agency should be undertaken.
Planning Requirement		
148	The Environment Agency wish to be consulted on the detailed CEMP. Therefore, we request the inclusion of a requirement stating that the detailed CEMP will be approved by the Secretary of State following consultation with Northumberland County Council and the Environment Agency.	1. Paragraph 1.1.8 in the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6) states that "*The CEMP will be approved by the Secretary of State following consultation with Northumberland County Council and the Environment Agency, to the extent that it relates to matters relevant to its function".*
7.17.6 Written Summaries of the Applicant's Oral Submissions to Hearings: Appendix F - Proposed Woodland and Marginal Planting Plan (Part A and B) [REP4-031]		
149	This shows the vast majority of the woodland being planted as mitigation and compensation for the impact on the watercourse is neither 'wet woodland' as originally claimed nor riparian and is in fact broadleaf woodland. This habitat is not a water dependant habitat, has a different form and function and does not improve the watercourses affected by the scheme as the vast majority of this planting is disconnected from the watercourses. Therefore, we do not believe the proposals put forward by the Applicant adequately mitigates or compensates for the disturbance and damage to, and the loss of watercourses associated with the scheme.	1. This comment is a replica of Item 21 above. A response is provided against Item 21.
150	In total an extra 235.3m of functional watercourse (considered as part of the biodiversity assessment) will be lost to culverting, with a further 299.2m of seasonal watercourses lost. The damage and loss of watercourses will be higher than the numbers quoted above, as they do not take into account scour protection measures and headwalls.	1. The overall loss of watercourse (running water) as a result of the Scheme is 289m, comprising 133m for Part A and 156m for Part B (as detailed in Annex A Approach to the Assessment of Losses and Gains of Watercourses [REP2-010]. The remaining channels are not defined by the Applicant as "seasonal watercourses" and represent ditches and not running water habitat. 2. As detailed in the Applicant's Response to Deadline 4 Submissions [REP5-029], unlike running water, ditches are not a HPI and therefore there is no policy or legislation requiring their replacement or compensation for their loss. The ditches recorded across the Scheme are primarily located along the boundaries of fields and represent features for water run-off and balancing. As channels that are only seasonally or temporarily wet (following periods of rain), the ditches do not provide connectivity for aquatic wildlife (such as fish). 3. The Applicant has utilised the design drawings for the Scheme to undertake the assessment and calculation of watercourse (running water) loss. As such, the Applicant considers the calculation of loss of watercourse (running water) to be accurate, pending detailed design.
151	We consider the mitigation measures put forward by the Applicant as the bare minimum and they fall well short of the industry standards. There is a failure to commit to a suitable depth of sediment within the	1. This question is a repeat / reword of many of the points previously raised by the Environment Agency, in relation to the key points raised:

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	culverts, especially for the Shipperton, Floodgate and Earsdon Burns and for the River Lyne. For all these waterbodies, the proposed bed depth is 150mm or less, rather than between 300- 600mm.	- The Applicant does not agree with the Environment Agency and considers the mitigation measures suitable for the magnitude / importance / running water habitat of the watercourses which are being lost, as discussed in many of the above items. - The Applicant considers that the Scheme has been designed in line with the industry standards in place at the time of the design, including The CIRIA Culvert Design and Operation Guide (C689). - In relation to the depth of sediment within the culverts which the Environment Agency also refer to natural bed this is addressed in the response to item 18. Which outlines that culvert design would be re-evaluated at the detailed design stage against the updated CIRIA guidelines with additional bed depths included where feasible.
152	On the Longdyke and Shipperton Burns, there is an opportunity to address fish access issues on minor roads within the DCO red line. We see these as an opportunity to address legacy issues, and would expect them to be considered as part of best practise.	1. The Applicant disagrees with the Environment Agency's position regarding addressing fish access issues on minor roads within the Order limits, which are not impacted by the Scheme. Where such measures are secured as part of this Scheme, they constitute an improvement identified to offset the impact of the Scheme (compensation). 2. Item 153 below presents further detail in relation to the replacement of fish baffles within a Burgham Culvert of Longdike Burn, which is not impacted by the Scheme. 3. In relation to Shipperton Burn, the minor road referred to is located downstream of the Shipperton Burn culvert (Ref 27.1, Culvert Mitigation Strategy [REP5-022]). There is a bridge of the minor road that is not impacted by the Scheme. Any implications to fish passage associated with this minor road bridge are a baseline condition that is not altered by the Scheme. As such, there is no requirement for this to be addressed as part of the Scheme. At present, it is not proposed to remove the small step associated with the minor road bridge downstream of the Shipperton Burn culvert.
153	On Longdyke Burn the Applicant has proposed to replace fish easement baffles within culverts. We consider this as necessary mitigation, and not compensation	1. The replacement of fish easement baffles on Longdike Burn relates to Burgham Culvert, which is retained and unmodified by the Scheme – and hence is not mitigation since the relevant culvert is not adversely affected. 2. As detailed in measure A-B9 of the Outline CEMP [REP5-012 and 013] (submitted at Deadline 6), "*the wooden baffles currently installed within the retained Burgham Culvert will be replaced with more permanent structures to improve the lifespan of the feature and maintain fish passage in the long-term*." 3. As such, the Applicant disagrees that this is necessary mitigation, given that there is no adverse effect to fish passage within the Burgham Culvert as a result of the Scheme. Instead, the replacement of the baffles with a more permanent material represents an improvement measure identified as an opportunity to offset the impacts to watercourses as a result of the Scheme (i.e. compensation).
154	The proposed riparian woodland and wetland planting that has been presented as compensation for the culverted watercourses. While this is welcomed, it is not considered appropriate compensation for the loss of, or disturbance to culverted and engineered waterbodies.	1. The riparian woodland has been addressed in the response to Item 13. The provision of riparian woodland is part of the package of mitigation measures as detailed within the Culvert Mitigation Strategy [REP5-022] and not to be considered in isolation. 2. Whilst there may be trees along the watercourse, it is considered that enhancement of these banks with additional trees would be beneficial to the watercourse. 3. The Applicant considers that works alongside / as part of the Scheme constitute compensation for the Scheme and do not form part of the broader commitment to improving biodiversity.
155	In approximately 50% of the cases proposed for riparian tree planting, there are already riparian trees present along the proposed watercourse. Furthermore we believe that these areas should be planted up as part of the Applicant's broader commitment to improving biodiversity associated with it's infrastructure.	

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156	The re-routing of the Fenrother and the Kittycarter Burns provides an opportunity to significantly improve these channels, and we'd expect Highway England to be ambitious in its plans for these two streams. We feel that to date, the proposals suggested, and the space allocated to these realignments is very restrictive, and misses an opportunity to improve biodiversity.	1. The issue raised in relation to the Fenrother Burn is identical to that at ref 126 above, which is responded to there. 2. In relation to the Kittycarter Burn, the Environment Agency may not be aware of the presence of the 66kv powerline which has to be accommodated underground adjacent to the burn. Therefore, it is imperative to prevent the burn from eroding the adjacent bank, furthermore, there are phasing restrictions associated with the construction of the Scheme, for example root protection zones and a 2m stand off from the 66kv Electricity cable as shown on Appendix 2.2 Technical Drawings Part B Alternative Indicative Cross Section, Section 2. [APP-188]
157	The Applicant's mitigation package falls well below the level we would expect on a scheme of this nature, and does not delivery industry best practise. Opportunities to improve the realigned sections of watercourse will be restricted, due to the limited space allocated for this work.	1. This question is a repeat / reword of many of the points previously raised by the Environment Agency, in relation to the key points raised: - The Applicant does not agree with the Environment Agency and considers the mitigation measures suitable for the magnitude / importance / running water habitat of the watercourses which are being lost, as discussed in many of the above items. - The Applicant considers that the culverts across the Scheme (including allowances for natural beds) have been designed in line with the industry standards in place at the time of the design, including The CIRIA Culvert Design and Operation Guide (C689). This approach was discussed and agreed with the Environment Agency in September 2018. - The opportunities for the realigned channels will be optimised during detailed design, but it must be considered that these include Kittycarter Burn and a Tributary of Fenrother Burn which are not classed as watercourses but are field boundary ditches.
158	Compensation through riparian woodland and wetland planting do not address the loss of aquatic habitat, and on at least half the cases, the woodland planting is enhancing existing riparian trees. We recognise that the scope for compensation within the DCO boundary is very limited, and therefore suggest that the Applicant considers supporting measures that are addressing WFD failures outside the DCO redline.	1. In their Deadline 5 response [REP5-044] the Environment Agency outlined that the culverting and loss of watercourses as a result of the Scheme could be offset / compensated outside of the DCO boundaries, this remains under discussion. A further meeting with the Environment Agency is scheduled for 7 May 2021 to discuss this matter.
Water Framework Directive (WFD) Addendum [REP4-068]		
160	We welcome the updates to the WFD Assessment in relation to the River Coquet amendments.	1. No comment.
161	A general measure of the Northumbria River Basin Management Plan (RBMP) relates to 'reducing the impact of manmade structures for wildlife in watercourses and improving hydromorphological conditions and improving longitudinal connectivity. At the local scale, it is clear that the revised proposals are contrary to the listed general measures. The scheme will result in significant disturbance to the water environment resulting from both the temporary works and loss of habitat due to the engineered bank stabilisation solution that is being proposed as part of	1. Specific to the Coquet water body, there were no measures published on the Catchment Data Explorer (https://environment.data.gov.uk/catchment-planning/) as the WFD compliance assessment states "*no measures within this operational catchment which the predicted improvements in the status of water bodies by 2021 are based upon.* There are two measures stated both of which are water industry related and not related to the RBMP's delivery of reducing impact to man-made structures. 2. The fundamental objective of a compliance assessment is whether the Scheme is compliant and unlikely to cause deterioration. The Applicant has assessed that the Scheme is compliant and this has been agreed by the Environment Agency. The local impacts are discussed in the compliance

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	the amendments to the scheme. This said, we do agree that it is unlikely the scheme will result in a deterioration to the WFD status of the Coquet from Forest Burn to Tidal Limit waterbody.	assessment and states that there will not be a local deterioration or waterbody scale deterioration. The Environment Agency website (Catchment data explorer) states, as above there are no measures within this operational catchment. The Applicant notes the Environment Agency's agreement that the Scheme is unlikely to result in a deterioration to the WFD status of the Coquet from Forest Burn to Tidal Limit waterbody.
162	However we do not agree with paragraph 5.1.5 which suggests rock armour will provide adequate and suitable mitigation for the loss of 62m of riparian marginal habitat. The action of replacing a natural riparian marginal habitat with an However we do not agree with paragraph 5.1.5 which suggests rock armour will provide adequate and suitable mitigation for the loss of 62m of riparian marginal habitat. The action of replacing a natural riparian marginal habitat with an engineered one will result in the loss valuable riparian habitat. Appropriate compensation for the loss of this riparian habitat has not yet been provided. We would welcome further details of how the applicant is going to compensate for this loss of 86m of river bank as detained in '6.38 Environmental Statement Addendum: stabilisation works – Rev 1' [REP4-063]. This document states 86m of scour protection on the north bank, with 62 m of rock armour plus an additional 24 m of green-grey bank protection at the downstream.	1. Under the provisions of the Water Environment (WFD) regulations, there is no legal requirement for compensation. This is further supported by the overarching Directive that also does not have a provision/requirement for compensation.
163	With respect to table 3 (Construction impacts assessment for Scheme) and the indicator regarding fish, invertebrates and macrophytes, this section should reference loss and/or degradation of habitat and direct harm to species	1. This has been included within the assessment as potential effects to these under the quality elements as referred to. WFD does not usually further separate degradation of habitat and harm to species. These are usually covered in the impact assessment as a likely change to an element. In the Applicant's WFD assessment, degradation to habitat and direct harm to species are only addressed in terms of likely impacts to the status elements as a result of the scheme. There is no specific test to assess degradation of habitat. That is not the purpose of WFD compliance.
164	Table 4 (Operational impacts assessment for Scheme), this should include reference to lost or degraded habitat	1. WFD does not usually further separate degradation of habitat and harm to species. These are usually covered in the impact assessment as a likely change to an element. In the Applicant's WFD assessment, this is undertaken in the impact assessment by considering change to an individual status element. As above, there is no specific test for habitat degradation. WFD does not assess water bodies in this way.
165	Section 4.5.4 states 'From the above, it can be concluded that the proposed scheme would not contribute to these measures but also does not impede or obstruct their future delivery.". This statement is slightly misleading as the proposed scheme will increase the extent of modified habitat and should be amended.	1. This statement was referencing the water company measures specifically and so no amendment is required. The water company measures are informal measures to be adopted by the water company to improve water quality in support of the river basin management plan.
166	Section 5.1.3 states 'river continuity will be unaffected by the proposed works and there will be no barrier to sediment movement through the works area". The WFD defines continuity as lateral and longitudinal. The proposals, at the local scale, will significantly reduce lateral	1. It is unlikely the slopes provide continuous sediment supply from the channel, particularly given the nature of the geology here. This process will be reliant on overtopping and bank collapse, which would be local and sporadic in nature. The loss of lateral continuity, if this were to occur, would be restricted to only the area of the works. Slope erosion and supply of sediment only occurs when events trigger this so the Applicant disagrees this is an issue. This would still be concluded as local and insufficient

Ref. No.	Response:	Applicant's Response:
	continuity. The rock armour, scour protection and stabilisation piles will decouple the slope from the river. The supply of sediment from these slopes will be lost, and the natural transition from the channel through the riparian zone will be heavily modified.	to change water body status. The Applicant disagrees that the channel will be heavily modified. The change in level of protection, as afforded by the works, will be small in comparison to waterbody length. Under WFD, the designation of heavily modified falls under the RBMP remit, and not as the result of impact assessments at the local level. There are numerous criteria to follow in order to change the status. The inclusion of a new bridge structure and marginal works would not qualify.
167	Appendix D: River Coquet Valley Slope Instability outlined in 6.38 Environmental Statement Addendum: Stabilisation Works – Rev 1 [REP4-063] identifies a number of slip zones and historic landslides. It also infers that past slope failure has influenced the planform of the river.	1. There have been a number of valley side failures within the gorge, which have delivered sediment to the river. These failures will have historically supplied material to fluvial system and, at some locations in the gorge, continue to do so through the erosion of their toes. The change to planform caused by these failures is likely to be temporary and localised as fluvial action removes finer failed sediment, however large boulders may continue to have an influence on local flow conditions over longer periods. 2. Specifically at the location of the north bank works, a wide, relatively gently sloping area adds significant lag to input of sediment from failures of the upper valley side to channel, as it will rest in this gently sloping area until removed by flooding. 3. On the south bank, the primary route for delivery of material from the valley side to the river is rockfall. Some rockfall will be arrested by the presence of trees and some will make it to the river. In the long term, the presence of rock armour on the south bank is unlikely to affect rockfall pathways to the river, if such rockfalls would have been sufficiently energetic to reach the river anyway.
168	Appendix D: River Coquet Valley Slope Instability outlined in 6.38 Environmental Statement Addendum: Stabilisation Works – Rev 1 [REP4-063] identifies a number of slip zones and historic landslides. It also infers that past slope failure has influenced the planform of the river.	1. There have been a number of valley side failures within the gorge, which have delivered sediment to the river. These failures will have historically supplied material to fluvial system and, at some locations in the gorge, continue to do so through the erosion of their toes. The change to planform caused by these failures is likely to be temporary and localised as fluvial action removes finer failed sediment, however large boulders may continue to have an influence on local flow conditions over longer periods. 2. Specifically at the location of the north bank works, a wide, relatively gently sloping area adds significant lag to input of sediment from failures of the upper valley side to channel, as it will rest in this gently sloping area until removed by flooding. 3. On the south bank, the primary route for delivery of material from the valley side to the river is rockfall. Some rockfall will be arrested by the presence of trees and some will make it to the river. In the long term, the presence of rock armour on the south bank is unlikely to affect rockfall pathways to the river, if such rockfalls would have been sufficiently energetic to reach the river anyway.
169	6.32 Environmental Impact Assessment – River Coquet Geomorphology Modelling Assessment [REP3-009] states in section 5.2.6 'a local source of coarse boulder-sized clasts that are able to resist entrainment and transport during flood events was probably central to its formation (the mid channel bars) (Knighton, 1998). This material, which likely originates from the local valley sides – as evidenced by its blocky, angular form – provided localised anchor points among which much smaller particles, which would otherwise be transported through the system, could deposit'. The decoupling of the slopes will prevent the supply of course material from the slopes to the channel. Thereby limiting the future formation of in-channel depositional areas. From Appendix D River Coquet Valley Slope Instability and the 6.32 Environmental Impact Assessment – River Coquet Geomorphology Modelling Assessment [REP3-009] it may be possible	1. It is agreed that the slope failures and occasional rock falls are an important long-term control in adding complexity and variation within this bedrock channel. 2. The decoupling of the slopes was not a component assessed within the REP3-009 or Appendix 10.4 Part A Geomorphology Assessment [APP-257] or Appendix 10.7 Part A Geomorphology Assessment [APP-260] as this slope decoupling was not part of the Scheme detailed in Chapter 2: The Scheme of the ES [APP-037]. This is because scour protection was not an element which formed part of the original application. 3. Refer to response 74 for full detail on the supply of material to the channel from the slopes. 4. Chapter 9: Road Drainage and the Water Environment of Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Chapter 8: Road Drainage and the Water Environment of Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064] presents a geomorphological assessment for the Stabilisation Works and Southern Access Works. Further geomorphological analysis is being undertaken for the Stabilisation Works and Southern Access Works and will be submitted at Deadline 7 of the Examination.

Ref. No.	Response:	Applicant's Response:
	to infer that rare slope failures and occasional rock falls are an important long term control in adding complexity and variation within this bed rock channel.	
170	We stated previously in the letter, we wish to highlight our concerns around the reliance on tree planting/woodland creation as mitigation and/or compensation for the loss of water course. Tree planting is not considered like for like compensation for the loss of watercourse and riparian habitat and therefore, the applicant must deliver wider compensation for the localised impacts the scheme will have on the water environment.	1. As detailed in the response to reference 48, the Applicant recognises that the woodland and river components of the SSSI are separate and has assessed these components separately. The ancient woodland of the SSSI (south bank) is not adversely affected by the Change Request beyond that assessed and addressed within Chapter 9: Biodiversity Part A [APP-048] and the Ancient Woodland Strategy for Change Request [REP4-054 and 055]. The loss of woodland from within the Coquet River Felton Park LWS (north bank) has been addressed within the Ancient Woodland Strategy for Change Request [REP4-054 and 055]. The woodland creation proposed as part of the Ancient Woodland Strategy for Change Request [REP4-054 and 055] has not been considered within the assessment to the river component of the SSSI. 2. The Applicant acknowledges that as a HPI and habitat of a SSSI, compensation should be provided for the loss of riverbank habitat to the extent appropriate having regard to the impacts of the Scheme. The Applicant is exploring opportunities for compensation for the loss of riverbank habitat through discussion with landowners. This may involve, for example, the restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir). The Applicant is also considering a proposal for funding of compensation received from the Environment Agency. The options for compensation are currently being reviewed and will be discussed further with the Environment Agency. The Applicant also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation.
171	We are working with the Applicant to address the issues outlined in this letter and in our previous correspondence.	1. No response required.
172	We require further discussion with the Applicant before we can comment on the acceptability of the Protective Provisions and the Requirements. The proposed changes submitted on 12 March 2012 and if accepted, may have implications on the Protective Provisions and Requirements required for the DCO.	1. The Applicant continues to discuss any outstanding matters with the EA but no requests have yet been made for changes to the DCO.

Table 1-2 – Environment Agency – Deadline 5a

Ref. No.	Response:	Applicant's Response:
Hydraulic Model Review Update		
	The Environment Agency will be undertaking a review of the hydraulic model relating to the change request submissions. This will involve reviewing the model in two stages. We require a minimum of 4 weeks to review each of the stages.	1. The Applicant has agreed this approach in discussion with the Environment Agency who have very helpfully agreed to the submission of the required material in stages. 2. The baseline model runs and associated reporting were submitted to the Environment Agency on Monday 19th April. Submission of the Scheme

		model runs (i.e. for the temporary construction phase and the permanent operational phase) was completed on Tuesday 27th April. The associated Scheme model reporting was submitted on Thursday 29th April. This allowed the Environment Agency to commence their review of the baseline model on Tuesday 20th April and the Scheme models on Friday 30th April. The Environment Agency have informed the Applicant that four weeks for review of the baseline model and four weeks for review of the Scheme models will be required, however best efforts will be made to complete their review more quickly. These dates are as set out in the Applicant's response to Deadline 5a [REP5a-002]. The Environment Agency confirmed during the hearing on 21 April 2021 that the proposed timetable for submission of the hydraulic modelling is acceptable to them and will allow them to submit their comments on the modelling in accordance with the examination timetable.
	We have not yet received the hydraulic model for review. However, it is anticipated that we will receive the stage 1 modelling information on Monday 19 April 2021, and the stage 2 modelling information on Monday 26 April 2021.	1. The baseline model runs, and associated reporting was submitted to the Environment Agency on Monday 19th April. 2. Submission of the Scheme model runs (i.e. for the temporary construction phase and the permanent operational phase) was completed on Tuesday 27th April. The associated Scheme model reporting was submitted on Thursday 29th April.

Table 1-3 - Mark Hawes - Responses to Deadline 4 Submissions

Ref. No.	Response:	Applicant's Response:
Open Floor hearing 2 – Interested party Mark Hawes		
Applicant Response 21		
1	The response from the Applicant does not correlate to the oral statement given at the meeting which was to highlight that some of the comments from the Applicant were subjective. In order to illustrate I provided the following example:	1. The purpose of the Written Summaries of Oral Submissions to Hearings [REP4-025] is to record the Applicant's responses to the points made by the ExA and Interested Parties at the hearings held during the week commencing 22 February 2021. The Applicant's oral submission recorded at item 21 was made in response to the Interested Party's submission to the effect that the Applicant's submissions contained in [REP3-024] were subjective in nature. 2. The Applicant has provided further explanation, below, as to the specific point raised by the Interested Party. This reflects the Applicant's submissions at Deadline 3 (see Table 1-6 of the Applicant's Response to Written Representations [REP3-026]). 3. The critical point to understand is that since the Applicant's evidence is prepared by expert witnesses, it can be viewed evidentially as *objective*. That is the point of expert evidence, where the expert's professional reputation supports his or her objectivity. This is in contrast with the view of Mr Hawes, which is inevitably subjective, since it is the view of a resident who is prospectively affected by the Scheme.

Ref. No.	Response:	Applicant's Response:
2	The loss of a limited number of trees, anticipated to be less than 10, is not anticipated to significantly reduce the enjoyment of the garden space.	1. The garden space is extensive, and the limited and transient impact on the north-east corner would not substantially harm the enjoyment of the remainder of the space available to Mr Hawes and his family. The Applicant would, by providing replacement planting along the eastern and northern boundaries, seek to reduce the awareness of the Private Means of Access ("PMA") from the property, including its garden. This is indicated on Figure 7.8: Landscape Mitigation Masterplan Part A for Change Request [REP4-060] and secured through item S-L2 (c) of Table 3.1 – Register of Environmental Actions and Commitments: The Scheme in the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6). 2. The objective view of the Applicant's expert adviser is that this will not result in a significant reduction in the enjoyment of the garden space. 3. The construction period would be temporary and would lead to some disruption. However, once construction is complete and boundary vegetation has established, any visual intrusion on the northern and eastern boundaries would be reduced, affording the garden privacy from users of the PMA. The PMA, serving Mr Hawes property and a single neighbour, as well as providing an agricultural access, is most unlikely to result in a material adverse impact on the enjoyment of the garden. Once the boundary vegetation is established. the amenity and enjoyment of the property would not be materially affected by the Scheme or the PMA.
3	In the hearing I suggested that despite their expertise the Applicant author was not in a position to make such a strong statement especially as they have never had the opportunity to enjoy the space or understand how we use it.	1. The Applicant's expert is a landscape architect, experienced in assessing infrastructure and highway projects. Furthermore, Andy Williams is a Chartered Landscape Architect (CMLI with over 24 years' experience in preparing landscape and visual impact assessments for numerous highway schemes including A9 Dualling Tomatin to Moy, Oxon Link Road and East Leeds Orbital Road. 2. The assessment of effects, as outlined in Chapter 7: Landscape and visual Part A [APP-044] and Appendix 7.3 Residential Visual Effects Schedule Part A [APP-218] has been undertaken from publicly available locations, and access to private property, including gardens is not sought. This is a limitation of the assessment that has been previously identified within Chapter 7: Landscape and visual Part A [APP-044] in paragraph 7.5.2, nevertheless this is standard practice for expert assessors, and not an approach that is unique to the current arrangements during the Coronavirus pandemic. 3. As such, and in assessing the most likely views from the main elevation of the property the assessment has considered the effects on the occupants of the dwelling. Assessment of garden spaces does not form the main focus of the assessment of effects on the occupants of dwellings, as the assessors are unable to determine how this space is used. 4. Nevertheless, the Applicant has provided a solution that would avoid or reduce the impact of the PMA on the occupants of the property, including when they make use of its external spaces, the assessment of which concludes that the effects would be slight adverse (non-significant) as outlined in Appendix 7.3 Residential visual effects schedule Part A [APP-218].

Ref. No.	Response:	Applicant's Response:
		5. As stated above, the Applicant is unable to be certain on how Mr Hawes uses his garden and in particular the north east corner of the plot, although the amenity and visual change as a result of the Scheme are entirely appropriate matters for objective expert judgement by the Applicant's landscape architect.
Applicant Response 21		
4	I welcome the suggestion that the implementation can be "micro-sited" to avoid the trees.	1. The Applicant notes that the Interested Party welcomes micro-siting to avoid trees as identified in Applicant's Written Summary of Oral Submissions at Hearings - Appendix D - Warreners Private Means of Access [APP4-029]. The avoidance of vegetation removal, and retention of mature vegetation, in order to reduce impacts on landscape and visual receptors. is secured by S-L2, S-L5, S-L6 and S-L8(f) of Table 3-1: Register of Environmental Actions and Commitments (REAC): The Scheme within the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6). 2. Micro-siting is a means of avoiding vegetation removal in this context, and is secured by the Outline CEMP. Measures S-L2, S-L5, S-L6 and S-L8(f) of Table 3-1: REAC of the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6) have been updated to state that "*Where appropriate, components of the Scheme that can, would be micro-sited within the Order limits to avoid unnecessary removal of vegetation*".
Applicant Response 25		
5	Potential dates for a follow-up meet were offered to the Applicant on 1st April. The meeting will provide an opportunity to walk through the 50 outstanding issues referred to in the open hearing.	1. Meetings were held online on 14th and 29th April 2021 with the Interested Party, the land agent and the Applicant's team. Discussed at the meeting were detailed design elements of the noise fence, vibration landscaping, the PMA access road and soil storage area. DCO matters raised after deadline 5 and the recent hearings included the noise compensation, visual effect assessment, cumulative and combined effects. The next meeting to get an update on the detailed design aspects is scheduled for 13th May 2021.
Applicant Response 27		
6	In producing Appendix D, I welcome the extra focus that the Applicant is placing on protecting the trees.	5. The Applicant notes that the Interested Party welcomes the focus on protecting trees that is set out in Applicant's Written Summary of Oral Submissions at Hearings - Appendix D - Warreners Private Means of Access [APP4-029]. The avoidance of vegetation removal, and retention of mature vegetation, in order to reduce impacts on landscape and visual receptors is secured by S-L2, S-L5, S-L6 and S-L8(f) of Table 3-1: Register of Environmental Actions and Commitments (REAC): The Scheme within the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6).
Ref : 5 Compulsory Acquisition Hearing 1 – Section 4 - Site specific representation		

Ref. No.	Response:	Applicant's Response:
Applicant Response xiv		
7	I welcome the suggestion that the implementation can be "micro-sited" to avoid the trees.	1. The Applicant notes that the Interested Party welcomes micro-siting to avoid trees as identified in Applicant's Written Summary of Oral Submissions at Hearings - Appendix D - Warreners Private Means of Access [APP4-029]. The avoidance of vegetation removal, and retention of mature vegetation, in order to reduce impacts on landscape and visual receptors is secured by S-L2, S-L5, S-L6 and S-L8(f) of Table 3-1: Register of Environmental Actions and Commitments (REAC): The Scheme within the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6). 2. Micro-siting is a means of avoiding vegetation removal in this context, and is secured by the Outline CEMP. Measures S-L2, S-L5, S-L6 and S-L8(f) of Table 3-1: REAC of the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6) have been updated to state that "*Where appropriate, components of the Scheme that can, would be micro-sited within the Order limits to avoid unnecessary removal of vegetation*"..
Applicant Response xv		
8	The following statement from the applicant should have read "western side" rather "eastern side" The Applicant confirmed that plot 1-8a is located on the eastern side of Mr Hawes' property.	1. Plot 1-8a is on the western side of the Interested Party's property.
Applicant Response 3		
9	Since this comment was made there have been follow-up emails to establish an agenda and dates for a follow-up meeting.	1. Meetings were held online on 14th and 29th April 2021 with the Interested Party, the land agent and the Applicant's team. Discussed at the meeting were detailed design elements of the noise fence, vibration landscaping, the PMA access road and soil storage area. DCO matters raised after deadline 5 and the recent hearings included the noise compensation, visual effect assessment, cumulative and combined effects. The next meeting to get an update on the detailed design aspects is scheduled for 13th May 2021.
Ref : 6 Issue Specific Hearing 2 : Environmental matters		
Applicant Response 3.7		
10	It is disappointing to read that the Applicant still believes that the "concerns expressed are misplaced". Having lived in the property for over 25 years we are very much aware of why we love the property and what we enjoy most about it. As such, we are equally clear on how each of the proposed changes will negatively impact upon our enjoyment of the property. Unfortunately, unless we are able to make head way in mitigating the worst of the impact then ultimately, we will be forced to move from the property. Trying to avoid this particular outcome has been the main motivation as to why we have been actively involved in the planning process over the last 4 years. Having the	1. The Applicant's oral submission recorded at item 3.7 was made in response to the Interested Party's oral submission to the effect that current views over open fields will be replaced with views of seven lanes of traffic with limited mitigation. In stating that the Interested Party's views are considered to be misplaced, the Applicant is not seeking to detract from the Interested Party's views as to the impacts of the Scheme, and item 3.7 goes on to clarify why the Applicant's objective assessment of impacts, including the provision of mitigation, is appropriate.

Ref. No.	Response:	Applicant's Response:
	Applicant suggest that our concerns are misplaced is not helpful and possibly explains why we have not been able to find solutions in the past.	2. The Applicant does accept that the use of the work 'misplaced' has perhaps not been helpful in this case, the Applicant does take the concerns of Mr Hawes and his family very seriously and will continue to work with Mr Hawes to come to a mutual agreement on all areas of concern that are in the best interests of both Mr Hawes and the Scheme.
11	In assessing the visual effect, the Applicant continues to focus the assessment from only one position which sits behind a group of trees that I planted 25 years ago. This position does not reflect actual usage and enjoyment of the property. There is no recognition from the Applicant of the less than desirable views on offer as you approach the property and how at the point of access there are effectively 8 roads in view. As the Applicant, who reported on the visual effect, has not visited the property, I submitted a number of photographs as part of deadline 4. The photographs try to illustrate how the proposed changes will impact the outlook at key positions within the property. As this submission also includes further details on visual effect, I have resisted repeating the same points here.	1. The assessment of effects, as outlined in Chapter 7: Landscape and visual Part A [APP-044] and Appendix 7.3 Residential Visual Effects Schedule Part A [APP-218] has been undertaken in accordance with best practice and accordingly from publicly available locations, and access to private property, including gardens is not sought. As such, and in assessing the most likely views from the main elevation of the property the assessment has considered the effects on the occupants of the dwelling. In this case, the front elevation was considered by the Applicant to be the north elevation and the assessment has considered the effects on views based on this. 2. The assessment considered the awareness of a view to the north arising from the removal of a small block of planting to provide access, within which views of the Scheme were considered. Assessment of garden spaces does not form the main focus of the assessment of effects on the occupants of dwellings, as the assessors are unable to determine how this space is used. 3. The assessment took into account the existing screening provided by the boundary planting, which the Interested Party identifies were planted by himself. As stated above, the Applicant is unable to be certain on how the Interested Party uses his garden. Whilst there is no legal right to a view, the Applicant is seeking to reduce the effects of the Scheme on receptors through appropriate mitigation measures. 4. The Interested Party states that there would be eight lanes in view, but does not clarify which roads he is referring to. However, the Applicant assumes that these refer to the PMA, the A1 (including the layby) and the access track to the swale on the opposite side of the A1. In combination, these views would only be achieved when entering the property from the north, with the views otherwise being highly constrained from within the property boundary by the existing boundary vegetation, proposed noise barrier and mitigation planting. 5. Nevertheless, the Applicant has provided a solution that would avoid or reduce the impact of the Scheme on the occupants of the property and external spaces, the assessment of which concludes that the effects would be slight adverse (non-significant) as outlined in Appendix 7.3 Residential visual effects schedule Part A [APP-218]. 6. The Applicant has responded to the photographs submitted by Mr Hawes in the response to Applicant's Response to Deadline 4 Submissions [REP5-029].

Table 1-4 – Millhouse Developments

Table 1-5 – The Woodland Trust

Ref. No.	Response:	Applicant's Response:
Ancient Woodland		
1	Natural England1 defines ancient woodland "as an irreplaceable habitat [which] is important for its: wildlife (which include rare and threatened species); soils; recreational value; cultural, historical and landscape value [which] has been wooded continuously since at least 1600AD." Ancient woodland, ancient trees and veteran trees: protecting them from development - GOV.UK (www.gov.uk) It includes: "Ancient semi-natural woodland [ASNW] mainly made up of trees and shrubs native to the site, usually arising from natural regeneration. Plantations on ancient woodland sites – [PAWS] replanted with conifer or broadleaved trees that retain ancient woodland features, such as undisturbed soil, ground flora and fungi".	1. The Applicant agrees with and acknowledges the definition of ancient woodland referenced by the Woodland Trust.
Ancient and Veteran Trees		
2	Natural England's standing advice on ancient trees states that they "can be individual trees or groups of trees within wood pastures, historic parkland, hedgerows, orchards, parks or other areas. They are often found outside ancient woodlands. They are irreplaceable habitats with some or all of the following characteristics… Its: great age, size, condition, biodiversity value as a result of significant wood decay and the habitat created from the ageing process, cultural and heritage value." Natural England's standing advice on veteran trees states that they "can be individual trees or groups of trees within wood pastures, historic parkland, hedgerows, orchards, parks or other areas. They are often found outside ancient woodlands. They are irreplaceable habitats with some or all of the following characteristics… A veteran tree may not be very old, but it has decay features, such as branch death and hollowing. These features contribute to its biodiversity, cultural and heritage value."	1. The Applicant agrees with and acknowledges the definition of ancient and veteran trees referenced by the Woodland Trust.
National planning policy		
3	The National Planning Policy Framework, paragraph 175 states: "When determining planning applications, local planning authorities should apply the following principles: c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons58 and a suitable compensation strategy exists;" Paragraph 5.32 of the National Policy Statement for National Networks states: "Ancient woodland is a valuable biodiversity resource both for its diversity of species and for its longevity as woodland. Once lost it cannot be recreated. The Secretary of State should not grant development consent for any development that would result in the loss or deterioration of irreplaceable habitats including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the national	1. The Applicant provided a response regarding the National Planning Policy Framework (NPPF) paragraph 175 and National Policy Statement for National Networks (NPS NN) paragraph 5.32 with regard to the loss of ancient woodland and veteran trees within their response to the Woodland Trust's relevant representation at Deadline 1 (see Table 1-14 [REP1-064]). The salient points are reproduced here. 2. The Applicant acknowledges that ancient woodland and ancient/veteran trees are an irreplaceable resource. As detailed within the Applicant's response to the Woodland Trust's Relevant Representation (see reference 1.14.1 [REP1-064]), potential route corridors to avoid the ancient woodland in its entirety were considered (see paragraph 3.3.8 of Chapter 3: Assessment of Alternatives of the ES [APP-038]). However, the only options to avoid the ancient woodland would require a significant length of additional dual carriageway (between 4 to 5 miles), which would negate the objectives of the Scheme. As such, it was not possible to

	need for and benefits of the development, in that location, clearly outweigh the loss. Aged or veteran trees found outside ancient woodland are also particularly valuable for biodiversity and their loss should be avoided. Where such trees would be affected by development proposals, the applicant should set out proposals for their conservation or, where their loss is unavoidable, the reasons for this."	design a Scheme that would avoid ancient woodland entirely. The loss of ancient/veteran trees has been minimised to only those which are essential to facilitate the Scheme. The Applicant's approach to the avoidance of impacts and mitigation for Veteran Trees is provided in Appendix A Impacts to Ancient and Veteran Trees to the Applicant's Written Summaries of Oral Submissions to Hearings of ISH 3, Table 2: Issue Specific Hearing 3 – Day 1 – Environmental Matters, submitted at Deadline 6 (document reference 7.24.1). 3. The test under paragraph 5.32 of the NPS NN for the justification of impacts on ancient woodland and ancient or veteran trees focuses on instances where the "national need for and benefits of the development, in that location, clearly outweigh the loss." 4. That this test is met is demonstrated in the Case for the Scheme [REP4-069 and 070], which presents the need for and benefits of the Scheme in the national public interest. 5. Part 3.4 of this document confirms that there is both a 'compelling need' and a 'critical need' for the development of national networks such as the dualling of the A1 in Northumberland. 6. The dualling of the A1 is a 'committed scheme' in the Road Investment Strategy, and the Case for the Scheme identifies that the Scheme will improve traffic flows, improve resilience, support economic growth and improve journey quality, reliability and safety, which are all considered to be substantial benefits. The benefits that the Scheme will bring are a matter of common ground between the Applicant and NCC, as recorded in Table 3.2 of the Statement of Common Ground with NCC [REP5-015]. 7. Further, the test under paragraph 175(c) of the NPPF (insofar as it is relevant to an NSIP) for where impacts on ancient woodland and ancient or veteran trees may be justified refers to circumstances where there are "wholly exceptional reasons and a suitable compensation strategy exists." It is the Applicant's case that this applies here, particularly as footnote 58 to the NPPF states that an NSIP may be an example of a "wholly exceptional reason", where the public benefits of a project outweigh the loss. The above analysis of public benefit applies equally here and the compensation strategy is detailed in the remainder of this response, as well as in the Ancient Woodland Strategy [REP4-054 and 055], developed and agreed in consultation with Natural England. In addition, compensatory planting is proposed as part of the landscape mitigation strategy as set out on Landscape Mitigation Masterplan Part A for Change Request Rev 3 [REP4-060] and Landscape Mitigation Plan Part B for Change Request Rev 1 [REP4-053] and secured through item S-L2 of Table 3.1 Register of Environmental Actions and Commitments: The Scheme in the Outline CEMP [REP5-012 and 013] (submitted at Deadline 6).
Woodland Trust concerns		
4	Whilst the Trust acknowledges that Dukes Bank Wood and Coquet River Felton Park LWS border the existing A1 motorway, the proposed new road bridges will result in further direct loss to these irreplaceable habitats. Natural England has identified the direct impacts of development on ancient woodland or veteran trees including: • "damaging or destroying all or part of them (including their soils, ground flora, or fungi) • damaging roots and understorey (all the vegetation under the taller trees) • damaging or compacting soil around the tree roots • polluting the ground around them • changing the water table or drainage of woodland or individual trees • damaging archaeological features or heritage assets"	1. The concerns raised by the Woodland Trust in paragraphs 4 and 5 of their submission are dealt with in turn below: <u>Damaging or destroying all or part, damaging roots and understorey, damaging or compacting soil</u> 2. A bespoke Ancient Woodland Strategy Part A for Change Request [REP4-054 and 055] has been developed to address the impacts of the Scheme on ancient woodland habitat. This is secured through commitments ExA:S-L100, A-L6, A-B3, A-B42, A-B43, A-B44 and A-L9 within Table 3-1: Register of Environmental Actions and Commitments: The Scheme of the Outline CEMP [REP5-012 and 013] (submitted at Deadline 6) and also Requirement 15, Schedule 2 of the Draft DCO [REP5-034 and 035] (submitted at Deadline 6). Sections 3 and 4 of the strategy detail avoidance, mitigation and compensation measures to address the potential impacts of the Scheme, including damage and destruction of ancient woodland habitat (and their soils (inclusive of fungi) and ground flora components), damage to roots and understorey vegetation

		and impacts due to soil compaction. Such measures include constraining construction to a minimal footprint to avoid and reduce the extent of impacts, siting of temporary storage areas outside the ancient woodland, implementation of excavation protection zones to avoid soil compaction and root damage of retained ancient woodland (including from the use of machinery), soil and sapling salvage from the impacted area of ancient woodland and compensatory woodland planting at a 1:12 (loss:creation) ratio. <u>Polluting the ground</u> 3. The Outline CEMP [REP5-012 and 013] (submitted at Deadline 6) includes measures to avoid the polluting of the ground in and around the ancient woodland. This includes, for example, the implementation of a surface water drainage strategy during construction (S-W1 [REP5-012 and 013]), adherence to good practice guidance, such as CIRIA's control of water pollution from construction sites (C532) (S-W8 [REP5-012 and 013]), implementation of damping/other suppressant techniques to reduce dust emissions (S-A3 [REP5-012 and 013]), a network of detention basins and drainage infrastructure to manage surface water and ground water during the operation of the Scheme (S-W4 and S-W5 [REP5-012 and -13]) and a permanent drainage strategy (S-GS3 and S-GS4 [REP5-012 and 013]). <u>Changing the water table or drainage</u> 4. A change in the water table or drainage of the ancient woodland habitat is not predicted to occur. An assessment of groundwater was undertaken as part of the Flood Risk Assessment Part A [APP-254] which indicated there would be no significant changes to groundwater at the location of the ancient woodland. <u>Damaging archaeological features or heritage assets</u> 5. The effects on Cultural Heritage are described in detail in within 6.2 Environmental Statement - Chapter 8 Cultural Heritage Part A [APP-046] and 6.7 Environmental Statement – Appendix 8.1 Historic Environment Desk Based Assessment Part A [APP-221]. No heritage assets are currently identified in the Order limits at the woodland areas around the River Coquet that would be impacted by the Scheme, although a low potential for prehistoric buried remains is indicated by the discovery of flint finds on the south side of the River Coquet, to the east of the Order limits (HER 11368). A programme of archaeological investigation to confirm the presence or absence of buried heritage assets within the Scheme is presented in 6.7 Environmental Statement – Appendix 8.5 Written Scheme of Investigation for Archaeological Trial Trench Evaluation Part A [APP-225], which will be used to inform a mitigation strategy if required. This is secured through commitments S-CH2, S-CH3 and S-CH7 within Table 3-1: Register of Environmental Actions and Commitments: The Scheme of the Outline CEMP [REP5-012 and 013] (submitted at Deadline 6). The Written Scheme of Investigation will be approved by the Secretary of State following consultation with NCC as per Requirement 9, Schedule 2 of the draft DCO [REP5-034 and 035]. 6. A response with regards to ancient/veteran trees is provided against references 7 and 8 below.
5	Additional impacts to the woodlands will include soil compaction from the use of heavy machinery to facilitate the bridge construction. As such, the Trust requests that all works are kept outside of the ancient woodland where possible, to limit the impacts to delicate ground flora.	
6	Furthermore, the Trust is concerned that for the remaining woodland, there will be additional impacts of increased noise and light pollution from traffic, as well as dust	<u>Noise</u>

	pollution during construction of the proposal. The woodland will also be subjected to increased nitrogen oxide emissions from vehicles, which can change the character of woodland vegetation (in terms of species composition) through altering nutrient conditions2 . Sheate, W. R. & Taylor, R. M. (1990) The effect of motorway development on adjacent woodland. Journal of Environmental Management, 31, pp. 261-267	1. The predicted noise level changes within the River Coquet and Coquet Valley Woodlands SSSI are discussed within paragraph 1.11.19 of the Noise Addendum [REP1-019]. The noise level changes are shown graphically on noise contour plots (in the short- and long-term) within Noise Addendum Appendix D Part 1 [REP1-021] Figure 4. Short-term Noise Level Change – Part A and Figure 5. Long-term Noise Level Change – Part A. 2. Whilst the Scheme is predicted to increase noise levels in this area, the Scheme related noise levels and changes are considered not significant for human receptors within this area. Light pollution 3. Light pollution measures would be adopted during construction to reduce potential light spill to adjacent habitats. Working during the hours of darkness would be avoided, where practicable, and where lighting is required for specific tasks, this would be directional lighting in order to reduce the risk of light spill. In addition, when not required, lighting will be switched off. These and additional measures would be set out within the lighting strategy that will be developed for implementation across the Scheme in accordance with BS5489 Code of Practice for the Design of Road Lighting and good practice guidance on lighting with regards to protected species. This is secured within item S-G5 of Table 3.1 Register of Environmental Actions and Commitments: The Scheme in the Outline CEMP [REP5-012 and 013] (submitted at Deadline 6). In addition, S-L6 of Table 3.1 Register of Environmental Actions and Commitments: The Scheme in the Outline CEMP [REP5-012 and 013] (submitted at Deadline 6) requires that construction compounds, including the Lionheart Compound to the south east of the ancient woodland would be laid out so as to avoid the risk of light pollution. 4. Upon completion of the construction phase, this part of the corridor would remain unlit during operation, and as such the impact of lighting would not be substantially different to the current baseline levels, and no significant new light sources are anticipated. Air Quality 5. The air quality impacts of the construction and operation of the Scheme on woodland sites located within all national/international designated sites, ancient woodland, local nature reserves and local wildlife sites within the air quality assessment area are set out in Chapter 5 Air Quality Part A [APP-040] and Part B [APP-041]. 6. The operational impacts arising from changes in ambient NOx concentrations and nitrogen deposition rates of the Scheme on woodland sites are set out in Table 5-15 and Table 5-16 respectively for Part A [APP-040] and Part B [APP-041] of the Scheme. This assessment was undertaken in accordance with DMRB HA207/07 and Interim Advice Note (IAN) 174/13. The assessment of significant effects is presented in Chapter 9: Biodiversity Part A [APP-048] and Part B [APP-049] and did not identify any significant effects to woodland habitat as a result of changes in air quality. 7. The construction dust assessment is set out in section 5-8 of Chapter 5 Air Quality Part A [APP-040] and Part B [APP-041]. The conclusion of the assessment was that with the application of the mitigation measures set out in section 5.9, no significant effects are likely. 8. Ancient/veteran trees were not included within the list of designated sites to be assessed within DMRB document HA207/07, the guidance note used to inform the air quality assessment methodology for Chapter 5 Air Quality Part A [APP-040] and Part B [APP-041]. During the course of the assessment, Highways England published the updated guidance document LA105, which lists veteran trees as a designated habitat to be assessed in terms of air quality impacts, as well as updated nitrogen deposition velocities for woodlands. In order to account for the key differences in the assessment methodologies of the two guidance documents, a sensitivity test was undertaken.

		9. The operational impacts of the Scheme on woodland and ancient/veteran trees in accordance with LA 105 are set out in Table F-1 of the Air Quality DMRB Sensitivity Test [APP-330], which was updated at Deadline 3 by Table 1-4 of Air Quality Assessment (Scheme Opening Year 2024) [REP3-012] to account for a change in opening year (2023 to 2024). The assessment of significant effects is presented in the Updated Biodiversity Air Quality DMRB Sensitivity Assessment [REP3-010]. Significant effects are predicted for the following ecological features (designated sites for woodland and veteran trees); Borough Woods Local Nature Reserve (LNR) and ancient woodland (same impacted area), Well Wood ancient woodland and veteran trees T682 and T701. The Applicant is currently engaging with Northumberland County Council to explore opportunities for mitigation and/or compensation. 10. The sensitivity test concluded that there would be no change to the conclusion of the construction dust assessment set out in Chapter 5 Air Quality Part A [APP-040] and Part B [APP-041] - i.e. that with the application of the mitigation measures set out in Section 5.9, no significant effects are likely.
Impacts to ancient/veteran trees		
7	The following trees have been identified for removal within the Arboricultural Report accompanying this application: • T91 – Veteran Ash • T494 – Veteran Oak • T682 – Veteran Ash • T685 – Veteran Sycamore • T688 – Veteran Oak • T690 – Ancient Oak • G21 – Over-mature Hawthorn group with veteran qualities	1. The stated intention of the Applicant is to avoid the unnecessary removal of vegetation, including mature trees that have been identified within the Arboricultural Report Part A [APP-220] as having features that are typical of veteran trees. This is identified and secured in the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6) under item S-L2, with specific measures identified under S-L8 of Table 3.1: Register of Environmental Actions and Commitments: The Scheme. At the time of the alternative route selection studies being undertaken, no arboricultural surveys were undertaken, and in the absence of records of veteran trees in the ATI the location of potential veteran tree constraints was unknown. However, the Applicant has, and continues to, take a precautionary approach to safeguarding vegetation, and the Applicant's approach to the avoidance of impacts and mitigation for Veteran Trees is provided in Appendix A Impacts to Ancient and Veteran Trees to the Applicant's Written Summaries of Oral Submissions to Hearings of ISH 3, Table 2: Issue Specific Hearing 3 – Day 1 – Environmental Matters, submitted at Deadline 6 (document reference 7.24.1). 2. The Arboricultural Report Part A [APP-220] has assumed a worst-case scenario, such that all the trees identified would be removed as a result of the construction of the Scheme. However, the proposals for each of the trees identified by the Woodland Trust are outlined below: T91 – The anticipated movement of Highlaws junction to the north (within the limits of deviation for Work No. 8B as indicated on Works Plans [REP4-036]) would reduce the potential impacts on the tree. As a result, it is anticipated that the tree and the hedgerow within which it sits would not be impacted by the Scheme. Potential works within the root protection area (RPA) would be designed so as to avoid impacts, refer to S-L8 of Table 3.1: Register of Environmental Actions and Commitments: The Scheme of the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6). T494 – The alignment of the proposed PMA at Work No. 11B as indicated on Works Plans for Change Request [REP4-036] [REP4-036] will be moved to the north, within the Order limits, so as to avoid as far as practicable unnecessary impacts on the RPA of the cluster of trees, with the potential veteran tree located to the south side of this cluster. The retained trees would be protected from potential damage in line with S-L8 of Table 3.1: Register of Environmental Actions and Commitments: The Scheme of the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6).

T682 – This tree is not removed by the Scheme. Further, it would be protected from potential damage in line with S-L8 of Table 3.1: Register of Environmental Actions and Commitments: The Scheme of the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6).

T685 – The tree is located north of the River Coquet and to the east of the main alignment, on the edge of the Order limits and adjacent to the southern edge of the proposed Detention Basin no. 19. As such, the Applicant is working with the Main contractor to identify potential changes to the design of the detention basin in order to avoid any unnecessary works within the RPA. This reflects the Applicants intention to avoid any unnecessary removal of trees, including those that have features that are typical of veteran trees, as identified and secured through S-L8 of Table 3.1: Register of Environmental Actions and Commitments: The Scheme of the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6).

T688 – The tree is located within the centre of a proposed Detention Basin no. 19, as such it is expected that this tree would be removed. Flood and drainage studies conducted explored alternative detention basin positions and locations for Detention Basin 19, However, the current proposed location for the basin has been chosen as the appropriate position and location to ensure the functionality required and any redesign of the orientation or profile of DB19 would still not allow for the retention of T688 and therefore the tree would be lost.

T690 - The tree is located on the edge of a proposed access track to the south of the B6345 and to the east of the existing A1, as such, the Applicant is working with the Main contractor to identify if the alignment of the access track (Work No. 20 on Works Plans for Change Request [REP4-036]) that would provide maintenance access to Detention Basin no. 19, could be moved to the north, within the draft Order limits. Should the requirement remain for the access track to pass through the RPA, no-dig construction techniques will be adopted to construct the access track, such as utilising a sub-base formed from a three-dimensional cellular confinement system, an above ground slab supported by piles, pads or elevated beams to mitigate for any potential root damage through compaction or severance during excavation. A working methodology, including the specification of relevant measures, would need to be formalised as part of an Arboricultural Method Statement at detailed design, secured through item S-L8(g) of Table 3.1: Register of Environmental Actions and Commitments: The Scheme within the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6). The retained tree would be protected from potential damage in line with S-L8 of Table 3.1: Register of Environmental Actions and Commitments: The Scheme of the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6). It is therefore considered that Tree T690 can be retained as part of the Scheme through adoption of the above methods.

G21 - Whilst the over-mature group of hawthorn referenced as G21 were recorded with veteran qualities, the trees were not categorised as veteran (category A, subcategory 3) (see Appendix A, Appendix 7.5 Arboricultural Report [APP-220]).

3. The above measures demonstrate how the Applicant is avoiding any unnecessary works that might otherwise impact on trees that have been identified as having features that are typical of veteran trees. The location of the trees has been highlighted to the Main contractor, who is working with the Applicant to safeguard the trees in line with the measures identified within the Outline CEMP [REP5-012 and 013] (and as updated at Deadline 6).

8	It is essential that no trees displaying ancient/veteran characteristics are lost as part of the development. Any loss of veteran trees would be highly deleterious to the wider environment of veteran trees within close proximity, which may harbour rare and important species. We also note that a number of notable trees will be felled to facilitate the proposed scheme. Any notable trees should also be retained wherever possible.	1. The importance of retaining trees will continue to be borne in mind during the detailed design development and should opportunities be identified to retain ancient or veteran trees currently identified for removal then these opportunities will be taken. The Applicant's approach to the avoidance of impacts and mitigation for Veteran Trees is provided in Appendix A Impacts to Ancient and Veteran Trees to the Written Summary of ISH 3, Table 2: Issue Specific Hearing 3 – Environmental Matters, submitted at Deadline 6. This approach is reflected in item S-L2 of Table 3.1 Register of Environmental Actions and Commitments: The Scheme in the Outline CEMP [REP5-012 and 013] (submitted at Deadline 6). 2. An analysis of the Scheme's compliance with the tests for the justification of impacts on ancient woodland and ancient or veteran trees under both the NPS NN and the NPPF is provided at paragraph 3, above, and is not repeated here.
Other Matters		
9	As outlined in our relevant representation to this scheme, we acknowledge that the applicant is proposing compensation planting at a ratio of 12:1. However, we believe that the level of compensation needs to be commensurate with the irreplaceable nature of the habitat lost and therefore ask that the applicant adopts a ratio of 30 hectares of new planting for every one hectare of ancient woodland lost.	1. The Applicant provided a response to the Woodland Trust's identical comment within the response to the Woodland Trust's relevant representation at Deadline 1 (see Table 1-14 [REP1-064]). 2. As per reference 1.14.1 of the Applicant's Deadline 1 response, there is no set guidance for the ratio for woodland compensation in relation to ancient woodland, with assessments made on a case-by-case basis. The provision of woodland planting, which equates to a 12:1 ratio (creation:loss), was decided in agreement with Natural England, in consideration of the relatively small area of ancient woodland impacted by the Scheme, the efforts to avoid or reduce the extent of impacts through Scheme design and the efforts to mitigate and compensate impacts by implementing protective and salvage measures (implementation of the mitigation hierarchy). The proposed area of woodland creation (11.54ha as detailed within the Ancient Woodland Strategy Part A for Change Request [REP4-054 and 055]) is proportionate to the likely effects of the Scheme.

10	We are also concerned about the translocation of ancient woodland soils for new areas of planting as we understand that invasive species such as Himalayan Balsam are present in the area and any translocation process could aid the spread of such species.	1. The Applicant provided a response to the Woodland Trust's identical comment within the response to the Woodland Trust's relevant representation at Deadline 1 (see Table 1-14 [REP1-064]). 2. As per reference 1.14.1 of the Applicant's Deadline 1 response, baseline surveys have not recorded invasive species within the Order limits, such as Himalayan balsam (as detailed in paragraph 3.2.11 of the Ancient Woodland Strategy Part A for Change Request [REP4-054 and 055]). However, as a precaution, the Strategy details appropriate mitigation to avoid the spread of invasive species (see paragraphs 3.2.11, 3.2.12, 4.4.6, 5.3.4, 5.4.1 and 5.4.4 [REP4-054 and 055]).
Conclusion		
11	In summary, whilst ancient woods and trees will suffer direct loss to facilitate the scheme, the Trust will remain strongly opposed to the proposed project and considers that the scheme goes against national planning policy designed to protect against the loss of irreplaceable habitats.	1. The Applicant acknowledges that the Scheme will result in impacts to irreplaceable habitat. However, as demonstrated in the responses provided above, the impacts to ancient woodland are unavoidable and the loss of ancient and veteran trees has been minimised to only those which are essential to facilitate the Scheme. 2. As highlighted above, the Scheme is in compliance with the tests for the justification of impacts on ancient woodland and ancient or veteran trees under both the NPS NN and the NPPF. As such, the Scheme is not contrary to national planning policy, contrary to the position that the Woodland Trust assert.

Table 1-6 – Natural England

Ref. No.	Response:	Applicant's Response:
Background to Natural England's discussions with Highways England:		
1	Natural England originally discussed the proposed change requests relating to the Stabilization Works and Southern Access Works in a joint meeting with Highways England (HE) and the Environment Agency (EA) on 16th December 2020. At this meeting Natural England outlined its significant concerns about the potential impact that the proposed changes to the design of the new bridge would have on the River Coquet and Coquet Valley Woodlands Site of Special Scientific Interest (SSSI). The proposed changes are not insignificant as they entail a considerable amount of in river works (both temporary and permanent) that would result in the loss of natural riverbank habitat and alterations to the geomorphology of the river at this location. At this meeting both Natural England and the EA highlighted the need for compensatory habitat to be provided offset the damage/destruction to the SSSI.	1. The Applicant can confirm that a meeting was held with Natural England and the Environment Agency on 16 December 2020 and that at this time, Natural England raised their concerns about the potential impact of the Change Request on the River Coquet and Coquet Valley Woodlands SSSI. 2. The Applicant has undertaken an impact assessment in relation to both the Stabilisation Works and Southern Access Works. There are two elements to consider: loss of riverbank habitat and geomorphology. 3. The impact assessments concluded that the loss of riverbank habitat would result in a Moderate adverse (significant) effect. 4. The proposed works are considered unlikely to change the river typology and impacts are local to the works, therefore unlikely to impact the form or function of the river upstream or downstream beyond the immediate locality of the works. As such, a Slight Adverse (not significant) effect on geomorphology has been determined. Full details of the impact assessments are presented in Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]. 5. The Applicant acknowledges that as a Habitat of Principal Importance (HPI) and habitat of a SSSI, compensation should be provided for the loss of riverbank habitat to the extent appropriate having regard to the impacts of the Scheme. The Applicant is exploring opportunities for compensation for the loss of riverbank habitat through discussion with landowners. This may involve, for example, the restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir), two opportunities suggested by Natural England. 6. The Applicant has recently conducted a site visit (20 April 2021) near Holystone and Hepple, located upstream of the Scheme, to meet with Forestry England and a private landowner. The Applicant is also considering a proposal for funding of compensation received from the Environment Agency. The options for compensation are currently being reviewed and will be discussed further with Natural England. 7. The Applicant also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation.
2	From the outset it needs to be noted that the River Coquet has been designated because it is example of a relatively unmodified fast flowing river system where the notification covers not only specific flora and fauna but also the form and function of the river type itself. When compared with other English river systems, the Coquet has relatively few anthropogenic modifications (weirs, flood banks and bank revetments) which is partly due to its highly mobile nature in the upper to mid-catchment and a small number of steep sided gorges along a number of reaches of its lower	1. The Applicant acknowledges the status of the River Coquet as a relatively unmodified fast flowing river system and the classification of SSSI status, which covers specific flora and fauna as well as the form and function of the river itself. 2. Site information collated by the Applicant would support the argument that the reach is more modified than is suggested. The north bank within the

Ref. No.	Response:	Applicant's Response:
	catchment. The river morphology and habitat in the reach with the proposed new bridge crossing is largely unmodified (i.e. not impacted by agricultural practices or manmade structures) for over 1km, except for the encroachment of the southern pier of the existing A1 bridge into the river and made ground under the bridge on the north bank. And although the area directly impacted by the proposed changes is relatively small, when compared to the overall length of the SSSI unit in which it site sits, the magnitude of the proposed changes need to be viewed in the context of alterations to a largely naturally functioning system in one of the few gorge sections of the SSSI.	reach of the proposed works exhibits evidence of previous modification. This includes modifications associated with the construction of the existing crossing, including means for access and a highway related drainage outfall (with associated rock armour protection). The south bank also exhibits modification with encroachment into the channel from river training works associated with the existing southern bridge pier. A total length of 35m, including the pier and the river training works upstream and downstream of the pier. Approximately 640m downstream of the proposed works, a river-wide weir impounds the river creating a backwater effect which extends approximately 300-350m upstream (to within 300-350m of the proposed works). 3. The loss of riverbank habitat, as a result of permanent scour protection, would result in a significant effect (direct, permanent Moderate adverse effect) to the SSSI (paragraph 8.10.6, Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and paragraph 7.10.6, Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]). 4. Regarding the magnitude of the impact, this is discussed further in the response to references 7/8 and 10 below.
3	Subsequent to the meeting outlined above, Natural England provided detailed written advice to the applicant on the first version of the ES addenda for the proposed changes on 25th February 2021 which set out our concerns and our view that the damage to SSSI interest features should be compensated for. The applicant has set out their response to our comments in the Consultation Statement for Change Request document that was submitted to the Planning Inspectorate for Deadline 4. The comments give below address the elements of the proposed Change Requests where Natural England still has outstanding concerns.	1. The Applicant confirms that a consultation response to the Change Request Environmental Statement Addenda was received on 25 February 2021. This consultation and the Applicant's responses are presented in the Consultation Statement for Change Request [REP4-073].
4	It should be noted that Natural England has been working closely with the EA to assess the impacts of the proposed changes on the riverine elements of the SSSI, holding joint meetings to discuss the relevant sections of the Environmental Statement and visiting the site of the proposed crossing. Natural England has relied on the agency's geomorphological expertise to assist with its assessment of the impacts of the proposed Change Requests on the SSSI.	1. No comment.
Environmental Impacts:		
Biodiversity		
5	Natural England acknowledges the need for the proposed improvements to the A1 from Morpeth to Ellingham and has welcomed the early engagement with the applicant and their consultants during the development of the scheme proposals. From the outset of discussions regarding the proposed scheme in 2015/2016 Natural England had accepted, albeit reluctantly, that the scheme would result in a loss of Ancient and Semi-natural woodland from within the SSSI. Up until the week prior to the afore mentioned meeting it was Natural England's understanding that the proposed bridge design	1. The Applicant notes Natural England's acknowledgement of the need for the Scheme and that the impacts of the Scheme to the ancient woodland habitat of the SSSI are unavoidable. 2. Prior to the Change Request, construction works in the vicinity of the SSSI related to the construction of the new permanent bridge, that would carry the southbound carriageway of the A1. The Applicant confirms that the Scheme design at this time did not require structures within the River Coquet, with the

Ref. No.	Response:	Applicant's Response:
	would not require any structures within the river which minimised the impacts on the riverine element of the SSSI.	piers of the bridge to be located outside of the river to minimise the impacts on the riverine element of the SSSI. 3. The Change Request, which currently includes scour protection along the banks of the river, was a result of the identification of stability issues on the north slope of the River Coquet. As detailed in the Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063], the DCO application was submitted on 7 July 2020. As is usual with an infrastructure project of this nature, further detailed ground investigation and design has been undertaken in parallel with the DCO application process. It was identified in December 2019 that supplementary ground investigation would be required to inform the detailed design work for the Scheme. This ground investigation was undertaken between January and March 2020 followed by analysis of the results with the first draft report being available on 17 July 2020 (therefore, after the application had been submitted on 7 July 2020). The results were reviewed over the summer of 2020, with the latest report being available on 2 December 2020 shortly before a meeting with Natural England and the Environment Agency. The Applicant therefore advised Natural England of the potential need for a structure in the river as soon as reasonably practical after the Applicant became aware of the issue. Without treatment, the stability issues could cause a failure in the slope during the construction and operation of the new bridge and could also have a detrimental impact on the existing bridge structure.
6	From the outset the applicant has accepted that the loss of the Ancient and Semi-natural SSSI woodland would need to be compensated for and, following detailed negotiation, an appropriate compensation package has been agreed in the form of the Ancient Woodland Strategy. Natural England acknowledges the considerable time and resource that the applicant has invested in developing the Ancient Woodland Strategy.	The loss of ancient woodland habitat of the River Coquet and Coquet Valley Woodlands SSSI is as a result of the Scheme prior to the Change Request. Avoidance, mitigation and compensation measures to address the impacts to the ancient woodland habitat of the SSSI are detailed within the Ancient Woodland Strategy for Change Request [REP4-055 and 056]. The Applicant is grateful for Natural England's collaboration and comment whilst developing the Ancient Woodland Strategy.
7	However, it is Natural England's judgement that the revision of the bridge design, necessitated by the ground conditions on the northern bank of the river, will result in the loss of natural bankside habitat and the deterioration in the form and function of a nationally important river. These unavoidable impacts on the river would need to be mitigated as far as possible but the loss of SSSI interest features would need to be compensated for.	1. The River Coquet (an interest feature of the River Coquet and Coquet Valley Woodlands SSSI) is recognised within the Addendums as an ecological receptor of National importance (paragraph 8.10.6, Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and paragraph 7.10.6, Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]). The Applicant acknowledges that the proposed scour protection along the River Coquet would result in the loss of natural bankside habitat. The impacts of the design development contained in the change requests are local to the works and unlikely to affect the form or function of the river beyond the immediate locality of the works (paragraph 9.10.41 of Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and paragraph 8.10.47 of Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]) or further afield.
8	In the revised Change Request for Stabilisation Works and Southern Access Works the applicant has sought to mitigate the impacts on the river by a number of measures including reducing the overall length of scour protection on both banks and changing the materials used on a proportion of the scour protection. The applicant acknowledges that the proposed changes to the scheme would involve the permanent loss of bankside habitat from within the SSSI. However, the assessments of the impact on the SSSI of both the Stabilisation Works and Southern Access Works in the operational phase are downgraded from Very Large Adverse effect to permanent Moderate Adverse effect on the grounds that the extent of the impact to natural riverbank habitat on the both banks represent only a small	

Ref. No.	Response:	Applicant's Response:
	portion of the overall bank length of the SSSI unit (Unit 5). On the basis of these assessment the applicant has concluded that compensatory provision for the loss of riverbank habitat is not necessary.	2. The Applicant notes that Natural England acknowledges that the impacts to the river are unavoidable. The Applicant has sought to minimise impacts (mitigation) as far as reasonably practicable. The design of the permanent scour protection has been refined to include areas of green-grey solution to reduce the level of hard engineered scour protection. The scour protection comprises 90m of rock armour and 41m of green-grey erosion control (as detailed in paragraph 7.10.6 of Environment Statement Addendum: Southern Access Works for Change Request [REP4-064]). Additional mitigation measures are presented in Appendix E, Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Appendix D, Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]. As the Change Request has been accepted by the ExA, these additional mitigation measures have been incorporated into the Outline CEMP [REP5-012 and 013] (updated at Deadline 6), within Tables 3-4, 3-5 and 3-6. Mitigation includes, as examples, the design of the scour protection as far as possible to be in keeping with existing natural rocky areas of the River Coquet (Commitments SW-B4 and SAW-B2), the design of the scour protection should provide sheltering habitat for aquatic invertebrates and fish (qualifying features of the SSSI) (Commitments SW-B4 and SAW-B2), the design of the scour protection should allow it to become naturally vegetated over time (Commitments SW-B4 and SAW-B2) and the use of suitable materials for the construction of the scour protection to avoid changes in water chemistry (Commitments SW-B1 and SAW-B1). 3. The Applicant confirms that the loss of riverbank habitat as a result of permanent scour protection is identified as a Moderate adverse (significant) effect. This has been concluded due to the localised nature and limited extent of bank habitat effected (in comparison to the wider SSSI unit). This conclusion is also informed by the geomorphology assessment (associated with the form and function of the river, a designation criteria of the SSSI), which predicted that the proposed scour protection would result in minor adverse impacts to geomorphology (Table 9-8, Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Table 8-8, Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]). 4. The Applicant acknowledges that as a HPI and habitat of a SSSI, compensation should be provided for the loss of riverbank habitat to the extent appropriate having regard to the impacts of the Scheme. The Applicant has been and continues to explore opportunities for compensation for the loss of riverbank habitat through discussion with landowners. This may involve, for example, the restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir), two opportunities suggested by Natural England. The Applicant is also considering a proposal for funding of compensation received from the Environment Agency. The options for compensation are currently being reviewed and will be discussed further with Natural England. The Applicant

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		also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation.
9	While Natural England commends the applicant's efforts to mitigate as much as possible the impacts of the proposed changes, it strongly disagrees with the applicant's assessment and conclusions that the provision of compensation is not required for the loss natural riverbank habitat within the SSSI.	1. The Applicant notes that Natural England acknowledges the efforts to mitigate the impacts of the Change Request as much as possible. As detailed above, the Applicant acknowledges that as a HPI and habitat of a SSSI, compensation should be provided for the loss of riverbank habitat to the extent appropriate having regard to the impacts of the Scheme. The Applicant has been and continues to explore opportunities for compensation for the loss of riverbank habitat through discussion with landowners. This may involve, for example, the restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir), two opportunities suggested by Natural England. The Applicant is also considering a proposal for funding of compensation received from the Environment Agency. The options for compensation are currently being reviewed and will be discussed further with Natural England. The Applicant also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation.
10	It is Natural England's opinion that in comparing the extend of the impacted natural riverbank to the overall SSSI unit length the assessment does not fully evaluate the context of the habitat and the rarity of the gorge setting in Unit 5 where the works are proposed. The heavily shaded nature of the river habitat at this location is confined within a steep gorge that is only approximately 1.4km in length. This particular type of river channel typology, the habitat it supports and in a similar largely unmodified condition, is very limited habitat resource within the unit and is found at only one other location (i.e. in the Guyzance area further downstream) within unit 5 of the SSSI. Thus, while the length of riverbank impacted is relatively small on a unit scale, the scarcity of this habitat has not been taken into consideration when determining the significance of the effect of the works which the applicant has deemed to be permeant Moderate Adverse. The proposed scour protection represents a permanent loss of SSSI habitat feature and permanent damage to the form and function of the river (also and SSSI interest feature) and therefore, in Natural England's opinion, the proposals represent a significant impact on the designated site at this location that cannot be mitigated for.	The Applicant acknowledges Natural England's views and comments regarding the context of riverbank habitat impacted by the Change Request and the gorge setting of the habitat. 1. The Applicant agrees that permanent loss of riverbank habitat from within the SSSI would represent a significant effect that cannot be avoided through mitigation alone. 2. The proposed works are considered unlikely to change the river typology which is determined by the confined gorge like channel and substantially bedrock bed. The impacts are local to the works and therefore unlikely to impact the form or function of the river upstream or downstream beyond the immediate locality of the works. As such, a Slight Adverse impact on geomorphology has been determined. Within the context of the SSSI and the gorge setting, these localised geomorphological impacts are considered unlikely to extend significantly beyond the locality of the works and are therefore unlikely to significantly affect the supporting the features of the SSSI. 3. Site information collated by the Applicant would support the argument that the reach is more modified than is suggested. The north bank within the reach of the proposed works exhibits evidence of previous modification. This includes modifications associated with the construction of the existing crossing, including means for access and a highway related drainage outfall (with associated rock armour protection). The south bank also exhibits modification with encroachment into the channel from river training works associated with the existing southern bridge pier. A total length of 35m, including the pier and the river training works upstream and downstream of the pier. Approximately 640m downstream of the proposed works, a river-

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		wide weir impounds the river creating a backwater effect which extends approximately 300-350m upstream (to within 300-350m of the proposed works). 4. The Applicant determined loss of riverbank habitat, as a result of the permanent scour protection, would represent a Moderate adverse effect. This has been concluded due to the localised nature and limited extent of bank habitat effected (in comparison to the wider SSSI unit) and also the geomorphology assessment (associated with the form and function of the river, a designation criteria of the SSSI), which predicted that the proposed scour protection would result in a slight adverse effect on geomorphology (Table 9-8, Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Table 8-8, Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064]). 5. The Applicant acknowledges that as a HPI and habitat of a SSSI, compensation should be provided for the loss of riverbank habitat to the extent appropriate having regard to the impacts of the Scheme. The Applicant has been and continues to explore opportunities for compensation for the loss of riverbank habitat through discussion with landowners. This may involve the restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir), two opportunities suggested by Natural England. The Applicant is also considering a proposal for funding of compensation received from the Environment Agency. The options for compensation are currently being reviewed and will be discussed further with Natural England. The Applicant also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation.
11	It is Natural England's view that the proposed loss of the river bank habitat and the permanent impacts on the morphology of the river are not in line with Highways England's general duty under section 28G of the Wildlife and Countryside Act 1981 (as amended) to 'take reasonable steps, consistent with the proper exercise of its functions, to further the conservation and enhancement of the flora, fauna geological or physiographical features by reason of which the site is of special scientific interest'. Natural England believes that, in this instance, the provision of compensatory habitat would be consistent with the proper exercise of the applicant's general duty to further the conservation and enhancement of the special interest of the SSSI. Provision of compensatory habitat would also be consistent with applicant's general duty to conserve biodiversity under the Natural Environment and Rural Communities Act 2006.	1. As Natural England acknowledge in reference 7 above, the impact on the SSSI is unavoidable due to the need for the stabilisation and scour protection works which are required in order to deliver a nationally significant infrastructure project. The Applicant has sought to reduce the impact on the SSSI consistent with the 1981 Act. 2. The Applicant acknowledges that as a HPI and habitat of a SSSI, compensation should be provided for the loss of riverbank habitat to the extent appropriate having regard to the impacts of the Scheme. The Applicant has been and continues to explore opportunities for compensation for the loss of riverbank habitat through discussion with landowners. This may involve the restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir), two opportunities suggested by Natural England. The options for compensation are currently being reviewed and will be discussed further with Natural England. The Applicant also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation.

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Geomorphology		
12	Natural England agrees with the written representations made by the Environment Agency at Deadline 4 relating to the Change Request Addenda regarding the geomorphological impacts of the proposal. We do not consider that the applicant has taken into account the long term impact of the proposals and has not fully considered that the proposed bank stabilisation works and the scour protection works will constitute a break in the connectivity between the terrestrial and riverine habitat that will have long-term implications for local sediment supply in this area.	1. It is not correct that the applicant has not *"taken into account the long term impact of the proposals".* Table 9-8 Chapter 9 Road Drainage and the Water Environment of the Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] acknowledges that the change in materials from which the north bank is composed, would reduce the channels ability to adjust. Paragraphs 9.10.40 and 9.10.41 set out that the presence of bank protection is unlikely to alter future sediment supply to the reach, of which the north bank is not considered to be an important source of sediment. The impact from the Stabilisation Works are local to the works and unlikely to affect the form or function of the river beyond the immediate locality of the works. The bank protection works are not considered to change the morphological behaviour of the reach, or the function as a sediment transfer zone. 2. The impacts on sediment regime, natural fluvial processes and morphology will be set out following analysis of the outputs from the hydraulic modelling. This will be reported and submitted to the Examination at Deadline 7.
13	The geomorphological assessment for operational phase for both the Stabilisation Works and Southern Access Works have determined that the proposals will have a Minor Adverse impact as it is unlikely to extend significantly beyond the locality of the works and therefore was unlikely to significantly affect the supporting features for the SSSI.	1. Noted, no response required.
14	Natural England does not agree that the permanent loss of natural riverbank which will disconnect the terrestrial habitat from fluvial process constitutes a minor adverse impact. The scour protection when combined with the slope stabilisation works will permanently cut of the supply of sediment from the northern bank. The applicant's surveys show slumping due to a slip fault which would suggesting that, over a long time period, this area has probably been an important source of sediment for the river. Periodic events, such as slope failure, add significant amounts of material to the river and drive change with the river adapting and evolving in response to the changes on the adjacent terrestrial habitat, which if left in its current state, would continue to act as a natural sediment source into the future.	1. The Applicant sets out the criteria for determining the magnitude of impact in Table 9-2 and Table 8-2 of Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] and Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064] respectively, which has been adapted from Table 5-2 of Appendix 10.7 Geomorphology Assessment – River Coquet Parameter 10 Part A of the ES [APP-260]. When assessing the proposed works, it was determined that the magnitude of impact on geomorphology is of minor adverse magnitude, as a result of the localised nature and limited extent of any changes. 2. The slope stabilisation works are intended to be localised in their extent to the slopes around the proposed north bank pier location and necessary for the integrity of the bridge pier foundations. In this location, a wide, relatively gently sloping area adds significant lag to input of sediment from failures of the upper valley side to channel, as it will rest in this gently sloping area until removed by flooding. Consequently, the slope is not likely to provide sufficient sediment supply to replicate these occurrences noted downstream. In addition, the processes described would likely operate on a much longer timescale than is being considered in the context of the River Coquet bridge crossing. 3. The Applicant has suggested that the north bank proposals may have the potential to decouple the slopes from the channel. In the area of the north

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		bank, the instability of the slope is not likely to be a formative event for the channel. There are no mass movements in that location. 4. As explained above, locally, the north bank is not considered by the Applicant to be an important source of sediment for the channel at the location of the proposed works.
15	Natural Fluvial process will be prevented by the scour protection and the channel would no longer be able to adjust and evolve over time. When the scour protection on the northern bank is view in combination with that proposed for the southern bank, this section of river is effectively going to be permanently canalised under the new and existing bridge structures. The proposal will impact on how the channel evolves over an area larger than the actual footprint of the proposed work and this will lead to a longer-term deterioration of the channel and its flora and fauna. The long-term consequences of this has not been assessed.	1. The Applicant would disagree with the statement *"The long-term consequences of this has not been assessed".* Table 9-8 Chapter 9 Road Drainage and the Water Environment of the Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] acknowledges that the change in materials from which the north bank is composed, would reduce the channels ability to adjust. However, paragraphs 9.10.40 and 9.10.41 of Environmental Statement Addendum: Stabilisation Works for Change Request [REP4-063] set out that the presence of bank protection is unlikely to alter future sediment supply to the reach, of which the north bank is not considered to be an important source of sediment. The impact from the Stabilisation Works are local to the works and unlikely to affect the form or function of the river beyond the immediate locality of the works. The bank protection works are not considered to change the morphological behaviour of the reach, or the function as a sediment transfer zone. 2. It is argued in Paragraph 8.7.4 of Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064] that the existing south bank is already acting on natural fluvial processes with the existence of river training works upstream and downstream of the existing pier. 3. The impacts on sediment regime, natural fluvial processes and morphology will be set out following analysis of the outputs from the hydraulic modelling. This will be reported and submitted to the Examination at Deadline 7.
16	When the cumulative impact of the works on both northern and southern banks are assessed over the lifetime of the scheme it is Natural England's opinion that, the permeant loss of natural bed and bank features, the decoupling of the channel from the sediment supplied by the gorge slopes and the cessation of the natural evolution of the channel over even a limited area of the SSSI should be viewed as a significant impact on this nationally important river system.	1. The Applicant agrees that the north bank proposals may have the potential to decouple the slopes from the channel. For the south bank the slopes are steeper and are not requiring stabilisation works. It is anticipated that any rockfalls on the south bank would still reach the channel, as the slope is steeper compared to the north bank. On this basis, it is not anticipated that the south bank slope processes would be decoupled from the channel. 2. The location of the Stabilisation Works are intended to be local to the proposed north pier location, and for the south bank works are again in the immediate vicinity to proposed works associated with the southern pier. 3. The Applicant disagrees with Natural England's submission that the impacts of the Stabilisation Works and Southern Access Works should be considered significant in terms of geomorphology. The Applicant sets out the criteria for determining the magnitude of impact in Table 8-2 of Environmental Statement Addendum: Southern Access Works for Change Request [REP4-064], which has been adapted from Table 5-2 of Appendix 10.7 Geomorphology Assessment – River Coquet Parameter 10 Part A of the ES [APP-260]. When assessing the proposed works (the combined impact of

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		both the Stabilisation Works and the Southern Access Works), it was determined that the magnitude of impact on geomorphology is of minor adverse magnitude, as a result of the localised nature and limited extent of any changes.
Compensation:		
17	The impacts of the proposal on what is a relatively unmodified reach are likely to be significant despite the fact that this reach is a relatively small proportion of the overall SSSI unit length. The impacts will be permanent and therefore constitute an irreversible loss of SSSI habitat, form and function which, in Natural England's opinion, needs to be offset by a suitable compensation scheme elsewhere on the R. Coquet system.	1. Site information collated by the Applicant would support the argument that the reach is more modified than is suggested. The north bank within the reach of the proposed works exhibits evidence of previous modification. This includes modifications associated with the construction of the existing crossing, including means for access, and a highway related drainage outfall (with associated rock armour protection). The south bank also exhibits modification with encroachment into the channel from river training works associated with the existing southern bridge pier. A total length of 35m, including the pier and the river training works upstream and downstream of the pier. Approximately 640m downstream of the proposed works, a river-wide weir impounds the river creating a backwater effect which extends approximately 300-350m upstream (to within 300-350m of the proposed works). 2. The Applicant acknowledges significant effects as a result of the proposed changes, as set out within both ES Addendums. 3. Within Section 8.8 (Environmental Statement Addendum Stabilisation Works for Change Request [REP4-063]) and Section 7.8 (Environmental Statement Addendum Southern Access Works for Change Request [REP4-064]), impacts on the SSSI designation are described. A direct permanent moderate adverse effect (significant) is reported within Section 8.10 (Environmental Statement Addendum Stabilisation Works for Change Request [REP4-063]) and Section 7.10 (Environmental Statement Addendum Southern Access Works for Change Request [REP4-064]) as a result of loss of natural riverbank habitat resulting from permanent scour protection. 4. As detailed above, the Applicant acknowledges that as a HPI and habitat of a SSSI, compensation should be provided for the loss of riverbank habitat to the extent appropriate having regard to the impacts of the Scheme. The Applicant has been and continues to explore opportunities for compensation for the loss of riverbank habitat through discussion with landowners. This may involve the restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir), two opportunities suggested by Natural England. The options for compensation are currently being reviewed and will be discussed further with Natural England. The Applicant also continues to explore other engineering solutions for the reinstatement of the riverbank, potentially reducing the extent of compensation.

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18	The likely requirement for the provision of compensatory habitat, or a suitable alternative compensation measure, was flagged to the applicant at the above meeting in December 2020 by both Natural England and the EA. At that meeting the applicant requested potential examples of potential restoration projects that might could be delivered elsewhere on within the R. Coquet catchment that might be deemed as suitable compensation for the loss of SSSI interest features resulting from the proposed changes to the scheme.	1. As detailed above, the Applicant has been and continues to explore opportunities for compensation for the loss of riverbank habitat following the meeting with Natural England and the Environment Agency in December 2020. The Applicant is liaising with landowners to explore opportunities for restoration of bankside habitat elsewhere along the River Coquet or removal of an existing structure (such as a weir), two opportunities suggested by Natural England. The Applicant is also considering a proposal for funding of compensation received from the Environment Agency. The options for compensation are currently being reviewed and will be discussed further with Natural England.
19	Natural England and the EA proposed a number of potential restoration options that could be deployed in the wider catchment which would be suitable to offset the impact of the proposed scheme changes on the SSSI. It is Natural England's understanding that while two of these options have been discounted, one was being actively investigated by the applicant.	
20	Having considered the potential compensation options with our colleagues in the agency at length, both organisations would be happy do engage further with the applicant to explore potential additional options for compensation with the R. Coquet catchment.	1. The Applicant acknowledges this offer and would like to thank both Natural England and the Environment Agency.

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