highways england

# A47/A11 Thickthorn Junction

## Scheme Number: TR010037

# Volume 7
# 8.2 Statement of Common Ground with Highways England and Environment Agency

The Infrastructure Planning (Examination Procedure) Rules 2010
Rule 8(1)(c)

Planning Act 2008

January 2022

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning (Examination Procedure) Rules 2010**

# A47/A11 Thickthorn Junction Development Consent Order 202[x]

## STATEMENT OF COMMON GROUND – ENVIRONMENT AGENCY

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**STATEMENT OF COMMON GROUND**

**This Statement of Common Ground has been prepared and agreed by (1) Highways England Company Limited and (2) Environment Agency.**

Signed…….
Glen Owen
Senior Project Manager
on behalf of Highways England
Date: [DATE]

Signed…….
[NAME]
[POSITION]
on behalf of [STAKEHOLDER]
Date: [DATE]

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# 1. INTRODUCTION

## 1.1. Purpose of this document

1.1.1. This Statement of Common Ground ("SoCG") has been prepared in respect of the proposed A47/A11 Thickthorn Junction ("the Application") made by Highways England Company Limited ("Highways England") to the Secretary of State for Transport ("Secretary of State") for a Development Consent Order ("the Order") under section 37 of the Planning Act 2008 ("PA 2008").

1.1.2. This SoCG does not seek to replicate information which is available elsewhere within the Application documents. All documents are available in the deposit locations and/or the Planning Inspectorate website.

1.1.3. The SoCG has been produced to confirm to the Examining Authority where agreement has been reached between the parties to it, and where agreement has not (yet) been reached. SoCGs are an established means in the planning process of allowing all parties to identify and so focus on specific issues that may need to be addressed during the examination.

## 1.2. Parties to this Statement of Common Ground

1.2.1. This SoCG has been prepared by (1) Highways England as the Applicant and (2) the Environment Agency.

1.2.2. Highways England became the Government-owned Strategic Highways Company on 1 April 2015. It is the highway authority in England for the strategic road network and has the necessary powers and duties to operate, manage, maintain and enhance the network. Regulatory powers remain with the Secretary of State. The legislation establishing Highways England made provision for all legal rights and obligations of the Highways Agency, including in respect of the Application, to be conferred upon or assumed by Highways England.

1.2.3. The Environment Agency is a non-departmental public body, established in 1995 and sponsored by the Governments Department for Environment, Food and Rural Affairs (Defra), with responsibilities relating to the protection and enhancement of the environment in England. The Environment Agency is responsible for managing the risk of flooding from the main rivers, reservoirs, estuaries and the sea in England. The Environment Agency is also responsible for

- Regulating major industry and waste
- Treatment of contaminated land
- Water quality resources
- Fisheries
- Inland river, estuary and harbour navigations
- Conservation and ecology

### 1.3. Terminology

1.3.1. It can be taken that any matters not specifically referred to in the Issues chapter of this SoCG are not of material interest or relevance to the Environment Agency, and therefore have not been the subject of any discussions between the parties. As such, those matters can be read as agreed, only to the extent that they are either not of material interest or relevance to the Environment Agency.

## 2. RECORD OF ENGAGEMENT

2.1.1. A summary of the meetings and correspondence that has taken place between Highways England and Environment Agency in relation to the Application is outlined in table 2.1.

Table 2-1 - Record of Engagement

| Date | Form of correspondence | Key topics discussed and key outcomes |
|---|---|---|
| 8 June 2018 | Meeting | To discuss scoping opinion (Biodiversity and RDWE)<br>Any changes to drainage adjacent to lowland fen biodiversity action plan habitats would have to be discussed with Norfolk Wildlife Trust - condition assessments and habitat loss compensation would be required.<br>EA can give advise on dewatering prior to consultation with permitting team<br>Drainage team to produce maintenance management plans for drainage / treatment<br>Attenuation pools to include permanent standing water and marginal vegetation to improve biodiversity and treatment.<br>EA keen to see biodiversity and geomorphological enhancements where Cantley Stream is to be diverted.<br>New river channel has to be ready to receive water voles Feb/March BEFORE road construction. If otters present, corridor to be kept open during construction. |
| 24 May 2018 | Meeting (EA & LLFA) | 40% rainfall allowance for climate change for drainage should be tested.<br>Discussion on dry culverts, Norfolk CC warned not to rely on LiDAR for siting these.<br>Consent for culverts/structures on Cantley Stream will be under Norfolk CC as LLFA. However, EA will review flood map outputs.<br>Discussed need for site testing to ensure drainage follows the SuDS hierarchy.<br>Drainage design must include full consideration of water quality. Oil interceptors are not considered a full treatment stage (only pre-treatment).<br>Infill of pond at Lingwood Road should be discussed with Norfolk CC Highways to ensure it is not part of local drainage scheme.<br>Specific groundwater issues to be discussed at subsequent meeting with EA. |
| 3 June 2020 | | During the A47 Tuddenham meeting, the A47 Thickthorn Scheme was raised. It was noted that the Thickthorn scheme potentially impacts on the ordinary watercourse, Cantley Stream. Sweco asked if the baseline flood |

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| | | model should be sent to the EA or Norfolk CC (as LLFA) for review. EA advised it should be sent to them both for review. |
| 24 July 2020 | Meeting - Microsoft Teams | To discuss flood risk impacts, culvert sizing and downstream flood risk; freeboard; soft bed requirements; compensatory flood storage; river alignment and WFD assessment. |
| 6 August 2020 | Meeting | Consultation meeting to discuss Thickthorn Cantley Lane culvert and stream diversion.<br>EA/LLFA confirmed requirement for 600mm freeboard and mammal shelfs. Confirmed discussions ongoing with regards to channel cross-section and gradient. Provided initial flood model results indicating no detriment to downstream receptors due to larger culvert, as such, no compensatory storage required. |
| 24 August 2020 | Meeting | Agreement in principle of updated Cantley Lane culvert design (with 600mm freeboard) and no compensatory storage. EA agreed with proposed Cantley Stream gradient (1 in 333 upstream, 1 in 450 downstream). Confirmed final design will include mammal shelf and mammal exclusion fencing. |
| 26 August 2020 | Email | EAs response to the hydraulic (baseline) model. Actions to consider and respond to EA via the '1st Review Response' column on the spreadsheet.<br>Confirmation that no concerns with the changes in gradient proposed (and raised at the previous meeting). The 600mm provided is better in terms of flood risk and geomorphological perspective. |
| 2 September 2020 | Email | EAs review of the hydrology for the Thickthorn junction improvements.<br>Actions to consider and respond to EA via the '1st Review Response' column on the spreadsheet. |
| 17 November 2020 | Meeting | Progress update meeting for the Proposed Scheme |
| 26 February 2021 | Email | Copied into Email to Lead Local Flood Authority re: flood risk |
| 17 March 2021 | Phone call and Email | Change in flood risk characteristics |
| 15 July 2021 | Email | Provision of revised flood risk model to EA. |
| 22 July 2021 | Email | Climate change allowance query |
| 19 August 2021 | Email | Comments received on flood risk model from EA |
| 22 September | Email | Response to EA comments on flood risk model |

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| 22 September 2021 | Meeting | Discussion on relevant representations |
| 01 November 2021 | Email | Conclusions of further review of flood risk model |
| 03 November 2021 | Telephone call | Comment on SOCG, confirmation that Site Waste Management Plan being reviewed by the EA's waste team. Query on consents and licences position statement. |
| 19 November 2021 | Email | Comments on SOCG |
| 23 November 2021 | Email | Comments on SOCG |
| 26 November 2021 | Email | Issue of revised FRA for review. |
| 06 December 2021 | Email | Confirmation of comments on revised FRA submitted at Deadline 4 of the examination |
| 09 December 2021 | Email | Comments on SOCG |
| 12 January 2022 | Meeting | Review of SOCG submitted at Deadline 5 including outstanding matters |

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

2.1.3. The Environment Agency's Written Representation is available at:

[redacted]

# 3. ISSUES

## 3.1. Issues related to the Relevant Representations

| Relevant Representation Section | Environment Agency Comment | Highways England Response | Status |
|---|---|---|---|
| **RR-004.2** | 1.0 Document 3.1 Draft Development Consent Order (DCO) 1.1 Requirement 4 requires the preparation of an Environmental Management Plan (EMP) and associated documents. The EMP is a mechanism to ensure the delivery of mitigation measures during the construction phase, as outlined in the Environmental Statement, including those in Chapter 13 Road drainage and the water environment. Although we are generally satisfied with the approach taken in identifying the potential adverse effects of the proposed scheme on surface water quality and groundwater resources, and with the mitigation outlined to date, the Environment Agency should have the opportunity to review and comment on the detailed proposals prior to construction. | The Environment Agency are a named consultee under dDCO (**REP5-002**) Requirement 4 'Environmental Management Plan' (EMP) and will be consulted on the Second Iteration of EMP. The detailed design will be made available to the Environment Agency for review and comment. | Agreed |
| **RR-004.4** | 1.3 We support the inclusion of Requirement 6 Contaminated land and groundwater, and we welcome the inclusion of the Environment Agency as a named consultee. However, the proposed wording should be amended. The determination of the need for remediation in part (2) should be based on a consideration of the risk assessment by all parties, rather than determined solely by the undertaker. Additionally, and also in respect of part (2), remedial measures should be taken to render the land fit for its intended purpose and to prevent any impacts on controlled waters. | Requirement 6 of the dDCO (**REP5-002**) has been amended as follows:<br>(2) Where the risk assessment prepared in accordance with sub-paragraph (1) ~~undertaker~~ determines that remediation of the contaminated land is necessary, a written scheme and programme for the remedial measures to be taken to render the land fit for its intended purpose and to prevent any impacts on controlled waters must be submitted to and approved in writing by the Secretary of State, following consultation by the undertaker with the | Agreed |

| Relevant Representation Section | Environment Agency Comment | Highways England Response | Status |
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| | | relevant planning authority on matters related to its function and the Environment Agency. | |
| **RR-004.5** | 1.4 Requirement 8 is concerned with Surface and foul water drainage. As detailed below, we are generally satisfied with the approach proposed to date. However, work on the detailed drainage design is ongoing. It will be important for us to review and confirm that the detailed proposals are acceptable. | dDCO (**REP5-002**) Requirement 8 has been amended so that the Environment Agency are a named consultee under parts 1 and 2. | Agreed |
| **RR-004.8** | 2.0 Document 3.3 Consents and Licences Position Statement 2.1 We note the inclusion of Appendix A - Table of Consents and Agreements as required from consenting authorities, including the Environment Agency. We welcome early discussions on these authorisations and note that progress is to be reported in a Statement of Common Ground. 2.2 With reference to the section concerning 'Diversion of watercourses', we would highlight that works to realign Cantley Stream may require a transfer licence from the Environment Agency. An impoundment licence may also be necessary if a structure is required that restricts flow. 2.3 On the issue of 'Waste and Materials', it should be noted that an Environmental Permit will be required for the importation and treatment of waste material falling outside the scope or limits detailed in either a Regulatory Position Statement or a waste exemption. In respect of 'Waste Materials', the consenting authority for certain mobile plant permits such as concrete crushers is the relevant local authority, and therefore they should be listed along with the Environment Agency. | The dDCO does not override the need for these consents and the Applicant acknowledges the requirement to apply for, and have in place, all necessary permits prior to any works commencing.<br><br>The Applicant will begin this process by start of 2022 and will consult with the Environment Agency on the permit requirements.<br><br>The local authority has been added as an additional consenting authority for mobile plant such as concrete crushers to Table 4.1 of the EMP. | Agreed |

| Relevant Representation Section | Environment Agency Comment | Highways England Response | Status |
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| **RR-004.10** | 4.0 Document 6.1 Environmental Statement Chapter 9 – Geology and Soils 4.1 We recognise the rationale for the classifications regarding the sensitivity of receptors and magnitude of impacts presented in Table 9-4 and 9-5 (and repeated in Table 13.1 & 13.2 of Chapter 13 Road drainage and the water environment). However, it will be essential for the project to apply the principle that no private drinking water supplies can be derogated, even temporarily, without the prior consent of the owner and the provision of mitigation measures.<br><br>4.2 With reference to paragraph 9.4.27, we would highlight that locating a drainage pond over an infilled gravel pit would not be appropriate unless the fill can be proved to be inert. We therefore welcome the commitment to a full investigation of the landfill and infilled pit, to better inform Tables 9-10 (Determination of magnitude of potential impact), 9-12 (Determination of residual effects significance) and the Materials Management Plan.<br><br>4.3 We also welcome and support the undertaking of further assessments of linkages and mitigation for potential on-site and off-site contaminated land sources proposed in Section 6.11 of ES Appendix 9.3 – Preliminary Sources Study Report Part 1 of 2. | The Applicant acknowledges the Environment Agency's requirement that no private drinking water supplies can be derogated, even temporarily, without the prior consent of the owner and the provision of mitigation measures.<br><br>**Please see response to RR-004.11** with regards to further supplementary ground investigation work carried out in the vicinity of the Cantley Lane landfill site. | Agreed |
| | 4.4 As highlighted above, we support the inclusion within the draft DCO of Requirement 6 Contaminated land and groundwater, but have suggested two amendments to the proposed wording. We | The dDCO has been amended to reflect these comments | Agreed |

| Relevant Representation Section | Environment Agency Comment | Highways England Response | Status |
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| | welcome the inclusion of the Environment Agency as a named consultee in respect of that Requirement. | | |
| **RR-004.11** | 5.0 Documents under 6.3 Environmental Statement Appendices relating to ES Chapter 10 – Material Assets and Waste 5.1 6.3 ES Appendix 10.2 – Waste disposal assessment.<br><br>In respect of Table 1: Preliminary waste assessment summary, we would highlight the following in relation to the Cantley Lane landfill and the classification included under Domestic household waste: Reference has been made to LoW codes 17 05 03* and 17 05 04 for excavated waste soil. Based on the description provided from TP11, TP27 and TP29, once assessed in accordance with Technical Guidance WM3, some excavated waste may be more appropriately classified under additional Chapter 17 codes, such as, but not limited to the following examples: o 17 01 06* mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing hazardous substances o 17 01 07 mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06 o 17 09 03* other construction and demolition waste (including mixed waste) containing hazardous substances o 17 09 04 mixed construction and demolition wastes other than those mentioned in 17 0 9 01, 17 09 02 and 17 09 03.<br><br>We would highlight that, along with the LoW code, the Duty of Care paperwork is to provide an accurate description of any waste removed from the site. | In preparation for the detailed design of the A47 Thickthorn Improvement scheme, supplementary ground investigation (GI) work has been carried out in the vicinity of the Cantley Lane Landfill site. The data from this GI work will be used to inform the detailed design, including the further assessment referenced in Table 1 Appendix 10.2 (APP-106). The technical comments made in the Environment Agency's relevant representationwill be taken into consideration when carrying out the further assessment. | Agreed |
| **RR-004.12** | 5.2 6.3 ES Appendix 10.3 – Outline site waste management plan (SWMP). With reference to paragraph 10.1.29 (anticipated waste types), we would recommend that the final SWMP includes a section on managing excavated waste from the Cantley Lane landfilled waste area and the infilled gravel pit east of Cantley Lane South. We would | These comments are acknowledged and will be addressed during the production of the SWMP during the scheme detailed design phase (as required by paragraph 10.1.5 of Appendix 10.3) (**APP-107**). As part of the scheme detailed design, it is our intention | Agreed |

| Relevant Representation Section | Environment Agency Comment | Highways England Response | Status |
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| | expect this section to reference the further waste assessments required on the landfilled/infilled waste identified in | to develop engineered geotechnical solutions which minimise the impact of the works on the Cantley Lane Landfill and Infilled Gravel Pit sites. Therefore through design, we will be endeavouring to:<br>• keep as much of the existing materials in-situ or moving none if possible to avoid having to dispose elsewhere<br>• minimise/avoid creating additional or new pollutant linkages<br>• avoid onerous waste management arrangements with unnecessary disposal at landfill off-site.<br><br>The principles of leaving materials in-situ will be primarily based on an appropriately developed and calibrated Conceptual Site Model (CSM) and assessment of applicable plausible pollutant linkages under CLR11 which will in itself be based on the specific characteristics of the materials and site conditions in respect of land, air and water. The current cited waste classification coding is instructive in terms of identifying the likely disposal options and to a degree the nature of the hazard presented with these materials but will not form the basis for the SWMP or the MMP. Moreover it is implicit that the SWMP will follow the necessary procedures set out in WFD as enabled in UK regulation including assessment and characterisation (with additional testing to confirm geo-chemical characteristics as necessary), material tracking and chain of custody, and applicable duty of care under WFD. | |

| Relevant Representation Section | Environment Agency Comment | Highways England Response | Status |
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| | | Any materials that are excavated will be subject to the SWMP which in turn will be based where applicable on the CL:aire DOWCoP and any MMP that evolves from this will ensure that the management of excavated ground materials is fully compliant with the principles set out in DOWCoP applying the "Site of Origin" approach as applicable, CLR11, and other applicable guidance and codes of practice.<br><br>The primary objective of the SWMP and the application of DOWCoP is to ensure that the materials which are encountered and handled are suitable for use or are otherwise managed and disposed of appropriately and in a codified and auditable framework compliant with applicable regulations, with consultation and regulatory input | |
| **RR-004.13** | 5.3 Regarding paragraph 10.1.39 of the outline SWMP, we recommend that the final SWMP refers to an accurate description of the waste when referring to Duty of care documentation, such as transfer or consignment notes rather than the type of waste. | This comment is acknowledged and will be addressed during the production of the SWMP during the scheme detailed design phase (as required by paragraph 10.1.5 of Appendix 10.3). | Agreed |
| **RR-004.15** | Table 1 of Appendix 10.2 Waste Disposal Assessment, and how this activity will be managed to protect the environment and prevent harm to human health. Factors such as, but not limited to, those listed below should be considered:<br>o Preventing the creation of pathways from any contaminated land to sensitive environmental receptors,<br>o managing to minimise impact on amenity and<br>o ensuring that the remaining waste is left in a manner that prevents and minimises pollution. | **Please refer to RR-004.12** | Agreed |

| Relevant Representation Section | Environment Agency Comment | Highways England Response | Status |
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| **RR-004.17** | 6.2 As previously highlighted, we would want to review the detailed proposals. 6.2 With regards to water quality and the water framework directive (WFD), we agree with the waterbodies considered and support the mitigation measures referenced in section 13.9 to protect water quality. The WFD considerations included in this section and elsewhere in Chapter 13 are fairly comprehensive. However there is often mention of effects on the 'overall WFD status of the waterbodies'. This is the case, for example, in Table 13.2 Estimating the magnitude of an impact on an attribute. A key WFD requirement is for no deterioration in any of the individual elements that make up the waterbody classification, as well as no deterioration in the overall classification. It should therefore be ensured that the individual elements are also assessed and considered during the detailed design process. | The individual elements have been discussed in section 13.9 of the ES Chapter 13 (**APP-050**). The Water Framework Directive assessment is provided in ES Chapter 13 (**APP-050**). The status of the ecological and chemical quality elements were considered in the assessment. Construction and operational activities affecting the Intwood Stream and Yare (Tiffey to DS Norwich) water bodies are considered to cause no deterioration in the status of any of the quality elements and should not prevent future attainment of WFD water body targets. Mitigation and enhancement measures are set out in the Record of Environmental Actions and Commitments which forms Table 3-1 in the Environmental Management Plan (**APP-128**). Delivery of these commitments, including consultation with the Environment Agency, will be secured through dDCO (**APP-017**) Requirements 4 'Environmental Management Plan' and 8 'Surface and foul water drainage' and the Environment Agency will be listed as a consultee in both these requirements in the revised dDCO submitted at Deadline 2. | |
| **RR-004.19** | 6.4 In respect of groundwater resources and quality, and Table 13.1 & 13.2 (importance of an attribute and magnitude of impact), we would repeat our comment under 4.1 above. No private water supply can be derogated as a result of the works or operation of the scheme, even temporarily, without the prior written consent of the owner and the provision of mitigation measures. | The Broadland Rivers Chalk and Crag groundwater body has been assigned a high to very high importance in Table 13.7 of ES Chapter 13 (**APP-050**) due to the presence of licensed and unlicensed abstractions. Mitigation measures include water features surveys to identify and confirm the locations of the unlicensed abstractions and monitoring before, during and following construction to prevent the | Agreed |

| Relevant Representation Section | Environment Agency Comment | Highways England Response | Status |
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| | | derogation of the private water supplies. | |
| **RR-004.20** | 6.5 Regarding section 13.8 and potential impacts during construction, we have specific requirements for any proposed horizontal directional drilling (HDD). A detailed prior assessment of the strata to be encountered should be undertaken. Inert drilling muds (as approved by the Environment Agency), should be used and drilling mud monitoring put in place and breakout plans prepared. HDD works must be undertaken in a way that precludes any alteration to the existing degree of hydraulic continuity between strata or surface water features. We would want to review the HDD method statements. | Measures to be undertaken during completion of any proposed method statements will be included in future iterations of the in the Environmental Management Plan (APP-128). Delivery of these commitments will be secured through the dDCO (APP-017) Requirements 4 and further to the amendment listed in RR-004.2 in the Applicant's Response to the Relevant Representations (REP1-004) the Environment Agency will be consulted on the appropriate method statements. | Agreed |
| **RR-004.22** | 6.7 We welcome the use of carrier drains in sensitive areas, as outlined in paragraphs 13.9.28 & 29. We would like the opportunity to review the areas where both carrier drains and filter drains are proposed after further ground investigation works have been completed. We would like further information on the risk to groundwater from hydrocarbon spills, in terms of both free product and dissolved phases. We would also like the opportunity to review further details on the operational subsurface drainage when available, as referred to in paragraph 13.9.49. | A supplementary ground investigation is to focus on collection on additional information to inform groundworks and detailed design. Hydrogeological impact assessments, for inclusion in the drainage strategy, will therefore be updated at the detailed design stage. A revised drainage strategy report (or an addendum) will be provided for review by the Environment Agency under Requirement 4 'Environmental Management Plan' (APP-128). | Agreed |
| **RR-004.23** | 6.8 With reference to paragraph 13.9.50, the minimum thickness of unsaturated zone for areas where infiltration is shown to be acceptable will be 1.2 metres, not 1m as stated. A thickness of 2 – 5 m is preferable. | Drainage (specifically discharge to groundwater) is to be reviewed at detailed design stage, and the EA's comments of a minimum unsaturated zone of 1.2m will be adopted. Where the unsaturated zone is less than 5m, these areas will be discussed further with the Environment Agency. A revised drainage strategy report (or an addendum) will be provided for review by the Environment Agency under DCO Requirement 4 'Environmental Management Plan'. | Agreed |

| Relevant Representation Section | Environment Agency Comment | Highways England Response | Status |
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| **RR-004.28** | 6.13 The drainage in catchment B is of concern given the thin unsaturated zone and the presence of proximal abstractions, as noted in the Table 4.2. We welcome the proposed ground investigations (GI) to fully assess potential impacts. | The supplementary ground investigation is to focus on collection of additional information to inform groundworks and detailed design. Hydrogeological impact assessments, for inclusion in the drainage strategy, will therefore be updated at the detailed design stage. Where risks are identified, mitigation set out in paragraph 13.9.50 of the ES chapter 13 (APP-050) will be implemented (that is, the use of carrier drains in place of unlined drainage). A revised drainage strategy report (or an addendum) will be provided for review by the Environment Agency under Requirement 4 'Environmental Management Plan' (APP-128). | Agreed |
| **RR-004.29** | 6.14 As highlighted within the Groundwater assessment document, further consultation with the Environment Agency on the potential impacts on groundwater will be required. | Please refer to RR-004.2 in the Applicant's Response to the Relevant Representations (REP1-004).<br>In addition, all mitigation to address groundwater risks is included in the Environmental Management Plan (APP-128). The Environment Agency will be a named consultee in respect of dDCO (APP-017) Requirement 4 'Environmental Management Plan' (APP-128). | Agreed |
| **RR-004.31** | 6.16 In respect of fluvial flood risk, we note that paragraph 13.9.40 of the ES states that current assessments have shown that there is an increase in flood risk to a residential property of up to 15mm, and that property level protection is proposed as mitigation. It is highlighted that further survey work and flood modelling is being carried out to confirm the flood risk impacts and inform the required mitigation. This further work should form part of an updated Flood Risk Assessment, which we should be given the opportunity to review and approve. | Following the collection of additional survey and modelling to better predict the flood risk impacts in the vicinity of Intwood Road, the Applicant can confirm that the updated flood modelling predicts the impact is negligible at this property. | Agreed |

| Relevant Representation Section | Environment Agency Comment | Highways England Response | Status |
|---|---|---|---|
| **RR-004.33** | 6.19 The standalone Flood Risk Assessment (FRA) is included as document 6.3 Appendix 13.1. We are generally satisfied with the FRA and with the proposed approach to managing fluvial flood risk across the scheme. However, this position is subject to a satisfactory review of the further information due to be provided, as outlined below.<br><br>6.20 Section 4.4.2 of the FRA states "Agreement that the proposed new larger culvert beneath Cantley Lane removes the throttling effect on flows / levels and, due to the negligible changes in downstream flood risk, removes the requirement to provide any compensatory flood storage". We agree that no compensatory storage will be required, providing that any further assessments continue to show that the project has no significant adverse impacts on flood risk. | The Applicant notes that the Environment Agency is generally satisfied with the FRA and the proposed approach. Following the collection of additional survey and modelling to better predict the flood risk impacts in the vicinity of Intwood Road, the Applicant can confirm that the updated flood modelling predicts the impact is negligible at this property. The Applicant considers therefore that no compensatory storage will be required.<br><br>The revised model and the updated hydraulic modelling report (Annex B of **APP-111**) was reissued to the Environment Agency on 15 July 2021. The Applicant has addressed the Environment Agency's comments following their review of the revised model. The revised FRA (**REP3-008** and **REP3-009**) including the updated modelling report (Annex B of REP3-008) was sent to Norfolk County Council and the Environment Agency for review and comment. The Environment Agency has submitted comments at Deadline 4 on the revised FRA. . | Agreed |
| **RR-004.34** | 6.21 As highlighted above, the FRA indicates that there may be increased flood risk to a dwelling (classified as 'more vulnerable') as a result of the proposed scheme. We note that various options to mitigate the increase in flood risk have been considered, including whether compensatory flood storage could be provided. Our understanding is that the assessment concluded that compensatory flood storage did not appear to be an appropriate solution, but that property level protection may be proposed if required. | Please refer to RR-004.33 in the Applicant's Response to the Relevant Representations (REP1-004). | Agreed |
| **RR-004.35** | 6.22 Sections 8.2.6 & 8.2.11 of the FRA state that "Confirmation of the impact and, therefore the mitigation, is subject to additional | Following the collection of additional survey and modelling to better predict the flood risk impacts in | Agreed |

| Relevant Representation Section | Environment Agency Comment | Highways England Response | Status |
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| | survey and modelling to better predict the impacts in this location". As mentioned above, the outcome of this additional work will should form an update to this FRA, which should be reviewed and approved by us. | the vicinity of Intwood Road, the Applicant can confirm that the updated flood modelling predicts the impact is negligible at this property. **In addition, please refer to RR-004.33.** | |
| **RR-004.36** | 6.23 Section 8.2.12 of the FRA states "Due to the proposed removal of the existing Cantley Lane South culvert and the realigned stream there are changes in the patterns of flood risk within the floodplain affecting agricultural land and amenity areas (classed as 'less vulnerable' and 'water compatible' under the NPPF). Following the initial impact assessment of removing the existing Cantley Lane South culvert throttle, it was agreed with Norfolk County Council and the Environment Agency in August 2020 that there is no requirement to provide compensatory flood storage upstream of Cantley Lane South culvert." As above, agreement is based on further assessments continuing show no significant adverse effects on flood risk. | The updated flood modelling has been shared with the Environment Agency and predicts the impact is negligible at the property close to Intwood Road. In addition, the revised modelling does not materially change the patterns of flood risk within the floodplain affecting agricultural land and amenity areas (classed as 'less vulnerable' and 'water compatible' under the NPPF) arising from the replacement of the Cantley Lane South culvert and the stream realignment. The significance of effect remains as moderate. **In addition, please refer to RR-004.33.** | Agreed |
| **RR-004.37** | 6.24 The Environment Agency has previously reviewed the flood modelling work completed by the Applicant to inform this FRA. At the time of submission, there remained some outstanding model review actions needing to be resolved before the suitability of the assessment could be confirmed. A demonstration that these required actions have been addressed should be submitted along with the details and conclusions of the additional survey and modelling work currently being undertaken. | The Applicant has addressed the outstanding model review actions (issued by the Environment Agency on 04 March 2021) whilst undertaking the additional survey and modelling work associated with the Intwood Road property flood risk. The revised model and the updated hydraulic modelling report (Annex B of APP-111) was reissued to the Environment Agency for comment in on 20 August 2021. Comments were received from the Environment Agency on 19 August 2021 and these have been addressed and resubmitted. The Environment Agency confirmed on 1 November 2021 that the flood model was appropriate. | Agreed |

| Relevant Representation Section | Environment Agency Comment | Highways England Response | Status |
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| **RR-004.38** | 6.25 Following the further survey and flood modelling work, if any increases in flood risk as a result of the scheme are identified, it should be clearly documented as to why the increase cannot be prevented and how any impacts will be managed. Where decisions on the significance of any flood risk impacts on receptors have been made, it should be clear how the assessment was undertaken and why the conclusion on significance was reached. | The updated flood modelling predicts the impact is negligible at the property close to Intwood Road. In addition, the revised modelling does not materially change the patterns of flood risk within the floodplain affecting agricultural land and amenity areas (classed as 'less vulnerable' and 'water compatible' under the NPPF) arising from the replacement of the Cantley Lane South culvert and the stream realignment. **In addition, please refer to RR-004.33.** | Agreed |
| **RR-004.39** | 7.0 Document 7.4 Environmental Management Plan (First Iteration) 7.1 With reference to paragraphs 1.1.5 and 1.1.6, we note that there is no reference to a Temporary surface water drainage plan being prepared as part of the EMP. However, it is listed as a plan to be prepared in the draft DCO under Requirement 4, and is referred to elsewhere within the EMP. | A Temporary Surface Water Drainage Strategy will be prepared as part of the Environmental Management Plan (Second Iteration) as set out in requirement 4. | Agreed |
| **RR-004.44** | 7.6 Currently, we would highlight that additional checks will be required as water levels are lowered, with individual fish removed and transported upstream. We would like to see the use of a silt curtain or coffer dam at the downstream extent of the old channel to prevent fish kills further downstream as a result of the silt released during fish removal, and in particular as the channel is de-watered. Use of a dissolved oxygen monitor would also be recommended to monitor changes in levels during this activity. | Recommendations for silt curtain, coffer dam, and dissolved O2 monitoring will be considered for inclusion in the second iteration of the Environmental Management Plan (**APP-128**).<br><br>The Applicant acknowledges the recommended mitigation measures to reduce silt entrainment and the requirements for dissolved oxygen monitoring. Action RD4 of Table 3-1: Record of Environmental Actions and Commitments in the Environmental Management Plan (APP-128) requires that monitoring of Cantley Stream must be carried out prior to, during the construction phase and post construction. | Agreed |

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| **RR-004.47** | 7.9 RD2 – in respect of flood risk, the potential need for property level protection is highlighted. It is not currently clear how the EMP would secure the implementation of such measures. This should be confirmed. | Following the collection of additional survey and modelling to better predict the flood risk impacts in the vicinity of Intwood Road, the Applicant can confirm that the updated flood modelling predicts the impact is negligible at this property and no property level protection is needed. **In addition, please refer to RR-004.33.** | Agreed |
| **RR-004.49** | 7.11 The full distance of the existing channel being re-aligned and subject to water vole displacement should be compared with the new length of enhanced/restored habitat. It must be ensured that there is adequate provision of alternative habitat for the displaced individuals, especially if there is a delay between displacement activities and establishment of vegetation in the new re-aligned channel. | Mitigation measures for protected species are secured by requirement 7 of the dDCO (APP-017), the measures proposed in the Environmental Management Plan (APP-128) include obtaining a European protected species licence.<br>The mitigation licence method statement for water vole, to be approved by Natural England, will detail creation of compensatory habitat to be undertaken ahead of licensable activities taking place. This would be guided by the Water Vole Mitigation Handbook [1].<br>A licence will only be granted if Natural England is satisfied with the Applicant's proposals for compensatory water vole habitat. This will ensure that habitat compensation is adequate to support the maximum number of animals that may be translocated. | Agreed |
| **RR-004.50** | 7.12 The construction period for the proposed scheme seems to offer a relatively short time period in which to establish suitable alternative habitat for displaced water vole, if required. The detailed design must take this into account. | Created habitat will likely require an entire growing season to be suitable to receive translocated animals, though can be ready over a shorter period with transfer of plug plants and turves. The Environmental Management Plan, Table 3-1 states that "Riparian planting in water vole receptor areas will be undertaken at least one growing season | Agreed |

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| | | before the water voles are dispersed or translocated." Therefore there will be sufficient time for habitat to establish. | |
| **RR-004.51** | 7.13 How the new re-aligned section of channel will be colonised with aquatic and marginal plants has not yet been clarified. The Applicant may be intending to divert some of the flow from the original channel, or bring water in from elsewhere, to wet the new section prior to the final diversion. In that scenario water resource licences may be required from the Environment Agency as highlighted above. Alternatively, the Applicant may be intending to demonstrate that there will be sufficient alternative water vole habitat available to displace/ trap and release into while the new channel re-vegetates. The chosen approach will need to be fully assessed and approved at the detailed design stage. | The intended approach of wetting and colonising the realigned section of Cantley Stream will be determined during detailed design. | Agreed |
| **RR-004.52** | 7.14 RD4 – we also note that the Environment Agency and Norfolk County Council are to agree monitoring requirements for the realigned Cantley Stream as part of the EMP Water monitoring and management plan. We welcome this and look forward to reviewing the plan. Currently, we would highlight that during the process of planning and construction, the water quality of the Cantley Stream should be monitored for changes to pH, turbidity and dissolved oxygen as a minimum. | The Applicant acknowledges the minimum monitoring requirements of pH, turbidity and dissolved oxygen for Cantley Stream construction works. Action RD4 of Table 3-1: Record of Environmental Actions and Commitments in the Environmental Management Plan (**APP-128**) requires that monitoring of Cantley Stream must be carried out prior to, during the construction phase and post construction. | Agreed |
| **RR-004.53** | 7.15 RD5 – we note that required WFD mitigation is to be agreed with the Environment Agency. Will this be through consultation on aspects of the EMP, or via other means? | The Environment Agency are a named consultee under dDCO (**REP5-002**) Requirement 4 'Environmental Management Plan' (EMP) and will be consulted on the Second Iteration of EMP. The detailed design will be made available to the Environment Agency for review and comment. | Agreed |
| **RR-004.54** | 7.16 RD7 to RD10, and RD14 are concerned with the protection of groundwater resources during construction. We are satisfied with the | The Environment Agency are a named consultee under dDCO (**REP5-002**) Requirement 4 | Agreed |

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| | measures proposed, subject to the review of further assessments and details, as outlined. The mechanism for further consultation with the Environment Agency should be clarified. | 'Environmental Management Plan' (EMP) and will be consulted on the Second Iteration of EMP. The detailed design will be made available to the Environment Agency for review and comment. | |
| **RR-004.55** | 7.17 We would highlight that the dewatering exemptions noted here; in Table 4-1; and elsewhere in the ES, are only applicable if the works will take less than 6 months. For works over a longer time period, an abstraction licence will be required for any dewatering at rates over 20 m3/d. | Table 4-1 Consents and Permissions will be updated in the Environmental Management Plan (**APP-128**). | Agreed once EMP updated |
| **RR-004.56** | 7.18 We welcome the proposals to undertake a water features survey along with hydrogeological risk assessments (HRA) for any abstractions and groundwater dependent terrestrial ecosystems down gradient of dewatering, HDD or other intrusive works. | Hydrogeological risk assessments are included in Appendix 13.3 Groundwater assessment (**APP-113**). These will be updated following the water features surveys and supplementary GI, to inform the detailed design. | Agreed |
| **RR-004.57** | 7.19 RD11 – while we are generally supportive of the measures outlined to protect groundwater during operation, we would highlight that the minimum thickness of unsaturated zone for areas where infiltration is shown to be acceptable will be 1.2 metres, not 1m as stated. A thickness of 2 – 5 m is preferable. | Drainage (specifically discharge to groundwater) is to be reviewed at detailed design stage, and the EA's comments of a minimum unsaturated zone of 1.2m will be adopted. Where the unsaturated zone is less than 5m, these areas will be discussed further with the Environment Agency. A revised drainage strategy report (or an addendum) will be provided for review by the Environment Agency under DCO Requirement 4 'Environmental Management Plan'. | Agreed |
| **RR-004.58** | 7.20 RD15 – we note that this section states that: "Drainage Strategy and Flood Risk Assessment including hydraulic modelling to be approved by the Environment Agency, Lead Local Flood Authority (Norfolk County Council) and Norfolk Rivers Internal Drainage Board". We welcome this but would highlight that consultation should be progressed and approval obtained as part of the DCO process and not through permit and consent requirements. Cantley Stream is | **Please refer to RR-004.33.** | Agreed |

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| | an ordinary watercourse, not a designated main river, and as such the LLFA is the consenting authority for works affecting flows. However, the Environment Agency has reviewed and commented on the FRA due to the presence of fluvial flood risk associated with the Cantley Stream. We should review and approve the FRA to ensure that fluvial flood risk is appropriately managed, and review and approve the drainage strategy to ensure the protection of controlled waters. | | |
| **RR-004.59** | 7.21 RD17 – as highlighted above, the Environment Agency should review and approve the detailed drainage design. We should be a named consultee in respect of Requirement 8 (Surface and foul water drainage system), and, for matters relevant to our remit, Requirement 4 (Environmental Management Plan). | **Please refer to RR-004.2 and RR-004.20.** | Agreed |
| **RR-004.60** | 7.22 Regarding Table 4-1, it should also be noted that the consenting authority in the case of certain mobile plant permits such as concrete crushers is the local authority, and therefore they should be listed along with the Environment Agency | This Applicant will ensure the permit is sought from the relevant consenting authority. | Agreed |
| **RR-004.61** | 7.23 With reference to Annex C, we would highlight that we would want to review the Construction method statement for water. | The construction method statement for water can be issued to the Environment Agency for review once prepared. **In addition, please refer to RR-004.2** | Agreed |