

Planning Inspectorate  
National Infrastructure Planning  
Temple Quay House (2 The Square)  
Temple Quay  
Bristol  
BS1 6PN

**Our ref:** NO/2022/114689/05-L01  
**Your ref:** TR010062

**PINS Registration no:** 20032193

**Date:** 4 April 2023

Dear Sir/Madam

**APPLICATION BY NATIONAL HIGHWAYS FOR AN ORDER GRANTING  
DEVELOPMENT CONSENT FOR THE A66 TRANS-PENNINE DUALLING PROJECT**

**RESPONSE TO FURTHER WRITTEN QUESTIONS FROM THE EXAMINING  
AUTHORITY**

**A66 BETWEEN M6 J40 AND A1 SCOTCH CORNER**

On 24 March 2023 the Examining Authority's (ExA) Further Written Questions were published.

In relation to Flood Risk, Drainage and Water, the ExA has directed the following question to the Environment Agency (EA).

FDW 2.1	<i>Flood Risk Assessment</i>  The Environment Agency (EA)	The submitted PADSS at DL5 suggests that <i>“a small number of queries remain outstanding in relation to the Flood Risk Assessment”</i> [REP5-065, page 3] before the EA can be <i>“satisfied that the applicant has demonstrated that any fluvial flood risk associated with the proposed development can be satisfactorily managed”</i> [REP5-065, page 2]. In the event that the EA cannot complete its <i>“assessment of the suitability of the proposed flood risk mitigation measures for Scheme 6 (Warcop)”</i> by the end of the Examination, the ExA now needs to identify the following matters.  Explain what queries remain outstanding, whether any further information is required from the Applicant and why this is required to complete the EA's assessment.
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**EA response to FDW 2.1**

The applicant has continued to engage with the EA to try and address the concerns that remain outstanding.

Environment Agency  
PO Box 519, South Preston, Lancashire, PR5 8GD.  
Customer services line: 03708 506 506  
[www.gov.uk/environment-agency](http://www.gov.uk/environment-agency)

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In relation to flood risk and the Flood Risk Assessment (FRA) submitted as Appendix 14.2 of the Environmental Statement, the EA Relevant Representations and Written Representations included several questions about compensatory flood storage volumes and the design and operation of compensatory flood storage to manage any potential increase in flood risk off-site. The issues that have yet to be resolved with the EA are listed in Table 1 below:-

**Table 1: Environmental Statement Appendix 14.2 – outstanding EA issues**

<b>FRA reference</b>	<b>Issue</b>	<b>Impact</b>	<b>Suggested solution</b>
14.2.5.77	Reference is made to 6.4.6 in relation to compensatory storage within Flood Zone 3b, but there is no section 6.4.6 within the FRA.	The suitability of the compensatory flood storage proposals in FZ3b for the Appleby to Brough scheme are unknown.	Update the FRA to refer to the necessary details for the scheme for compensatory flood storage in Flood Zone 3b to allow it to be reviewed.
Table 25 (Page A14.2-85 of 153)	Table 25 gives the total volume of storage provided in each location. There is no information provided on how much storage is lost due to the scheme and the flood magnitude at which both the lost storage and the compensatory storage comes online.	The suitability of the compensatory flood storage proposals to mitigate the increased risk of flooding for the Appleby to Brough scheme are unknown.	Provide additional information to confirm how much storage is lost due to the scheme and the flood magnitude at which both the lost storage and the compensatory storage comes online.
14.2.5.13 2 and Plate 4	It is hard to see from the details provided (including those in the modelling report) how the compensatory storage areas work and how they are designed. Are they excavated into existing floodplain? How and at what return period / flow magnitude do they fill? How do they drain?	The suitability of the compensatory flood storage proposals to mitigate the increased risk of flooding for the Appleby to Brough scheme are unknown.	Provide additional information to confirm how the scheme is designed, whether it is excavated into existing floodplain, how and at what return period / flow magnitude it fills and how it subsequently drains.
Annex E: Hydraulic modelling reports – Appleby to Brough	In relation to the figures showing changes in flood depths because of the scheme, it is not always easy to interpret what is causing the changes in depth (changes in peak water level, changes in ground level, changes in flow, cut off flow routes) without also showing the depth grids that have been used to generate these. For example, it is surprising that that the new road embankments at Warcop Junction are not more pronounced within these maps and it is not clear why there are a broad section of increased flood depths passing through the embanked slip road at Warcop Junction (Figure 8-8).	The suitability of the compensatory flood storage proposals to mitigate the increased risk of flooding for the Appleby to Brough scheme are unknown.	Provide additional information to address this issue.

Annex E: Hydraulic modelling reports – Appleby to Brough	No detailed information is provided on the effects of the scheme on Low Gill Beck between the Lowgill Beck crossing and Warcop. Figure 8-13 in the modelling report shows increased water levels in a few places along this reach and the summary at the end of this section of the report highlights this and concludes that it is “likely these increases are associated with areas of ground level change in the proposed scheme”. For the most part this looks to be the case in Figure 8-13 in which case there needs to be an assessment of lost floodplain storage because of this and compensatory storage provided as required. The fact that the most downstream area of increased depth on Lowgill Beck shown in figure 8-13 appears to be downstream of any proposed earthworks suggests the possibility of increased pass on flows which needs to be investigated.	The suitability of the compensatory flood storage proposals to mitigate the increased risk of flooding for the Appleby to Brough scheme are unknown.	Provide additional information to address this issue.
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While the applicant has tried to address the issues identified in Table 1, the responses provided to date have not resolved the EA concerns. The applicant has not demonstrated that the proposed compensatory flood storage scheme at Warcop would avoid any increase in flood risk off-site. The EA is expecting further information from the applicant in relation to the design and operation of the compensatory storage proposals for Warcop and this will be considered upon receipt. The information is expected on 14 April 2023.

In addition to the matters in Table 1, the hydraulic models used to support each of the different Schemes have yet to be agreed with the EA. However, in so far as it relates to the EA remit, it is accepted that Schemes 1, 2, 3, 4, 5, 7, 8 and 9 would not be at an unacceptable risk of fluvial flooding or increase fluvial flood risk elsewhere based on the details submitted to date. The applicant has demonstrated that where compensatory flood storage is necessary to manage fluvial flood risk, it is technically feasible and would fulfil the function as proposed. The hydraulic models used to support Schemes 1, 2, 3, 4, 5, 7, 8 and 9 could be agreed through compliance with the Environmental Management Plan and REAC reference D-RDWE-02.

It has been established that compensatory flood storage will be required on Scheme 6 at Warcop, but that the extent of flood risk and the inability to provide level for level flood storage will make the compensatory storage proposals more complex. The hydraulic model supporting Scheme 6 has been used to inform the design of the compensatory flood storage proposals for Warcop, but the technical feasibility and functional operation of the proposals rely on the validity of the outputs from the hydraulic model. As such, the technical feasibility of the compensatory flood storage proposals for Scheme 6 cannot be agreed until the hydraulic modelling evidence produced for Scheme 6 and used to inform the design of the compensatory flood storage proposals is accepted as being fit for purpose.

The EA has completed a second review of the Scheme 6 hydraulic modelling and a response was provided to the applicant on 16 March 2023. The EA response identified

several outstanding concerns with the model. The EA subsequently received further information from the applicant to address those concerns on 3 April 2023.

In addition to the information received on 3 April 2023, the EA requires the further information in relation to the design and operation of the compensatory storage proposals for Warcop (expected 14 April 2023) to address the queries outlined in Table 1. This information is required to allow the EA to consider and validate the conclusions that the applicant has made in relation to

1. the impacts of the proposed development on fluvial flood risk at Warcop; and
2. the ability of the compensatory flood storage scheme at Warcop to function as proposed.

Until all this information has been received and assessed, the EA cannot advise the ExA as to whether it agrees with the applicant that the flood risk in Warcop can be satisfactorily managed.

We will continue to work with the applicant to try and reach agreement in relation to the outstanding concerns in advance of the next relevant Deadline prior to the close of the Examination.

### **Issue Specific Hearing 3 – EA Protective Provisions**

At Issue Specific Hearing 3 on 2 March 2023, the ExA requested that the EA share a copy of the standard EA Protective Provisions that the applicant would be required to include in Schedule 9, Part 5 of the Development Consent Order. If the applicant did not agree to the standard EA Protective Provisions, the disapplication of the need for Flood Risk Activity Permits would not be accepted by the EA. A copy of the standard EA Protective Provisions is included at Annex 1 and have also been provided to the applicant directly.

Yours faithfully

**Philip Carter**  
**Planning Officer - Sustainable Places**

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Encs

Annex 1: EA Standard Protective Provisions for A66