creating a better place

The Planning Inspectorate
Temple Quay House
Bristol
BS1 6PN

**Project ref:** M25 junction 10/A3 Wisley interchange improvement – TR010030

**Our ref:** WA/2019/126852/06-L01

**Your ref:** 20023020

**Date:** 3 March 2020

Dear Sir/Madam,

**Application by Highways England for an Order Granting Development Consent for the M25 Junction 10/A3 Wisley interchange improvement project**

Please find enclosed our comments for 'deadline 5' submissions for the M25 Junction 10/A3 Wisley interchange improvement project Development Consent Order application. We have also provided answers to the Examining Authority's second written questions in Appendix B.

**The Role of the Environment Agency**
The Environment Agency has a responsibility for protecting and improving the Environment as well as contributing to sustainable development.

Our work helps to support a greener economy through protecting and improving the natural environment for beneficial uses, working with business to reduce waste and save money, and helping to ensure that the UK economy is ready to cope with climate change. We will facilitate, as appropriate, the development of low carbon sources of energy ensuring people and the environment are properly protected.

**We have three main roles:**
We are an **environmental regulator** – we take a risk-based approach and target our effort to maintain and improve Environmental standards and to minimize unnecessary burdens on business. We issue a range of permits and consents.

We are an **environmental operator** – we are a national organization that operates locally. We work with people and communities across England to protect and improve the environment in an integrated way. We provide a vital incident response capability.

We are an **environmental advisor** – we compile and assess the best available evidence and use this to report on the state of the environment. We use our own monitoring information and that of others to inform this activity. We provide technical information and advice to national and local governments to support their roles in policy and decision-making.

One of specific functions is as a Flood Risk Management Authority. We have a general supervisory duty relating to specific flood risk management matters in respect of flood risk arising from Main Rivers or the sea.

**Ongoing engagement with the applicant**
Since we issued our last response on 11 February (REP4-047), we have received a Flood Zone 2 Technical Note from the applicant on 14 February to address our outstanding flood risk concerns. We responded to the applicant with our comments on this Note on 2 March, requesting further details to be provided. Please see Appendix A for our full commentary on this matter.

Cont/d..

We will continue to engage with the applicant on this outstanding matter and to update the Statement of Common Ground to reflect our latest position.

Please do not hesitate to contact me if you require any further information. We look forward to continuing to work with the applicant to resolve any ongoing matters contained within our written representation, and to ensure the best environmental outcome for this project.

Yours faithfully,

**Clark Gordon**
**Strategic Planning Specialist**
**Environment Agency, Thames area**

Att Appendix A – Written Representations on behalf of the Environment Agency

Appendix B – Environment Agency responses to Examining Authority's second written questions (ExQ2)

Appendix C – Flood Zone 2 Technical Note

Cont/d..

## Appendix A

## Written Representations
## on behalf of the Environment Agency

### 1.0 Summary of outstanding issue

1.1 Since we sent our previous written representation on 11 February 2020 (REP4-047), flood risk matters remain under discussion.

1.2 The applicant submitted a Flood Zone 2 Technical Note to us on 14 February 2020 (included as Appendix C to this response; undated & unreferenced). We responded to the applicant on 2 March with our comments on the Technical Note and have requested further information. We will summarise our response to the applicant on the Technical Note below:

### 2.0 Updates to Flood Risk Assessment – climate change allowances

2.1 We noticed in the submitted Technical Note that following additional assessment undertaken by the applicant, there is the potential for the extent of a 1 in 100 year plus 70% allowance for climate change (1 in 100 + 70%) to extend beyond that of Flood Zone 2. Levels could conservatively be as much as 160mm higher for the 1 in 100 + 70% compared to Flood Zone 2. This suggests that Flood Zone 2 is not necessarily suitable as a direct proxy for this flood event.

2.2 The updated assessment suggests that areas of works that were previously ruled out of further assessment due to being outside Flood Zone 2 (i.e. in Flood Zone 1), may actually be within the envelope of a 1 in 100 +70% extent, and therefore require further assessment. However, it may also be that there are no such works, even within this greater extent. We do not necessarily agree with the applicant's conclusions in the Technical Note that *"The two flood extents are shown to be comparable, with no material change in the flood extents."*

2.3 We have requested that the applicant provide higher resolution maps of the works areas using the updated extent to determine whether any additional works/areas require further assessment.

2.4 In producing the updated assessment, the applicant has re-run our existing fluvial model for the River Wey by increasing inflows to the model by 70% (as discussed and agreed with our flood risk officer at our meeting with the applicant's agents on 7 February). We have asked the applicant to provide us with details of any changes made to the model apart from the inflows, for example to maintain stability.

2.5 We have asked the applicant to confirm to us, with sufficient evidence, that the conclusions of the Flood Risk Assessment (APP-046) have not been affected by the results of the additional assessment undertaken.

2.6 The applicant has also previously advised that updates will be made to the submitted Flood Risk Assessment (FRA) where appropriate. These matters will need to be reflected in any updated FRA.

2.7 Therefore at this time, we still consider this matter to be 'under discussion' until we have received the further information that we have requested from the applicant.

**Appendix B**

**Environment Agency responses to**
**Examining Authority's first written questions (ExQ1)**

## 1.0 Questions from the Examining Authority (ExA) to the Environment Agency (EA)

1.1 **Question 2.6.1** – *"In paragraph 1.1.1 of Appendix B of your [REP3-026] submission you refer to section 6 of Appendix A of that response. However, section 6 of Appendix A of your written representations [REP3-026] would appear to be missing. Therefore, please provide this and any other missing sections of Appendix A."*

1.1.1 We apologise for this oversight. Section 6 was not missing from the response; it had not been written before it was referenced in Appendix B.

1.1.2 This point related to ongoing discussions with our legal team to ensure that reference to any potential commuted sum payment had been adequately secured within the DCO documents. We subsequently confirmed that it was adequately secured.

1.1.3 We therefore consider this matter resolved and we confirm that we agree with the mitigation measures and that they are adequately secured in the DCO in their entirety.

1.2 **Question 2.15.5** – *"Further to the Applicant's response to the ExA's first written question 1.15.1 [REP2-013], the revised dDCO [REP2-002] has removed some activities from those not encompassed within the definition of commence. Nevertheless, a number of activities such as site clearance and the receipt and erection of construction plant and equipment remain outside the definition of commence. As such, these activities could take place outside the controls of the approved CEMP and the various management plans and method statements required by the CEMP. Please comment on this and indicate which, if any, activities that are currently excluded from the definition of 'commence' you consider should be included."*

1.2.1 The only activities that could have raised concerns with us were for 'pre-construction ecological mitigation' and erections of 'enclosures' or 'plant and equipment', but only for areas in proximity to Stratford Brook on flood risk grounds, however we feel that these will be sufficiently controlled through our Protective Provisions.

1.2.2 We shall leave detailed comments on activities at Boldermere to Surrey Wildlife Trust and Natural England (as appropriate), as we are primarily concerned about Water Framework Directive matters in connection with the lake, and these matters have been agreed.

Cont/d..

**Appendix C**

**Flood Zone 2 Technical Note**
**Received by Environment Agency on 14 February 2020**

## Context

The DMRB states the design standard for the scheme should be based on the Central estimate climate change allowance, but also requires a sensitivity test to test the Upper End estimate. The sensitivity tests would show whether there is a material change in flood risk that would warrant changing the Scheme design to mitigate any new or material changes in flood risk that arise from using the higher climate change allowance.

The design standard used for the Scheme is the 1 in 100 +35% flood event. The 35% uplift is the Higher Central estimate climate change allowance. To inform the design of the Scheme, the Flood Zone 2 extent has been used as a proxy for the 1 in 100 +35% flood outline. This is a conservative estimate as the 1 in 100 +35% flood flow is less than the 1 in 1000 flood flow.

In accordance with the requirements of the DMRB and the Flood Risk assessment: climate change allowances guidance, the flood risk assessment needs to consider the Upper End climate change allowances (100 + 70% uplift).

The Flood Risk Assessment has also used the Flood Zone 2 extent as a proxy for the 1 in 100 +70% climate change. This note provides further evidence to support the use of Flood Zone 2 in the FRA.

## Meeting notes

During the meeting on 7 February 2020, the method of comparing the 1 in 100 (70% CC) flows to the 1 in 1000 flows was discussed. The principle was agreed that the appropriate approach for estimating the flows at a point in the river system is to uplift the inflows into the model, rather than simply scale up a flow at a discrete point in the model. It was agreed that if the inflows to the model were scaled up by the climate change allowance, then the routing effects of the channel, river structures and floodplain would attenuate the peak flow, and attenuate the increase in flow. This would mean the 70% uplift to peak flows at the model inflow would gradually decay as the attenuating effect of channel and floodplain took effect. This attenuating effect is likely to be more pronounced in large catchments, like the River Wey.

## Analysis

The Lower Wey flood model has been run for the 1 in 100 flood event with the inflow hydrographs increased by 70%. This has been run to estimate the peak river levels near the Scheme for the 1 in 100 +70% event, enabling a comparison to the 1 in 1000 (Flood Zone 2) flood levels. The upstream extent of the Lower Wey model is near Woking, and so there is a significant catchment upstream of the extent of the model. This model will not therefore include the attenuating influence of the catchment upstream of this point. The approach is a conservative one where the increase in levels due to the 70% climate change allowance will be overestimated.

The results from the model runs show that the increase in baseline peak flood levels from the 1 in 1000 event to the 1 in 100 +70% is approximately 160 mm. *Figure 1* shows the change in flood extent on the right bank of the River Wey for a 160 mm increase in level above the 1 in 1000 flood levels. The red line is the 1 in 1000 flood level and the blue line is the 1 in 100 +70% flood level. Only the right bank of the River Wey has been shown as this is the part of the floodplain nearest the Scheme and therefore the only place where the proposed Scheme could be influenced by a significant change in the flood extent.

The difference between the 1 in 1000 and the 1 in 100 +70% flood extents is minimal, with no substantive change in the baseline flood extent nor flood risk. The change in flood extent would be expected to be smaller than shown in the figure for the reasons described above.

Cont/d..


*Figure 1 Flood extent sensitivity*

## Conclusion

A comparison between Flood Zone 2 and the 1 in 100 +70% flood extent has been carried out using a conservative approach that will overestimate the 1 in 100 +70% flood extent. The difference between Flood Zone 2 and the 1 in 100 +70% flood outlines will also be overestimated.

The two flood extents are shown to be comparable, with no material change in the flood extents.

The Flood Risk Assessment used the Flood Zone 2 extent as a substitute for the 1 in 100 +70% flood extent. Since there is no substantial difference between the two flood extents, the conclusions of the FRA remain valid.

End