

## ENVIRONMENT AGENCY

### WRITTEN REPRESENTATION

#### HIGHWAYS ENGLAND'S RESPONSE

*Deadline 4 (26 November 2015) – Written summaries of oral submissions presented at issue specific hearings on 17, 18 and 19 November 2015. Development Consent Order Application M4 - Junctions 3-12 (Smart Motorway)*

*As requested we wish to summarise our contributions at the issue specific hearings on the environment (17 and 18 November 2015) and the draft development consent order (19 November 2015). Our comments are set out under the following headings:*

- 1.0 Overview*
- 2.0 Update on Statement of Common Ground*
- 3.0 Flood risk*
- 4.0 Biodiversity and Water Quality*
- 5.0 Other Consents and Issues Raised*
- 6.0 Draft Development Consent Order*

#### *1.0 Overview*

- 1.1 In principle, the Environment Agency supports proposals to improve national infrastructure. Currently, we do have concerns about some potential environmental impacts from this scheme. We do not believe that the proposed flood risk mitigation measures are satisfactory and consequently the proposed development is likely to increase flood risk. We are concerned this will impact both people and the environment and that any increase in flood risk would be contrary to paragraph 5.99 of the National Policy Statement for National Networks (NPSNN).*

#### Highways England Comment

- 1.1.1 The Scheme design incorporates measures to mitigate against the potential for impacts on flood risk from both river and surface water sources. These measures comprise provision of compensation for any losses of storage within the floodplain defined by the 1 in 100 year flood event plus an allowance for climate change, and outline design of a hydraulic link between the floodplain and the flood compensation area. The drainage design aims for no increase in existing rates or volumes of surface water discharges. These mitigation measures are secured under Requirement 23 of the updated Draft DCO submitted to the Examining Authority at Deadline III (Examination Reference REP3-005) and Requirement 26 and supporting plans of the updated Draft DCO submitted to the Examining Authority at Deadline V. Consequently, there will be no increase in flood risk to people or the environment, and so the flood risk mitigation measures are in accordance with the requirements of paragraph 5.99 of the National Policy Statement for National Networks.

1.1.2 Highways England is discussing a revised Flood Risk Assessment requirement, and protective provisions, with the Environment Agency, with the latest draft of the requirement provided to the Environment Agency on 2 January 2016. Highways England hopes that the wording of this requirement can be agreed with the Environment Agency.

1.2 *We were also concerned that the scheme would adversely impact water quality and biodiversity interests. However, we are pleased to inform the Examining Authority (ExA) that following Highway's England submission of further evidence and clarification, including information provided as part of the Deadline 3 submissions (5 November) we believe that our biodiversity and water quality interests are capable of being protected through suitable requirements in the Development Consent Order (DCO). We are currently reviewing the details of requirement 24 (biodiversity management strategy) which is a new addition in the latest draft DCO submitted at deadline 3 and will continue to liaise with Highways England on this matter. We will keep the ExA informed of any progress with regards to this topic.*

#### Highways England Comment

1.2.1 Highways England is pleased to note that the Environment Agency has concluded that its biodiversity and water quality interests are capable of being protected through suitable requirements in the DCO.

1.2.2 Highways England continues to discuss matters with the Environment Agency, and is awaiting the Environment Agency's comments in relation to Requirement 24.

1.3 *With regards to the draft DCO, we have raised some concerns relating to particular requirements. These are summarised in section 6.0 below. Additionally, until further details have been submitted by Highways England regarding the potential mechanism for the discharge of requirements by the Secretary of State as part of deadline 4 (26 November 2015) we wish to reserve our position on this feature until we have undertaken a more detailed review.*

#### Highways England Comment

1.3.1 Highways England continues to discuss matters with the Environment Agency, and responds in relation to particular requirements below.

1.3.2 In relation to the discharge of requirements, Highways England has submitted a further explanatory note regarding the discharge of requirements at Deadline V on 8 January 2016. Highways England looks forward to receiving the Environment Agency's comments on the discharge of requirements provisions in the DCO once the Environment Agency has had an opportunity to consider that further information.

1.4 *We apologise to the ExA that we have been unable to submit a Statement of Common Ground (SoCG) between ourselves and Highways England by the 13 November as previously hoped. This has been as a result of new and revised information seeking to address our concerns*

*being submitted and these potentially changing our position. This has included the reviewing of several iterations of the Flood Risk Assessment with the most recent version prior to the hearings being received on the afternoon of Thursday 12 November, 2015. Consequently this impacted the potential wording of the draft SoCG. As previously indicated exchanges of the draft wording was provided to Highways England by the Environment Agency on 2nd and 8th October and Highways England provided a further draft for review on 3 November.*

- 1.5 *Following the hearings last week it was agreed that a SoCG would be submitted as part of the deadline 4 submission. We are hopeful that a signed SoCG between the parties will be submitted shortly.*
- 1.6 *At submission of this letter (25 November) we are awaiting for comments from Highways England on the recent draft that we provided to Highways England on 24 November 2015. It will be indicated within the SoCG that we agree on several points however, there are still some outstanding matters not agreed. These primarily relate to flood risk and the associated mitigation and compensation measures. We will continue to liaise with Highways England on these issues and will inform the ExA of any further progress.*

#### Highways England Comment

- 1.6.1 Highways England confirms that the latest comments provided by the Environment Agency on the SOCG (dated 24 November 2015) have been received and subsequently addressed, with the revised SOCG being issued by Highways England to the Environment Agency on 04 December 2015. A signed SoCG between Highways England and the Environment Agency is provided with the Deadline V submission.
- 1.7 *We do have concerns about some potential environmental impacts from this scheme. We do not believe that the proposed flood risk mitigation measures are satisfactory and consequently the proposed development is likely to increase flood risk. We are concerned this will impact both people and the environment and that any increase in flood risk would be contrary to paragraph 5.99 of the National Policy Statement for National Networks (NPSNN).*

#### Highways England Comment

- 1.7.1 Highways England re-iterates that the Scheme design incorporates measures to mitigate against the potential for impacts on flood risk from both river and surface water sources. These measures are detailed in the updated Flood Risk Assessment and the updated Drainage Strategy Report submitted with these responses at Deadline V. The measures comprise provision of compensation for any losses of storage within the floodplain defined by the 1 in 100 year flood event plus an allowance for climate change and design of a hydraulic link between the floodplain and the flood compensation area. The drainage design achieves no increase in existing rates or volumes of surface water discharges. Discharge rates will be restricted by flow controls and additional volumes, generated from new paved areas, are to be discharged by soil infiltration into underlying soils or additional attenuation provided. Attenuation requirements have been calculated based on restricting additional volumes to

discharge to 2 litres per second per hectare, during a 6 hour storm event (as indicated in Section 3-7 of the CIRIA (Construction Industry Research and Information Association) C697 SUDS (Sustainable Drainage System) Manual. The mitigation measures are secured under Requirement 23 of the updated Draft DCO submitted to the Examining Authority at Deadline III (Examination Reference REP3-005) and Requirement 26 and supporting plans of the updated Draft DCO submitted to the Examining Authority at Deadline V. Consequently, there will be no increase in flood risk to people or the environment, and it follows that the Scheme is in accordance with the requirements of paragraph 5.99 of the National Policy Statement for National Networks.

- 1.8 *From the outset, we wish to note that the 'Table of Mitigation Measures' (Appendix A of Highways England response to First Written Questions submitted for deadline 2, 8 October 2015) only refers to floodplain compensation measures being provided at four overbridge sites – Ascot Road, Monkey Island Lane, Wood Lane and Riding Court Road (page 23). Highways England have assessed that there are at least 10 sites that require floodplain compensation. Furthermore, the table notes the impact to result from construction in the floodplain. If any loss of floodplain is not appropriately compensated there is a risk that the proposed development will increase floodrisk during the construction phase and/or post-construction.*

#### Highways England Comment

- 1.8.1 Highways England confirms that all sites where works within the Order limits encroach into the floodplain defined by the 1 in 100 year flood event plus an allowance for climate change have been assessed to quantify the volume of storage loss, to identify preferred and alternative sites for compensation storage provision, and to identify suitable hydraulic links. These results are reported in Chapter 6 and Annex G of the updated Flood Risk Assessment submitted to the Planning Inspectorate at Deadline V. This information is the result of further work undertaken since the Deadline II submissions and therefore supersedes the information contained within the Table of Mitigation Measures (Appendix A of Highways England's response to the Examining Authority's First Written Questions, submitted at Deadline II (Examination Reference REP2-002 – Section 4)). Loss of floodplain will therefore be appropriately compensated (as secured under Requirement 23 of the updated Draft DCO submitted to the Planning Inspectorate at Deadline III (Examination Reference REP3-005)), and the Scheme will not increase flood risk during either the construction or post-construction phases. Highways England can confirm that these mitigation measures are now reflected in the updated Table of Mitigation Measures, which has been provided as part of the Deadline V submission.

- 1.9 *Furthermore, we wish to clarify that the term flood zone 3 does not include an allowance for climate change. Flood zone 3 is the 1% Annual Exceedence Probability (AEP) without an allowance for climate change.*

Highways England Comment

- 1.9.1 Highways England notes the definition of Flood Zone 3, but confirms that assessments of the impacts of the Scheme on fluvial flood risk have included an allowance for climate change and that mitigation will be provided for any works within the 1% Annual Exceedence Probability (“AEP”) plus climate change floodplain, in line with Environment Agency requirements.
- 1.10 *Although the current flood risk assessment (FRA) refers solely to development within flood zone 3, we wish to emphasise that all development within the 1% AEP plus a 20% allowance for climate change (also known as the 1 in 100 year plus 20% allowance for climate change flood extent) requires satisfactory floodplain compensation to ensure that flood risk is not increased.*

Highways England Comment

- 1.10.1 Highways England confirms that the updated Flood Risk Assessment submitted at Deadline V refers to development within the 1% AEP plus 20% allowance for climate change flood zone. Highways England confirms also that satisfactory floodplain compensation will be provided for any development in this zone, as secured by Requirement 23 of the updated Draft DCO submitted to the Examining Authority at Deadline III (Examination Reference REP3-005) and Requirement 26 and supporting plans of the updated Draft DCO submitted to the Examining Authority at Deadline V.
- 1.11 *Even though the FRA refers only to flood zone 3 we welcome that the applicant has based their recent floodplain compensation calculations on the design flood event (1% AEP plus 20% allowance for climate change) as required by national policy.*

Highways England Comment

- 1.11.1 Highways England is pleased to note the satisfaction of the Environment Agency with regard to the inclusion of 20% allowance for climate change within the floodplain compensation calculations. It is also confirmed that the updated Flood Risk Assessment submitted at Deadline V refers to the 1% AEP plus 20% allowance for climate change flood zone.
- 1.12 *Within the current FRA Highways England state that a neutral outcome or ‘negligible change’ is a variation of 10mm (increase or decrease) in flood levels based on their Design Manual for Roads and Bridges (DRMB). We do not agree with this position. Paragraph 5.99 of the NPSNN states that there should be no increase in flood risk. We support the policy in the NPSNN. Any increase in flood risk could place people and the environment at risk.*

### Highways England Comment

1.12.1 Highways England confirms that the updated Flood Risk Assessment submitted at Deadline V has been subject to further confirmatory assessment since the version submitted at Deadline III (Appendix A of Highways England's response to the Environment Agency's Written Representation – Examination Reference REP3-023). Paragraph 4.2.9 of the Flood Risk Assessment has been clarified to state that although HD45/09 from Design Manual for Roads and Bridges defines a neutral impact on flood risk to be a change in peak 1 in 100 year flood levels of no greater than 10mm, the mitigation measures proposed for the Scheme would ensure that there would be no increase in flood risk, in line with the Environment Agency's position and the requirements of paragraph 5.99 of the National Policy Statement for National Networks.

1.13 *At the environment hearings on 18 November 2015, Highways England verbally confirmed that the flood compensation scheme will be designed so there will be no increase in flood levels up to and including the 1% AEP plus a 20% allowance for climate change flood event. Their initial floodplain compensation calculations appear to support this however, the FRA has not been updated to reflect this position. We understand that a revised FRA will be submitted as part of the Deadline 4 (26 November 2015) submissions and we look forward to reviewing this document in due course.*

### Highways England Comment

1.13.1 Highways England confirms the submission of the updated Flood Risk Assessment at Deadline V, with the addition of information in Chapter 6 to reflect the commitment to design site specific floodplain compensation schemes such that there will be no increase in flood levels up to and including the 1% AEP plus climate change flood events.

1.14 *With regards to floodplain compensation, for the majority of sites, Highways England has now quantified the volume of flood compensatory storage required. This is indicated within documents provided to the Environment Agency on 12 November 2015 including Appendix I (flood plain compensation calculations summary and summary details); updated Appendix G maps; cross section for Area R18 (WB), (Junction 7-6 (CH 26500-27100)) AND Area R19 (EB), Junction 7-6 (CH 26550-27070). We understand that these documents will be submitted to the ExA as part of the deadline 4 submissions. Following a meeting between Highways England and the Environment Agency on Monday 23 November 2015, Highways England agreed to confirm if flood compensation was required for any of the work compound areas (particularly work compound 5) and to confirm the precise number of locations where floodplain compensation was required. Once received, we will review this information.*

### Highways England Comment

1.14.1 Highways England confirms that two of the proposed construction compounds (Numbers 5 and 7) are partially located within the floodplain defined by the 1 in 100 year flood event plus

an allowance for climate change. The updated Flood Risk Assessment submitted at Deadline V contains details of the floodplain compensation storage requirements at each of these sites (in paragraphs 5.1.17 and 5.1.41 respectively). Annex E of the updated Flood Risk Assessment submitted at Deadline V has also been updated to confirm the precise number of locations where floodplain compensation is required due to proposed widening works, side road works, culvert extensions and construction compounds.

- 1.15 *In addition to identifying suitable floodplain compensation areas it has been shown that there is additional volume within the proposed compensatory storage areas that are located within the order limits that could be utilised if required at the detailed design stage. This is important because the majority of the calculations for floodplain compensation have been based on LiDAR height data and not on the more accurate detailed site specific topographical surveys. We have sought reassurance from Highways England that the compensation calculations will be re-run using site specific topographical data at detailed design to ensure no loss of flood plain storage. We await for this to be confirmed and secured in writing as part of the DCO application.*

#### Highways England Comment

- 1.15.1 The updated Flood Risk Assessment submitted at Deadline V demonstrates that at each of the compensation storage sites, over 50% additional volume is available within the proposed compensatory storage areas (with over 100% additional volume available at several of the sites). Highways England confirms that the floodplain compensation analysis will be subject to further confirmatory assessment during the detailed design stage of the Scheme, using site specific topographical data, which will form part of the scheme secured pursuant to Requirement 23 of the Draft DCO.

- 1.16 *However, we have concerns in relation to the connectivity of the proposed compensation areas. There is limited detail in relation to hydraulic connectivity. We require further information on the arrangement of the ditches and culverts connecting the floodplain. This should include invert levels, lengths, whether they are existing or proposed structures, if existing structures what is their current role/use, etc...? Where an existing drainage ditch is proposed for hydraulic connectivity, it should be demonstrated that it will not compromise the working of existing surface water drainage systems. The hydraulic linking of compensation areas to the flood plain should be designed to ensure that the connectivity is available and volumes along the hydraulic link are safeguarded. If the ditch is currently used to attenuate surface water, volumes used for surface water management should not be calculated for the compensation scheme. At detailed design if existing ditches cannot be used alternative hydraulic connectivity should be sought.*

#### Highways England Comment

- 1.16.1 Highways England met with the Environment Agency on 23 November 2015 to develop further solutions for providing hydraulic links to floodplain compensation storage areas. Following this meeting, the updated Flood Risk Assessment submitted to the Planning

Inspectorate at Deadline III (Appendix A of Highways England's response to the Environment Agency's Written Representation – Examination Reference REP3-023) was further updated to provide details of hydraulic linking proposals on a site by site basis, in order for a new version to be submitted at Deadline V.

1.16.2 At the majority of the flood attenuation areas, hydraulic links are proposed in the form of new ditches and pipe culverts. In some locations, existing drainage ditches will be used. However, as explained in paragraph 6.4.3 of the Deadline V updated Flood Risk Assessment, where an existing drainage ditch is to be used, the current function of the ditch will first be verified, for example, to assess whether the ditch is or is not used for attenuation and whether it has sufficient capacity to convey floodwaters into the flood compensation areas. Where studies show that the existing ditches cannot adequately convey floodwater between the floodplain defined by the 1 in 100 year flood event plus an allowance for climate change and the flood compensation areas, alternative hydraulic links will be used. The proposed use of hydraulic connectivity measures is outlined in paragraph 15.4.72 of the ES (Application Document Reference 6-1, APP-155).

1.16.3 Any enhancement or remediation measures, which are required to ensure that the existing ditch system functions correctly during storm events, will be completed during the construction phase of the Scheme as secured by Requirement 23 of the Draft DCO.

1.17 *The proposed floodplain compensation areas must be hydraulically linked to the existing floodplain to ensure that the flood water can move freely between the plots. If they are not suitable hydraulically linked, the proposal as submitted may increase flood risk offsite (outside of the order limits) to nearby roads and properties.*

#### Highways England Comment

1.17.1 As detailed in the response to 1.16 above, further details regarding hydraulic links have been added to the updated Deadline V Flood Risk Assessment. The assessment carried out by Highways England demonstrates that there will be no increase in off-site flood risk. Following completion of detailed design of floodplain compensation areas and hydraulic links, these will be presented to the Environment Agency for approval as secured by Requirement 23 of the Draft DCO.

1.18 *The following comments relate to particular sites/areas where floodplain compensation is proposed.*

1.19 *Area R18 (WB), Junction 7-6 (CH 26500-27100) and Area R19 (EB), Junction 7-6 (CH 26550-27070), drawing 514451-MUH-00-ZZ-DR-DR-400157.*

- 1.20 *A cross section for this area has been submitted, which supports the written summary of compensation calculations as shown in Table 1. The invert level of the culvert is shown to be flat. Due to the length of the connectivity, we have concern about whether flood water would be able to recede back to the flood plain. There is limited information about the culvert link across the motorway is shown on the plan and how this will be used.*

Highways England Comment

- 1.20.1 Paragraphs 6.5.17 to 6.5.19 of the updated Deadline V Flood Risk Assessment provides additional information regarding floodplain compensation and hydraulic linkage at Area R18 and Area R19. The proposed hydraulic connectivity link uses pipe culverts between the floodplain and flood compensation areas located on the eastbound side of the M4 at a level of 19.2m above ordnance datum (“AOD”). A new floodplain compensation ditch on the westbound side of the M4 lies at the same level as the ditch on the eastbound side of the M4 at 20.2m AOD. Therefore, flood water will first rise within the lower eastbound flood compensation area before surcharging into the floodplain compensation ditch on the westbound side of the M4 using the existing pipe culvert crossing, as shown on flood compensation map 514451-MUH-00-ZZ-DR-DR-400157 (Annex G of the updated Deadline V Flood Risk Assessment). Flood water would then recede back from the M4 westbound side floodplain compensation area to the eastbound side floodplain compensation area, through the existing pipe culvert crossing the M4 and finally along the eastbound hydraulic link into the nearest floodplain after the flood event occurred.
- 1.21 *Area R16 (EB), Junction 6-5 (CH 17445 -17600), drawing number 514451-MUH-00-ZZ-DR-DR-400158 and Area R 17 (WB), Junction 6- 5 (CH 25260 -25830), drawing number 514451-MUH-00-ZZ-DR-DR-400158 and Area R06 (WB), Junction 5-4b (CH 17445 -17600), drawing number 514451-MUH-00-ZZ-DR-DR-400134.*
- 1.22 *Highways England has explained they will be using an open channel to hydraulically link to the flood plain where a nearby ditch is available at a lower level. There is limited detail in relation to the ditch and how the hydraulic link will provide connectivity and ensure that flood water will be able to recede back to the flood plain.*

Highways England Comment

- 1.22.1 Further information on proposed hydraulic links for sites R16, R17 and R06 is provided in paragraphs 6.5.28 and 6.5.48 of the updated Deadline V Flood Risk Assessment. In summary, at R16/R17, a pipe culvert is proposed in combination with new and existing ditches as hydraulic links between proposed floodplain compensation areas and the 1 in 100 year plus climate change floodplain, as indicated on flood compensation map 514451-MUH-00-ZZ-DR-DR-400158 (Annex G of the updated Deadline V Flood Risk Assessment). An open channel hydraulic link lies at chainage 25650 eastbound where a nearby ditch is available at a

lower level at about 19.5m AOD for the proposed compensation area on the eastbound side. An open channel hydraulic link is at chainage 25260 westbound where a nearby ditch is at a level of 18.9m AOD to drain water from the proposed compensation area on the westbound side of the M4. At R06, an open channel hydraulic link to the floodplain at chainage 17710 westbound is proposed to transfer the floodwater to a natural stream through a nearby floodplain ditch, which is at a lower level of approximately 22.0m AOD, as indicated on flood compensation map 514451-MUH-00-ZZ-DR-DR-400134 (Annex G of the updated Deadline V Flood Risk Assessment).

- 1.23 *Area E9-A1 (WB), Junction 12-11 (CH 56180 -56280), drawing number 514451-MUH-00-ZZ-DR-DR-400133. The applicant has explained that there will be an open channel that will hydraulically link at CH56100 to 56110 (WB) at 38.4mAOD. This is a slightly lower level than the compensation area. Limited detail has been submitted to explain how flood water will be contained in the compensation area and how flood water will be able to recede back to the flood plain.*

#### Highways England Comment

- 1.23.1 Highways England confirms that further detail has been added to drawing number 514451-MUH-00-ZZ-DR-DR-400133, within Annex G of the updated Deadline V Flood Risk Assessment, which describes the proposed hydraulic link at this site and commits to refining the floodplain compensation scheme at this site during the detailed design phase, informed by detailed topographical survey data.
- 1.24 *Wood Lane Road (Junction 7- 6), drawing number 514451-MUH-SR-ZZ-DR-DR-301325. Hydraulic connectivity is proposed via a pipe from a level 20.98mAOD to 20.5mAOD at its outlet at the natural ditch on the eastern side of the road. Limited detail has been submitted to explain how flood water will be contained in the compensation area and how flood water will be able to recede back to the flood plain.*

#### Highways England Comment

- 1.24.1 Highways England confirms that further detail has been added to drawing number 514451-MUH-SR-ZZ-DR-DR-301325, within Annex G of the updated Deadline V Flood Risk Assessment, to describe the proposed hydraulic link at this site. The floodplain compensation proposals at this site will be refined during the detailed design phase, informed by detailed topographical survey data.
- 1.25 *Ascot Road, (Junction 8/9 – 7), drawing number 514451-MUH-SR-ZZ-DR-DR-301319. Hydraulic pipe connectivity is proposed at ref CH 400 (local) to the nearest flood plain within Order Limits as shown on the drawing. No detail submitted to demonstrate how this will work.*

### Highways England Comment

- 1.25.1 Highways England confirms that further detail has been added to drawing number 514451-MUH-SR-ZZ-DR-DR-301319, within Annex G of the updated Deadline V Flood Risk Assessment, to describe the proposed hydraulic link at this site. The floodplain compensation proposals at this site will be refined during the detailed design phase, informed by detailed topographical survey data.
- 1.26 *Riding Court Road (Junction 6-5), drawing number 514451-MUH-SR-ZZ-DR-DR-301324. Hydraulic pipe connectivity is proposed from the compensation area reference CHS120 to the opposite side of the road as shown. Only one culvert has been proposed to hydraulically link the flood plain and it has not been demonstrated that this adequately provides connectivity for the flood plain north of the proposed connection. Any proposed connectivity via culverts under roads should remain open for the lifetime of the development and there should be consideration of future maintenance requirements, which has not been discussed.*

### Highways England Comment

- 1.26.1 Highways England met with the Environment Agency on 23 November 2015 to discuss and develop further solutions for providing hydraulic links to floodplain compensation storage areas. Following this meeting, the updated Flood Risk Assessment submitted to the Planning Inspectorate at Deadline III (Appendix A of Highways England's response to the Environment Agency's Written Representation – Examination Reference REP3-023) was further updated to provide details of hydraulic linking proposals on a site by site basis.
- 1.26.2 At Riding Court Road, hydraulic connectivity between the preferred compensation area and the floodplain is to be provided by a new ditch and pipe culvert under Riding Court Road. This arrangement is shown on Drawing 514451-MUH-SR-ZZ-DR-DR-301324 (Annex G of the updated Deadline V Flood Risk Assessment). An alternative arrangement is also provided on this drawing and described in paragraph 6.5.11 of the updated Deadline V Flood Risk Assessment. Highways England confirms that components of the floodplain compensation storage schemes, including hydraulic links, will be subject to an appropriate maintenance regime, as provided for under Requirement 23 in the draft DCO.
- 1.27 *Following further clarification and submission of information including that provided by Highways for deadline 3, we are content that the proposed development as currently submitted will not adversely impact our biodiversity or water quality issues. This is subject to appropriately worded requirements being included within the DCO and other associated documentation including the Construction Environmental Management Plan (CEMP) relating to the issues of groundwater quality, biodiversity surveys, mitigation, compensation and enhancement measures as promoted by paragraph 3.3 of the NPSNN.*

### Highways England Comment

1.27.1 Highways England is pleased to note that the Environment Agency considers that the Scheme will not adversely impact biodiversity or water quality. Highways England also confirms that discussions with the Environment Agency are continuing to agree suitably worded requirements within the Draft DCO and Outline Construction Environmental Management Plan (Appendix 4.2A of the ES) (Application Document Reference 6-3, APP-293) in respect of these matters. Highways England is currently awaiting the Environment Agency's comments on the DCO requirements and the provisions of the Outline Construction Environmental Management Plan in relation to these issues.

1.28 *We are pleased to note that the correct Chalvey Ditch waterbody (GB106039023550) has now been assessed and included within Appendix B – ‘Comparison of water bodies’ of Highways England response to written representations as submitted for deadline 3 (5 November 2015) and that this data does not alter the overall conclusions of the Water Framework Directive Compliance Assessment (WFSCA).*

### Highways England Comment

1.28.1 Highways England is pleased to note that the Environment Agency is now satisfied with the assessment of the Chalvey Ditch and the overall conclusions of the Water Framework Directive Compliance Assessment (Application Document Reference 7-6, APP-134).

1.29 *Within the latest submissions and during the hearings it has been confirmed by Highways England that Frog's Ditch will not be culverted or diverted. We welcome this confirmation.*

### Highways England Comment

1.29.1 Highways England can confirm that this commitment is reflected in the SoCG with the Environment Agency, a signed version of which is provided with the Deadline V submission.

1.30 *We believe that the proposed scheme will not significantly impact the implementation of the proposed Water Framework Directive (WFD) measures as recommended within the Thames River Basin Management Plan (RBMP).*

### Highways England Comment

1.30.1 Highways England is pleased to note that the Environment Agency concludes that the Scheme will have no significant impact on the implementation of proposed Water Framework Directive mitigation measures as recommended within the Thames River Basin Management Plan.

- 1.31 *We do not believe that the lengthening of the two culverts will result in a neutral ecological outcome as concluded by Highways England within the Environmental Statement. This is because the lengthening of the culverts will result in the loss of river bed and banks. These areas provide habitats for various flora and fauna. However, we are satisfied that we will be able to secure appropriate compensation through the proposed DCO requirements (wording yet to be agreed) and within separate consenting regimes under various legislations including the Water Resources Act 1991 (as amended), the Thames Water Authority Land Drainage Byelaws 1981 (as amended) and the Thames Conservancy Act 1932 (as amended). However, as our position relates to our remit this should not imply that other parties are fully satisfied on this issue.*

Highways England Comment

- 1.31.1 Highways England is pleased to note the Environment Agency's satisfaction that appropriate ecological compensation will be secured through the proposed DCO requirements and via implementation of the relevant consenting regimes. Highways England also notes that Natural England has been consulted in relation to the Scheme and in their Written Representation stated: "we have no outstanding issues or concerns with regard to this project". Highways England and Natural England have agreed a Statement of Common Ground and there are no matters that are not agreed.

- 1.32 *At the time of writing, we are currently reviewing the details of requirement 24 (biodiversity management strategy) with regards to our remit. Requirement 24 is a new addition in the latest draft DCO submitted at deadline 3. We will continue to liaise with Highways England on this matter. We will keep the ExA informed of any progress with regards to this topic.*

Highways England Comment

- 1.32.1 Highways England notes that the Environment Agency is reviewing the proposed text for Requirement 24 of the Draft DCO, and will continue to liaise with the Environment Agency in this regard.

- 1.33 *We are pleased that Highways England has confirmed during the November hearings that they are not seeking to dis-apply the consents, licences and notifications required under the Water Resources Act 1991 (as amended), the Thames Water Authority Land Drainage Byelaws 1981 (as amended) and the Thames Conservancy Act 1932 (as amended). However, we seek that this be specifically stated within the requirements to clarify this matter with all parties. Please refer to section 6.0 for further information.*

Highways England Comment

- 1.33.1 Highways England confirms that it is not seeking to disapply the Water Resources Act 1991 or the relevant Byelaws and will have to apply for the necessary flood defence consents. Having considered the representations made by the Environment Agency during the Issue Specific Hearings, Highways England has included wording in Article 16 of the Draft DCO,

which makes it clear that the powers granted do not override the requirement to obtain the necessary consent.

- 1.34 *During the November hearings, several issues were raised by the ExA and interested parties relating to the maintenance of different features. We wish to raise concern that the submitted documents and DCO requirements do not appear to provide sufficient details on who will be responsible and how Highways England propose to maintain the various ditches, culverts, pipes, sustainable drainage systems (SuDS) and land associated with the floodplain compensation scheme.*

#### Highways England Comment

1.34.1 The responsibility for maintaining the motorway assets during the operation phase is described in paragraphs 2.3.2 to 2.3.3 of the Outline Environmental Management Plan (Appendix 4.2 of the ES) (Application Document Reference 6-3, APP-299). The contractor will be required to prepare a Handover Environmental Management Plan (“HEMP”), which will include essential information required by the body responsible for the future operation and maintenance of the Scheme (the Highways England Area Team). An indicative contents for the HEMP is provided in Annex C to Interim Advice Note 183/14 ‘Environmental Management Plans’, and includes a Drainage Management Plan.

1.34.2 The revised draft of the flood risk requirement (Requirement 23) in the updated Draft DCO submitted to the Examining Authority at Deadline V states that the flood compensation scheme to be prepared, submitted to and approved in writing by the Secretary of State, in consultation with the Environment Agency, must provide for the future maintenance of the works or measures comprised within the approved flood compensation scheme during the operation of the authorised development.

- 1.35 *It is essential that appropriate measures and plans are implemented to ensure that these features will work as designed both during the construction phase and post-construction for the lifetime of the development. Without this reassurance, the floodplain compensation scheme may not function correctly and this could lead to an increase in floodrisk. This may place people and the environment at risk and would be contrary to paragraph 5.99 of the NPSNN.*

#### Highways England Comment

1.35.1 Proposed flood risk compensation measures over the lifetime of the Scheme will be secured under Requirement 23 of the Draft DCO. The site specific mitigation proposals have been developed in as much detail as possible at this stage of the design, and will be subject to confirmatory assessment during the detailed design phase using site specific topographical data, to ensure that each scheme functions correctly, as part of the scheme secured pursuant to

requirement 23 in the Draft DCO. On this basis, Highways England considers that there will be no increase in flood risk as a result of the Scheme, in accordance with paragraph 5.99 of the National Policy Statement for National Networks.

- 1.36 *A question relating to the maintenance of main rivers by the Environment Agency was raised from the gallery by a member of the public. We wish to summarise our response at the hearing and provide a brief overview of the Environment Agency's role.*
- 1.37 *Those who own land adjoining, above or with a watercourse running through it, have certain rights and responsibilities. In legal terms they are a 'riparian owner'. In this instance, Highways England are the riparian owner and as such must fulfil their responsibilities accordingly. Further information relating to riparian ownership can be found at <https://www.gov.uk/government/publications/riverside-ownership-rights-and-responsibilities>*

#### Highways England Comment

- 1.37.1 Highways England acknowledges the rights and responsibilities associated with riparian ownership and has corresponded frequently with the Environment Agency both prior to and throughout the Examination in order to ensure that the Scheme does not compromise those responsibilities.
- 1.38 *The Environment Agency is one of the risk management authorities as defined by the Flood and Water Management Act 2010. Protecting the river environment and managing flood risk is part of our job. This means that some of its duties and powers affect riparian owners.*

#### Highways England Comment

- 1.38.1 Highways England acknowledges the duties and powers of the Environment Agency in respect of managing flood risk and protecting the river environment and has corresponded frequently with the Environment Agency both prior to and throughout the Examination in order to ensure that the Scheme does not compromise those duties.
- 1.39 *The Environment Agency has powers to work on main rivers and the sea to manage flood risk. These powers allow us to do work. However, we do not have to maintain or construct new works on main rivers or the sea. We are unlikely to maintain a watercourse to improve the amenity of the river or to stop erosion that does not increase flood risk. We can also do work to prevent environmental damage to watercourses, or to restore conditions where damage has already been done.*
- 1.40 *The Environment Agency undertakes maintenance work to main rivers on a regular basis. Our river and coastal maintenance programmes are published online at <https://www.gov.uk/government/publications/river-and-coastal-maintenance-programme>*
- 1.41 *Further information on the different roles and responsibilities of each stakeholder can be found at <https://www.gov.uk/guidance/river-maintenance-and-drainage-charges-farmers-and-landowners>*

- 1.42 *Although the gentleman's question should not be dismissed, we wish to note that the proposed scheme must meet the requirements of paragraph 5.99 of the NPSNN. This policy states that the proposed development should not increase flood risk and that when required appropriate mitigation and compensation measures are fully implemented. Therefore, the proposed works should not change the current floodrisk parameters.*

Highways England Comment

- 1.42.1 As set out in previous responses, the Scheme design incorporates measures to mitigate against the potential for impacts on flood risk from both river and surface water sources. These measures are detailed in the updated Deadline V Flood Risk Assessment and Drainage Strategy Report. These measures comprise provision of compensation for any losses of storage within the floodplain defined by the 1 in 100 year flood event plus an allowance for climate change, and design of hydraulic links between the floodplain and the flood compensation area. The drainage design achieves no increase in existing rates or volumes of surface water discharges. The mitigation measures are secured under Requirement 23 of the Draft DCO submitted at Deadline V. Consequently, there will be no increase in flood risk to people or the environment, in accordance with the requirements of paragraph 5.99 of the National Policy Statement for National Networks.

- 1.43 *We are content with the overarching framework of the Construction Environmental Management Plan (CEMP) (Appendix 4.2A to the ES) (Application Document Reference 6.3). However, we will be seeking some wording changes prior to the submission of the next revision of the document. These primarily relate to flood risk. We understand from the hearing sessions that the next CEMP will be submitted for deadline 5 (8 January 2015).*

Highways England Comment

- 1.43.1 Highways England has discussed proposed wording changes and additions to the CEMP with the Environment Agency. Highways England has clarified that the CEMP is not the only vehicle for providing the mitigation measures specified in the Environmental Statement, and has referred the Environment Agency to the Table of Mitigation measures, which sets out where each of the mitigation measures identified in the Environmental Statement is secured.
- 1.43.2 Highways England would be pleased to discuss any further revisions to the CEMP that the Environment Agency considers to be necessary.
- 1.44 *Furthermore, as a contractor has now been appointed, where possible further detail would be appreciated to enable a more comprehensive review. The CEMP approval and implementation process is yet to be agreed although we expected that this can be appropriately addressed through a suitable DCO requirement.*

### Highways England Comment

- 1.44.1 Highways England has revised Requirement 8 of the Draft DCO to state that the Environment Agency is to be consulted on the approval of the final CEMP.
- 1.45 *The following remarks summarise our comments on the draft DCO made at the relevant hearing on Thursday 19 November 2015.*
- 1.46 *We are pleased that Highways England has agreed to certain notice provisions requested by the Environment Agency. These primarily relate to access to main rivers and interference with apparatus and a written notice period of 8 weeks is being proposed. Although wording is yet to be agreed both parties seem content with this position.*

### Highways England Comment

- 1.46.1 Highways England has agreed to the access and notification provisions requested by the Environment Agency. These matters are to be addressed via protective provisions for the benefit of the Environment Agency to be included in Schedule 9 of the Draft DCO. Those protective provisions are subject to on-going discussions with the Environment Agency.
- 1.47 *As discussed on 19 November, we would seek that article 16 is qualified so that it expressly states that it does not remove the need for flood defence consent to be obtained under s.109 of the Water Resources Act 1991 and relevant byelaws. We agreed with Highways England that the current wording does not serve to dis-apply these provisions, but explained that we would like the wording to be added in order to clarify this.*

### Highways England Comment

- 1.47.1 Highways England confirms that it is not seeking to disapply the Water Resources Act 1991 or the relevant Byelaws and will have to apply for the necessary flood defence consents.
- 1.47.2 Having considered the representations made by the Environment Agency during the hearing, Highways England has included wording in Article 16 of the draft DCO to make it clear that the powers granted do not override the requirement to obtain the necessary consent.
- 1.48 *The process for discharging requirements was discussed, in particular the consultation process associated within this. We ask that the wording in Part 2 of Schedule 2 and Schedule 12 to be clarified so that it is clear which provisions relate to the discharge of requirements. We express concern that there is insufficient time for the Environment Agency to respond to any consultation, particularly as the Environment Agency will be the expert on some issues and will be advising the Secretary of State who will ultimately be discharging the requirement. For now, until further detail on this potential discharge mechanism is provided by Highways England as part of the deadline 4 we wish to reserve our position regarding this matter. Upon receipt of further details and clarification we will review the information and provide our opinion to the ExA.*

### Highways England Comment

- 1.48.1 In relation to the discharge of requirements, Highways England has submitted a further explanatory note regarding the discharge of requirements at Deadline V on 8 January 2016. Highways England looks forward to receiving the Environment Agency's comments on the discharge of requirements provisions in the DCO once the Environment Agency has had an opportunity to consider that further information.
- 1.48.2 As explained in that explanatory note, Highways England will be undertaking the consultation required with third parties as part of the discharge of requirements. No time limit is provided in the DCO on the length of that consultation. As explained at the issue specific hearing into the Draft DCO, it is not usual for the DCO to provide detail regarding the method of consultation, or to be proscriptive in relation to how consultation should be undertaken. Consequently, the same approach has been adopted in relation to the proposed DCO for the Scheme and it is not Highways England's intention to restrict the Environment Agency to a statutory timescale in relation to its consultation on the discharge of requirements under the DCO.
- 1.48.3 We wish to highlight that requirement 8 (CEMP) does not currently require the mitigation measures from the Environmental Statement that are contained in the outline CEMP to be in the final CEMP. We acknowledged that requirement 8 provides that the CEMP must be approved by the Secretary of State in consultation with the Environment Agency and that it must be '*substantially in accordance*' with the outline CEMP, but stated that, although unlikely, the approved CEMP could nevertheless still fail to contain all of the mitigation measures that it would be expect to. Highways England explained the difficulty of securing ES mitigation measures in the DCO as they are secured by different means. We explained that we understood this, but that we still required the mitigation measures that are meant to be contained in the CEMP to be secured. We suggested listing the mitigation measures that are meant to be contained in the CEMP in requirement 8 in order to ensure that they are included in the final CEMP.

### Highways England Comment

- 1.48.4 The Table of Mitigation at Appendix A of the Explanatory Memorandum sets out the proposed mitigation measures and which of these are secured by the construction environmental management plan ("CEMP"). An updated Table of Mitigation has been provided to the Examining Authority providing cross references to the mitigation measures required by the various technical chapters of the Environmental Statement ("ES"). Highways

England's contractor will be required to adopt, update and implement the CEMP for the duration of the construction contract pursuant to Requirement 8 of Schedule 2 of the Draft DCO.

1.48.5 Highways England does not consider that a provision requiring that the mitigation measures contained in the outline CEMP are included in the final CEMP is appropriate. This is because Requirement 8(1) as currently drafted already requires that the CEMP must be "substantially in accordance with" the outline CEMP. While Highways England do not intend to omit any mitigation measure specified in the outline CEMP from the final CEMP to be adopted, a degree of flexibility, in respect of the form of the mitigation, is required to allow for a change to the method of mitigation adopted as a result of best practice or the at the request of consultees.

1.48.6 In addition, there is a safeguard in place in that the final CEMP to be adopted is to be approved by the Secretary of State in consultation with the Environment Agency. Therefore, it is submitted that the Environment Agency can take comfort from the fact that it will have the opportunity to review the final CEMP to ensure that the mitigation measures specified in the outline CEMP are included, in some form, in the final CEMP. If, having reviewed the final CEMP, the Environment Agency has concerns it can raise them to the Secretary of State at that stage, before the CEMP is adopted.

1.49 *We do not agree with the current wording of requirement 23 relating to the Flood Risk Assessment. We have provided Highways England with alternative wording on 17 November 2015 and are in discussions with them on this matter. We are hopeful that we will agree alternative wording in the near future. The requirement is expected to contain the need for a compensation scheme to be approved, which must be as set out in the Flood Risk Assessment unless an alternative scheme is provided that does not result in the flood levels in the Flood Risk Assessment being exceeded. This is provided that the updated Flood Risk Assessment provides suitable compensation measures and that provision is made for maintenance of any culverts and ditches needed as part of the compensation scheme. We also noted to the ExA that we did not think maintenance was appropriately addressed within the application or DCO.*

#### Highways England Comment

1.49.1 Highways England reviewed the alternative wording proposed by the Environment Agency on 17 November 2015 and provided a revised draft of the requirement to the Environment Agency on 2 January 2016. Highways England remains in discussion with the Environment Agency in relation to this matter.

1.50 *At the time of writing, we are currently reviewing the details of requirement 24 (biodiversity management strategy) with regards to our remit. Requirement 24 is a new addition in the*

*latest draft DCO submitted at deadline 3. We will continue to liaise with Highways England on this matter. We will keep the ExA informed of any progress with regards to this topic.*

Highways England Comment

Highways England remains in discussion with the Environment Agency, and awaits the Environment Agency's comments on Requirement 24.