Our ref: AE/2022/127507/14-L01 & Interested Party Ref: 20033155
Your ref: TR010060

Date: 12 July 2023

Submitted via portal

APPLICATION BY NATIONAL HIGHWAYS FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR THE A12 CHELMSFORD TO A120 WIDENING

Please find below a Final Position Statement from the Environment Agency in respect of this scheme, as requested by the Examining Authority in Q3.3.3 of ExQ3: *"Should the parties not achieve an agreed position by the end of the Examination, the ExA requests that by DL8 each party provides a final position statement outlining the key matters of contention."*

The position of the Environment Agency remains mostly as detailed in our Written Representation [REP2-053]. We remain of the view that highlighted main river crossings will cause unnecessary and avoidable environmental damage, and the Applicant has failed to demonstrate conclusively otherwise.

We have raised concerns in respect of:

1. A **new culvert crossing of Rivenhall Brook**, located on a proposed new section of road and 90m south east of the existing crossing which is to be retained. The additional crossing is proposed as a 46m long box culvert, being 4.5m wide x 3.1m tall.
2. A **new culvert crossing of Domsey Brook (east)**, located on a proposed new section of road and approximately 100m to the south of the existing crossing which is to be retained. The additional crossing is proposed as a 60m long box culvert, being 2.7m wide x 2.7m tall.
3. An **extension to a further existing culvert crossing of Domsey Brook (west).** The extension will match the existing arch structure being 7m wide x 5.5m at its tallest point. The extension will be 34.6m long, making the structure 70.1m long in total.
4. An **extension to the existing culvert crossing of Roman River**. The extension will match the existing structure being a 4.8m wide x 2.1m high box culvert. The extension will be approximately 12m long, making the structure approximately 52m long in total.

5. An **extension to the existing bridge crossing of the River Brain**. The extension will match the existing structure and will add approximately 7m on the east side and 5m on the west side. The extended bridge will span a distance of approximately 25m.
6. An **extension to the existing bridge crossing of the River Blackwater (Ashman's Bridge)**. The extension will match the existing structure and will add approximately 10m on the south side. The extended bridge will span a distance of approximately 22m.

The new culvert crossings proposed for **Rivenhall Brook** and **Domsey Brook (east)** will unnecessarily create lengthy dark tunnels causing significant breaks in riparian connectivity and the fragmentation of habitats, through the destruction of natural banks, loss of natural channel, excessive shading and macrophyte loss. The culverts will introduce a barrier to the movement of protected species of fish (brown trout and European eel), and otter and water vole, which can be found throughout the affected river systems. They will also create a break in continuous geomorphological river processes and sediment transport.

The proposed mitigation measures include the provision of natural substrate to aid fish and eel passage, and the addition of ledges for mammal passage. It is our view that while these measures would improve the design, they are wholly inadequate in serving to mitigate the adverse effects of the proposals for new culverts on these main rivers.

Introducing further barriers to species movement and causing degradation of riparian habitat will increase pressure on natural river ecosystems, reducing resilience to the adverse effects of climate change. These culvert options do not appear to fully take the long-term damaging environmental impacts into account.

The proposed extensions to the culvert crossings of **Domsey Brook (west)** and **Roman River** will match the existing structures and will have similar effects on ecology as the new culvert crossings. We do not agree that the Applicant has demonstrated that these proposals will not introduce further barriers to species movement.

We raised concerns that the proposed widening of the **River Brain** bridge is extending the existing concrete riverbed. The design of the current structure leads to the channel almost completely drying out in summer, causing particular problems for fish for migrating young eels and elvers. These proposals must not exacerbate an existing known problem, and the scheme presents an opportunity to improve flows at this location during drier months. Following discussions during the Examination, the Applicant has stated that they will look at options to increase the depth of the main channel at the detailed design stage. This is welcomed. We will need to agree to a suitable design prior to the granting of a Flood Risk Activity Permit.

In the case of the extension to the **River Blackwater** crossing (Ashman's Bridge), we are concerned about the impacts on water vole resulting from the loss of natural banks. The Applicant has undertaken to consider at the detailed design stage how natural banks can be retained, and how the design can maximise delivery for

biodiversity. As above, this is welcomed and agreement on a suitable design will be required prior to the granting of a Flood Risk Activity Permit.

The Applicant is required to obtain a further separate consent for all of these main river crossings from the Environment Agency, in the form of a Flood Risk Activity Permit (FRAP) under the Environmental Permitting Regulations 2016.

The Environment Agency has a long-standing policy opposing the use of culverts for reasons including the potential for adverse ecological effects [REP5-030]. We apply this policy approach when assessing applications from developers for FRAPs, and when considering planning applications which will subsequently also require a FRAP.

Where the use of culverts is proposed, the policy requires an applicant to first demonstrate why culverting is necessary and the only reasonable and practicable alternative to less damaging options such as an open span bridge. We stated during the pre-application stage that main river crossings should be designed as clear span bridges. The choice of a clear span bridge or a similar more open structure can avoid adverse ecological impacts such as habitat loss and fragmentation by enabling the retention of the natural river channel and corridor, and by limiting the loss of light and bankside vegetation.

This approach reflects the application of the mitigation hierarchy, that environmental harm should first be avoided, with habitat features retained and fragmentation minimised. This is a key requirement of national planning policy, referred to in the draft National Policy Statement for National Networks (March 2023) (footnote ‘e’ to paragraph 4.21, paragraph 5.43 & 5.51) and the National Planning Policy Framework (July 2021) (paragraph 180). The Design Manual for Roads and Bridges (DMRB) LD118 – Biodiversity design (March 2020) also requires this approach.

The Applicant has not demonstrated that this approach has been applied in respect of the design of the proposed new and extended culverted main river crossings. The Applicant has not demonstrated that the scheme cannot be delivered using less environmentally damaging design options. Our position is that amendments to the scheme should be made to reduce the harm that will be caused to the environment. This is a material consideration for the Secretary of State when making a decision.

The Applicant’s Technical Note on Proposals for Main River Crossings [REP6-095] states that for Rivenhall Brook and Domsey Brook (east), wider pre-cast portal bridge structures were found to be “feasible to construct”. While such structures could offer some ecological benefits over the proposed box culverts, it has not been demonstrated why clear span bridges could not be constructed as part of these new off-line sections of highway. For the culvert extensions, we are aware that the design of the existing structures may affect what can be built, but we note that an alternative to the Roman River box culvert has also been found to be feasible. In all cases, it must be shown that the required option will not result in an unacceptable impact on habitats and species present.

We cannot agree that the Applicant has demonstrated that the main river crossings as proposed will not cause unnecessary and avoidable environmental damage.

The new and extended culverts are likely to have a severe detrimental impact on the invertebrates, vegetation, fish, and entire biodiversity elements across the whole river catchment where they act as barriers to species movement. Culverts isolate habitats by destroying the river corridor which is the only migration route for aquatic ecology and the main migration route for terrestrial ecology. They cause problems for fish passage through increased water velocities, shallow depths, oxygen depletion and eroded culvert entrances as well as acting as a general behavioural deterrent. For all species associated with river habitats (including macrophytes, invertebrates, mammals, and fish) culverts introduce unnecessary challenges to habitat and population connectivity and threaten species viability in the long term. Culverts increase geomorphological risk including changes to channel stability, river bank and bed erosion and increased deposition around the culverted sections.

We cannot agree with the results of the Applicant's Water Environment Regulations (WFD Regulations) Compliance Assessment [APP-159] which we believe undervalue the significant damage and risk of deterioration to the waterbodies.

There is limited empirical data to support the Applicant's view that long culverts will not act as a barrier to species movement. The use of such culverts is generally avoided. Our concerns are based in part on the considerable experience and first-hand knowledge of officers who have worked across the affected catchments for a number of years. They have direct experience of the adverse ecological impacts caused by historic river crossings which fragment the river corridor.

When determining FRAP applications, the Environment Agency has a duty to secure compliance with the Water Environment (Water Framework Directive) Regulations 2017 (WER) (formerly the Water Framework Directive (WFD)). The Environment Agency must not issue a permit for any activity that may cause a deterioration of the status of a water body or will jeopardise the attainment of good status unless the defence under Regulation 19 of the Water Environment (Water Framework Directive) Regulations 2017 (transposed from Article 4.7 of the Water Framework Directive) applies.

The proposed new and lengthened culverts risk waterbody scale deterioration across multiple waterbodies and a range of WER/WFD elements: biological quality (including fish, macrophytes, benthic invertebrates); chemical and physicochemical quality (including oxygenation conditions); and hydromorphological quality (including river continuity, structure of the riparian zone, river depth and width variation).

The Secretary of State has a statutory duty to have regard to the River Basin Management Plan (RBMP) when deciding the DCO application. On the basis that the proposed crossings will not avoid unnecessary damage, and risk causing deterioration to the elements outlined above, the application is not in accordance with the Anglian River Basin Management Plan (December 2022).