Defra Ref: DPI/H2265/20/13 (Public Inquiry)
River Medway Flood Relief Leigh Storage Scheme

The Environment Agency's comments regarding "Reply to EA 2" from Mrs Jane Robertson (sent Sunday, 16 May 2021 at 23:46 to Joanna Vincent, Programme Officer)

Background

This brief document is intended to deal with one further matter that has arisen since the close of the oral hearings on 6 May 2021. The formal part of the public inquiry was kept open to deal with one additional document, ID/31, which set out the Environment Agency's response to two specific questions from the Inspector. The other parties to the inquiry have had the opportunity to comment on ID/31, and the Environment Agency has had the opportunity to respond to those comments. That matter has been dealt with in writing.

However, at the same time as responding to ID/31, one party has included a series of comments on the Environment Agency's Closing Statement delivered on 6th May 2021 (see the email from Mrs Robertson to Joanna Vincent, sent on 16 May 2021 and timed at 23:46, Subject: 'Reply to EA 2'). The Environment Agency requested that the document should be ignored, in accordance with the rules that apply to this inquiry. In the event, the Inspector has allowed this individual document to be submitted.

The Environment Agency's further comments

Having had that opportunity to consider the email, we consider that it raises no new matters of substance. The issues regarding the relevance of the current operating procedures, and the consideration of the downstream communities, have been discussed during the course of the inquiry sessions, in particular at the round table, and have been dealt with in the evidence. The Environment Agency's case remains as set out in the Closing Submissions.

There are two matters where some further comment is required:

1. Mrs Robertson refers to the ability to operate the sluice gates in time of emergency and she mentions one specific location, that might be give rise to an emergency use, at Little Venice, Yalding (her 18b and 90).

As was mentioned in the Opening Statement, the Environment Agency has the power to operate the sluice gates “in such manner and for such periods as they think necessary or desirable” in an emergency (s.17(1)(b) of the 1976 Act). The existing Scheme allows for this to be done at any time regardless of the rate of flow in the river. The inquiry has not spent time discussing this part of the Scheme, and it is not proposed to change this as part of this application. It is appropriate that it remains as it is currently worded. Firstly, by their nature, it is not appropriate to try to classify what may or may not be an emergency, or to set out a list of instances, for what will be by definition a sudden or unexpected occurrence that needs fast action in order to avoid harmful results. Secondly, the Scheme should not seek to limit the operational discretion that would arise in such potentially varied and difficult situations.

2. Mrs Robertson refers to some missing documents (her point 29). These are intended to be part of the inquiry documents, and it may be that they have not yet made their way on to the website. We have provided further copies to the Programme Officer of the documents mentioned. These are the Environment Agency’s responses to her, with the objector reference RM LR 006, and to Stephen Day (Chairman of the ‘Medway, Beult and Teise Flood Group’) with the objector reference RM LR 004.

Environment Agency
26 May 2021

RM LR06 Jane Robertson's representation in response to the Environment Agency's Application to vary the Scheme within the River Medway (Flood Relief) Act 1976

Environment Agency technical response, May 2021

Further to Jane Robertson's representation to Defra, the Environment Agency's response is below.

"Objection 1. The revised scheme contravenes Act of Parliament.

The River Medway (Flood Relief) 1976 Act makes provision for alleviation of flooding by the Leigh Flood Storage Area in the

'Catchment of the River Medway... In particular Tonbridge and Hildenborough and further downstream.' 1976 Chapter XXii, page 1 and 2.

The revised scheme makes little or no mention of downstream. This is in contradiction to the current Act of Parliament where provision is made for the flood alleviation of 'further downstream'.

The River Medway (Flood Relief) 1976 Act is a core document to the inquiry. Why is it not at time of writing included as a Core document in the Inquiry Library of Documents? I will send this document for information and future inclusion."

Environment Agency response to point 1:

The Revised Scheme does not contravene the River Medway Flood Relief Act 1976 (the 1976 Act). The Scheme is a document which sits within the 1976 Act and sets out the key parameters of how the structure can be operated, particularly:

- The flow rate in the river when the control structure can be used
- The maximum level to which water can be stored
- The discharge flow rate.

Neither the Scheme nor the Revised Scheme refer to the beneficiaries of the Scheme. The only change to these parameters that the Environment Agency has requested in its application to vary the Scheme is to request that the maximum stored water level within the Leigh Flood Storage Area (FSA) be increased from 28.05m Above Ordnance Datum (AOD) to 28.60m AOD.

With regards to your reference that downstream communities should be considered under the River Medway Flood Relief Act 1976 (the 1976 Act), the second and third recitals to the 1976 Act state:

> "[W]hereas during and after periods of heavy rainfall there is extensive flooding of the land adjacent to the river and in particular of the land in the parishes of Tonbridge and Hildenborough in the district of Tonbridge and Malling in the county of Kent (hereinafter in this Act referred to as 'the county') and further downstream:

> "And whereas the flooding of such land could be substantially alleviated by controlling the flow of the river and by storing temporarily part of such flow in a flood storage area...".

The second recital is part of the context for the 1976 Act setting out that after heavy rainfall there is flooding of land adjacent to the River Medway including Tonbridge and Hildenborough and further downstream. The third then goes on to say that the flooding of "such land" (i.e. Tonbridge, Hildenborough and "further downstream") could be alleviated by controlling the flow and storing flow.

As recitals, they do not place any obligation upon the Environment Agency and the 1976 Act does not place an obligation to protect the further downstream communities.

Section 17(1) of the 1976 Act states that the Environment Agency "may operate the sluice gates to control the flow of the river downstream of the control structure in such manner and for such periods as they think desirable or necessary…" This confirms the Environment Agency has a discretion in how it operates the Leigh Flood Storage Area (FSA).

The Environment Agency is entitled to operate the Leigh FSA in such manner it considers fit to provide the greatest overall benefit in reducing flood risk to downstream communities.

With regards to the inclusion of the 1976 Act in the Core Documents, the full Act was included as Appendix C in the Environment Agency's Application which is within the Inquiry's library of documents.

"Objection 2. There is no mention of consideration of Yalding in the revised scheme.

If more water is to be stored at Leigh by the revised scheme it is vital that modelling is done of the confluence at Yalding where the rivers Medway, Beult and Teise meet. This modelling was referenced as being possible by the HR Wallingford Report into the 2013 flood, to better understand the impact of using the Leigh barrier on Yalding (A). Only by doing this modelling will the impact of the Leigh Barrier outflows at Yalding be taken into account properly and wider and larger flood events be averted. Only by doing this modelling will use of the barrier in flood events large and small be able to successfully aid water reduction in Yalding.

Ref. A 'possibly of greater importance (to additional reduction of the peak flood discharge) will be the relative timings of the contribution of the flood waters from the Leigh FSA and that from other rivers such as the Teise and the Beult, meaning that the flood from the upper Medway may have peaked at an earlier time relative to the peaks on downstream tributaries. Again this could be explored through detailed modelling.' P42 4.5 Risk reduction achieved HR Wallingford LFSA Review

If more water is to be stored at Leigh it is vital that better information is gathered and consideration given to conditions current and future at the confluence at Yalding."

Environment Agency response to point 2:

As noted in our response to Objection 1, neither the Scheme nor the Revised Scheme refer to the beneficiaries of the Scheme.

This matter was discussed in the Yalding round table session on 4th May. Concern was raised that the outflow from the Leigh FSA when discharging stored water could coincide with peak flows on the Teise and Beult and that this could exacerbate flooding in Yalding.

The HR Wallingford report noted that the relative timings of the contribution of the flood waters from the Leigh FSA and that from other rivers, "..could be explored through detailed modelling..", but made no recommendation that such modelling should be undertaken.

The flood forecasting model and flood risk mapping models are different models. Flood risk mapping models are non-real-time modelling which are used to produce detailed flood risk mapping outputs, and are not used operationally during flood events. Carrying out the modelling as suggested would not change the operational model used during flood events. It is not possible for the real time model to quantify the resulting flows at Yalding inclusive of all the tributaries and accounting for flood plain storage with sufficient lead time to use the FSA in this manner.

We currently have relative simplicity with the procedures in that there is a clear objective to effectively use FSA storage for significant peak flow reduction on the Medway. The procedures provide a well-established, tried, and tested approach to deriving flood risk reduction from use of the FSA over many years.

The Environment Agency considers a variety of factors when operating the Leigh FSA and this includes downstream conditions. During the round table discussion the Environment Agency confirmed its commitment to continue to operate the FSA to provide the greatest overall benefit in reducing flood risk to downstream communities. Expansion of the FSA will enhance the potential benefit that can be provided. The operating procedures provide a degree of flexibility to vary the outflow from the Leigh FSA, subject to prevailing and expected catchment conditions, and appropriate confidence in forecast at the time of operation.

The Leigh FSA Flood Risk Assessment of August 2020, drafted to accompany the Environment Agency's planning application, includes maps in Appendix E showing reductions in flood depths downstream of Tonbridge for the 1% (Appendix E1), 0.4% (Appendix E2) and 0.4% plus flows of 25% (Appendix E3) flood events, all of which show, as referenced by paragraphs 5.2.2 and 5.2.3, reductions in flood risk downstream, attributable to the FSA, beyond Tonbridge and Hildenborough as far as Yalding.

However, it must be noted that this benefit decreases the further you go downstream as other factors, such as flows from other tributaries, become more influential in determining local flood risk.

Objection 3. The Leigh Barrier Operating Procedures have been changed since the 2013 Flood

If the current operating procedures are used with the new scheme I object as they have been updated since the 2013 flood replacing provision for downstream with ONLY Tonbridge and Hildenborough.

Environment Agency response to point 3:

Your objection is noted.

RM LR 04 Medway Beult and Teise Flood Group's representation in response to the Environment Agency's Application to vary the Scheme within the River Medway (Flood Relief) Act 1976

Environment Agency technical response, May 2021

Further to Mr Day's representation to Defra on behalf of the Medway Beult and Teise Flood Group, the Environment Agency's response is below.

"We support the Leigh barrier extension provided the scheme and operating procedures are amended to include a duty of care towards downstream communities."

Environment Agency response:

We would like to thank the Medway Beult and Teise Flood Group for your support for our application to increase the stored water level within the Leigh Flood Storage Area (FSA).

We would like to provide the following response to your request that the operating procedures and scheme are amended to include a duty of care towards downstream communities.

As discussed at the round table discussion on Tuesday 4 May 2021, the Inspector can make recommendations on the terms of the Scheme to the Minister but the operating procedures, whilst relevant as material considerations, are not something which the Minister can alter. To insert a condition in the Scheme placing a duty of care upon the Environment Agency would go beyond what may be included in the Scheme.

However, it is worth noting here that communities downstream of Tonbridge benefit from the operation of the Leigh FSA due to a reduction in peak flows in the River Medway. This may reduce flood risk in Yalding for some events, such as where the flow of the Rivers Beult and Teise are below levels which would give rise to flooding.

In terms of the Scheme, it is a document which sits within the 1976 Act and sets out the key parameters of how the structure can be operated, particularly:

- The flow rate in the river when the control structure can be used
- The maximum level to which water can be stored
- The discharge flow rate.

Neither the existing Scheme nor the Revised Scheme refer to the beneficiaries of the Scheme. The only change to these parameters that the Environment Agency has requested in its application to vary the Scheme is to request that the maximum stored water level within the Leigh Flood Storage Area (FSA) be increased from 28.05m Above Ordnance Datum (AOD) to 28.60m AOD.