

Mr and Mrs Cook's objection to the Environment Agency's Application to vary the Scheme within the River Medway (Flood Relief) Act 1976

Environment Agency technical response - updated 23 April following receipt of letter to the Inspector dated 13 April 2021

Our first concern is: That the proposal to increase the level and volume of water on the flood plain to the south of the railway will raise the water table in the area of the Village Green to the north of the railway embankment and cause flooding.

Environment Agency response:

We assume that this objection relates to Leigh village (Leigh).

The Environment Agency recognise the significance of surface water flooding to the local community. However, certain locations in Leigh (such as the Green) suffer from surface water flooding irrespective of the impoundment status of the Leigh Flood Storage Area (FSA).

The FSA's embankments are designed to retain the water stored in the FSA without seepage. Leigh is protected from any ingress of water stored in the FSA by the embankments to the south of the village. The short duration of water stored in the FSA during a flood event will not affect groundwater levels in the Leigh.

Further, substantial pumping infrastructure ensures that any surface water flowing towards the Cattle Arch area of the FSA's embankment is pumped over the embankment and into the FSA.

The Green in Leigh suffers from surface water flooding and has done for many years. It is important to note that Leigh is built on a clay catchment, being a low permeability substrate which does not allow for swift surface water drainage through infiltration.

Surface water flooding occurs in impermeable locations (such as Leigh) and coincides with periods of rainfall. The rain is unable to permeate through the clay soils and instead must be carried and stored within local drainage and ditches. During a wet winter, standing water occurs on the village green and fields around Leigh. This is characteristic of an impermeable soil and surface water flooding.

Groundwater flooding is caused by the level of the water table and occurs when rainfall infiltrates into the ground through permeable soils causing the water table to rise to the surface. Groundwater flooding is recognisable as it occurs after periods of prolonged rainfall and usually lasts for days or more likely, weeks.

The southwestern corner of the village green is 29.5mAOD, recorded in Light Detection and Ranging (LIDAR), which is above the maximum storage level of the FSA, 28.6mAOD, for which the Environment Agency has applied.

Leigh will likely continue to see surface water flooding in the winter and also experience localised surface water flooding during periods of wet weather. The

reason lies in the local geology and limited capacity of the existing drainage network, not the FSA.

Our second concern is: The reliance on the railway embankment. When earthworks collapse whether in cuttings or embankments they usually do so dramatically and without warning.

- **We would draw your attention to the landslide that occurred only a few miles up this very railway line between Edenbridge and Godstone on 22nd December 2019. This closed the railway line for two months**
- **Network Rail is currently undertaking further drainage work on this line west of the village towards Morden**
- **Drainage issues are a constant worry for Network Rail in our area. For example:**
- **Surface water from the very long Sevenoaks Tunnel is piped all the way down to Hildenborough Station and constant repair work has been necessary in past decades to avoid embankment landslips between Hildenborough and Tonbridge.**

Environment Agency response:

The Leigh Flood Storage Area (FSA) does not rely on the railway embankment in isolation. When the FSA was constructed, flood storage embankments were constructed adjacent to the railway embankment. The flood storage embankments are engineered to provide the necessary protection to the railway embankment. The Environment Agency commissioned a geotechnical study to assess the impact of raising the storage level from 28.05mAOD to 28.6mAOD. A full geotechnical analysis of the proposal to increase the capacity of the Leigh FSA was submitted to Network Rail on 02/04/19. Network Rail approved the plans to progress with the expansion on 23/05/19. Network Rail are the appropriate authority to consider the impact of the expansion on the railway line and the embankment they own and manage.

Our final concern is : How lorries will access this site. Our High Street is narrow and on the B2027 with parking allowed so that there constant traffic jams and congestion with tail backs extending back out of the village at peak times. If the proposal goes ahead then the heavy goods traffic would need to come off the A21 and in south of the village via Ensfield Road and exit the same way thereby avoiding the village.

- **At night if lorries come through the village the noise reverberates off the high wall that borders 'Hall Place' and stretches the length of the High Street. This even affects us living on The Village Green. Last night Southern Water foul water tankers using The Flood Barrier Site woke us up at midnight, 3.00am and yet again at 4.00am!**
- **Our Primary School and the children's Playground are situated on The High Street. Apart from safety issues when traffic is congested there are real air quality issues for these children.**

Environment Agency response:

The Environment Agency recognises the village location and proximity of households and the local school.

There will not be an increase in operational traffic to the FSA as a result of its expansion. Construction works will see an increase but only on a temporary basis. The Environment Agency has sought to minimise the materials required and, therefore, the associated construction traffic. A traffic management plan was submitted to the local planning authority for approval as part of the planning application for the expansion.

The Environment Agency is keen to work with local residents to understand any concerns specific to traffic movement and to minimise the impact of vehicle movements where this can be incorporated into the construction programme. We will continue to work with Leigh Parish Council to understand community concerns and how these may be mitigated.