

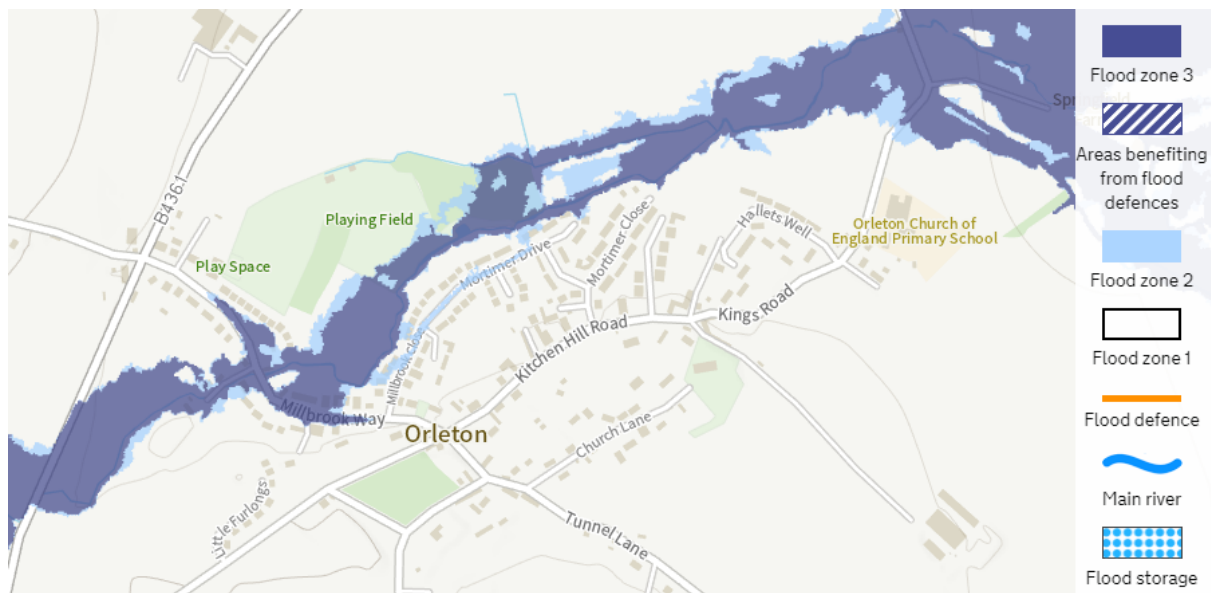
Settlement: Orleton

Location of Investigation

Figure 1: Large Scale Map showing the location of Orleton



Figure 2: Environment Agency's Flood Map for Planning (Rivers and Sea), June 2021



Date of key flood event	February 16 <sup>th</sup> 2020
Authorities with Flood Risk Management duties or functions relating to the event	Herefordshire Council (Land Drainage Authority)

Orleton Brook is designated as an Ordinary Watercourse which therefore falls under the regulatory supervision of Herefordshire Council Land Drainage Authority.

## Key Flood Event

**Flood Type:** Fluvial and Surface Water

**Watercourse Catchment:** Orleton Brook

Four properties on the west side of Orleton reported internal flooding in Orleton during the February 2020 event. A further property further downstream also flooded. The depth of flooding for internal areas ranged from less than 6 inches up to 1ft. The duration of flooding was typically less than 1 day.

A basement at a property on the B4362 also flooded, for a duration of 6 to 7 days. There were three other sites where returned submissions did not provide clarity on the impact of the flooding.

The Fire Service attended a domestic property at 2am on 16<sup>th</sup> October.

<b>Number of Internally Flooded Properties related to key flood event</b>	6
<b>Number of Internally Flooded Properties during most acute flood</b>	8
<b>Impact on Strategic Highway Network</b>	None reported
<b>Impact on Critical Services</b>	None reported
<b>Health Risks</b>	No injuries or loss of life were reported

## Description of Flooding

The Flood Map for Planning indicates that most of the properties which reported flooding are within or adjacent to Flood Zone 3 on the Orleton Brook. However, one of the properties on the B4362 is in Flood Zone 1 and located about 200m away from an area identified as being at fluvial flood risk. This appears to indicate fluvial flows as being the primary cause of flooding for most of the properties. This is to some extent supported by the respondents. An overflowing river or stream was selected as one of the sources of flooding, along with a blocked bridge or culvert (or in one case a 'defective bridge' was also highlighted in the description of flood mechanism). However, more respondents selected surface water runoff and blocked gullies as a source of flooding, which would appear to suggest a significant component of surface water flooding.

The Surface Water Flood Map does not show any areas of flood risk close to the houses which reported flooding, other than areas which are identified on the Flood Map for Planning. However, three out of the four respondents which provided a description of the flood mechanism recorded problems with surface water on roads, particularly on the B4362, King's Road and Millbrook Way.

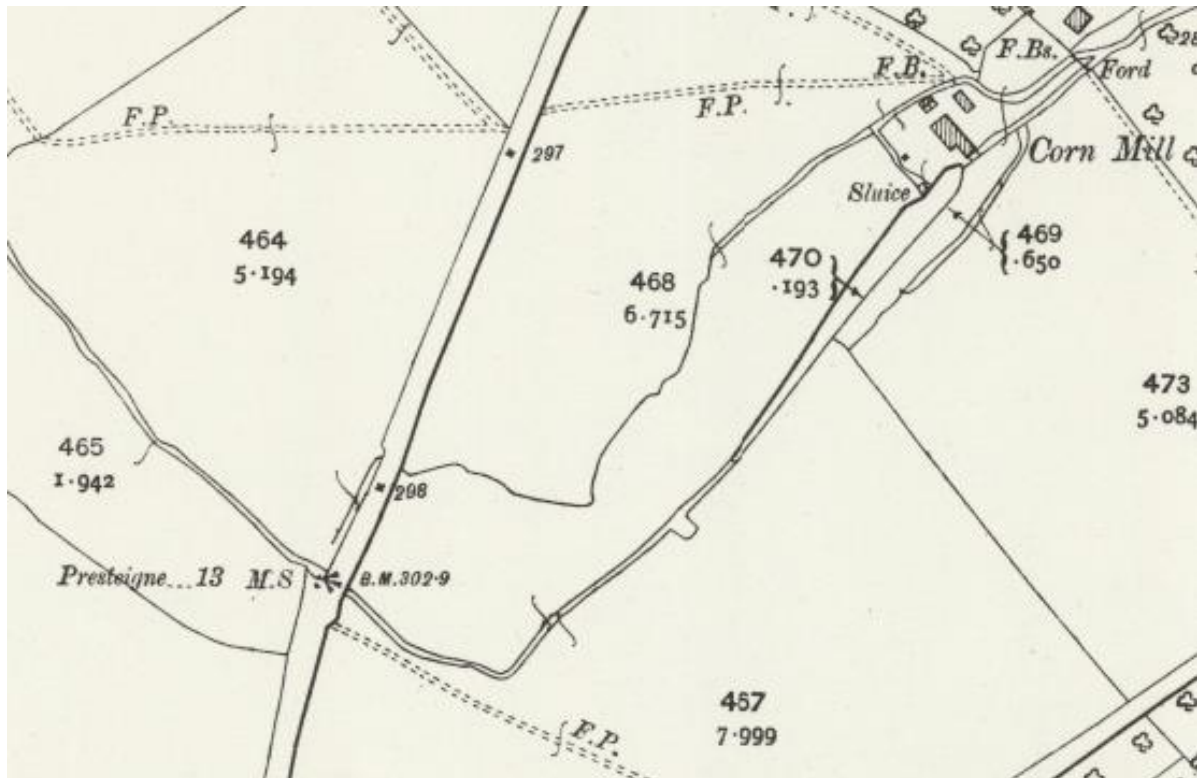
Because the channel is shallow at the highway bridge there is potential for silt to restrict the capacity of the bridge. For this reason, the bridge is cleansed annually.

The Herefordshire Flood Alleviation Strategy (2010) investigated flooding at Orleton and identified surface water as one mechanism. The document records the blocked and silted highway culvert as a significant contributor, although it is noted that the main watercourse is likely to flood at intervals despite the culvert.

The Orleton Brook is culverted below the B4361 upstream of the village. The watercourse was diverted off its' natural course for industrial purposes. Because the watercourse runs off its' natural course, during rainstorms water breaks out of bank and floods the field upstream of the highway. Floodwater then emerges onto the highway, in turn draining along Millbrook Way as an ephemeral watercourse.

Surface water flooding has been reported on parts of the B4362.

Figure 3: Historic Mapping from 1892 showing the diverted Orleton Brook



Damage to Cultural Heritage Sites: 1 listed property is within the Flood Zone.

### Previous reports of floods

Previous accounts of flooding were recorded by two of the properties for several years between 1976 to 2019. This is supported by HC records for this location, which identify an extensive history of flooding, primarily in 2007.

### Previous Flood Risk Studies

Land at Orleton: Report into Flood Relief Options (2002).

Herefordshire Flood Alleviation Strategy (2010).

Brimfield and Orleton Storage Assessment (2016).

### Conclusions

The Storage Assessment report considered options to attenuate flow on the Orleton Brook, in order to mitigate fluvial flood risk. Although hydraulic modelling was not completed, the analysis did not present a clear option that may substantially reduce the risk of fluvial flooding. A Property Flood Resilience (PFR) scheme is to be undertaken and DEFRA grant funding has been secured for the surveys to be carried out this financial year.