



APPENDIX I

SECTION 19 REPORT – SHIREOAKS – NOVEMBER 2019

Introduction

Section 19 of the Flood and Water Management Act 2010 states:

1. On becoming aware of a flood in its area, a lead local flood authority must, to the extent that it considers it necessary or appropriate, investigate:
 - (a) Which Risk Management Authorities (RMAs) have relevant flood risk management functions.
 - (b) Whether each of those RMAs has exercised, or is proposing to exercise, those functions in response to the flood.
2. Where an authority carries out an investigation under subsection (1) of Section 19 it must:-
 - (a) Publish the results of its investigation.
 - (b) Notify any relevant RMAs.
3. The objective of this report is to investigate which RMAs had relevant flood risk management functions during the flooding in November 2019 and whether the relevant RMAs have exercised, or propose to exercise, their risk management functions (as per section 19(1) of the Flood and Water Management Act 2010).
4. The Risk Management Authorities with a duty to respond to this flooding incident are, Nottinghamshire County Council (NCC) as Lead Local Flood Authority (LLFA), Nottinghamshire County Council as Highways Authority (Via East Midlands Ltd.), the Environment Agency (EA), Severn Trent Water (STW) and Bassetlaw District Council (BDC).
5. It should be noted that this duty to investigate does not guarantee that flooding problems will be resolved and cannot force others into action.

Background

6. On the 7th November 2019, parts of the East Midlands experienced a month's worth of rainfall in just 24 hours. Via East Midlands Ltd. on behalf of Nottinghamshire County Council facilitated 66 road closures across the county, placed over 750 flood signs on the network to warn motorists of issues and delivered over 5000 sandbags. It was reported by the Environment Agency that Nottinghamshire experienced 225% of its average monthly rainfall between the 7th and 14th November. A major incident was declared at 09:50 on Thursday 7th November by the Tactical Co-Ordinating Group.

With the ground already saturated following one of the wettest autumn's on record, this resulted in extensive flooding across the Nottinghamshire area including Shireoaks; a

village and civil parish in Nottinghamshire, located near Worksop on the border with South Yorkshire. The population of the civil parish was 1,432 at the 2011 census. Shireoaks has both the Chesterfield Canal and River Ryton running through it, there are also fishing lakes to the West of the village.

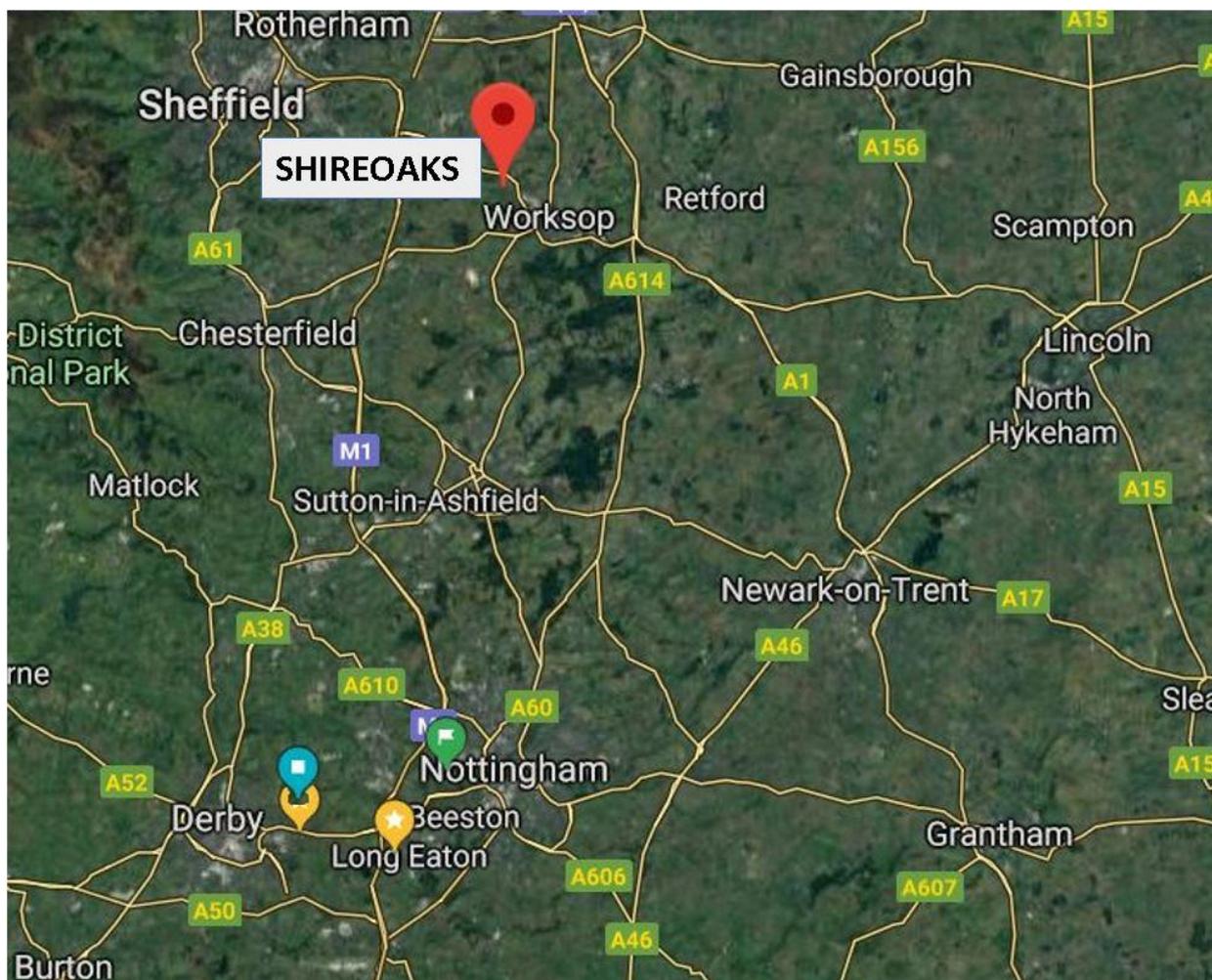


Figure 1. Location Plan

The severe weather led to Nottinghamshire Local Resilience Forum declaring a major incident. In the following days, further intense rainfall caused additional surface water and fluvial (river) flooding.

During this period the Environment Agency monitored water levels constantly and issued 38 flood warnings and 16 flood alerts across Nottinghamshire in November as shown in Figure 2 below.

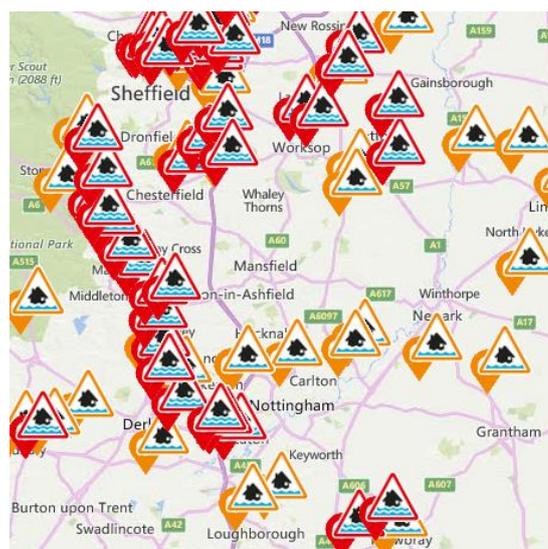


Figure 2. Flood Warnings and Alerts Issued during November 2019

During the morning and into the afternoon of the 7th of November 2019 and following the prolonged period of heavy rainfall, parts of Shireoaks suffered a significant flood event with 25 reported incidents of internal property flooding. The flooding also affected the public highways in the village and several gardens and curtilages.

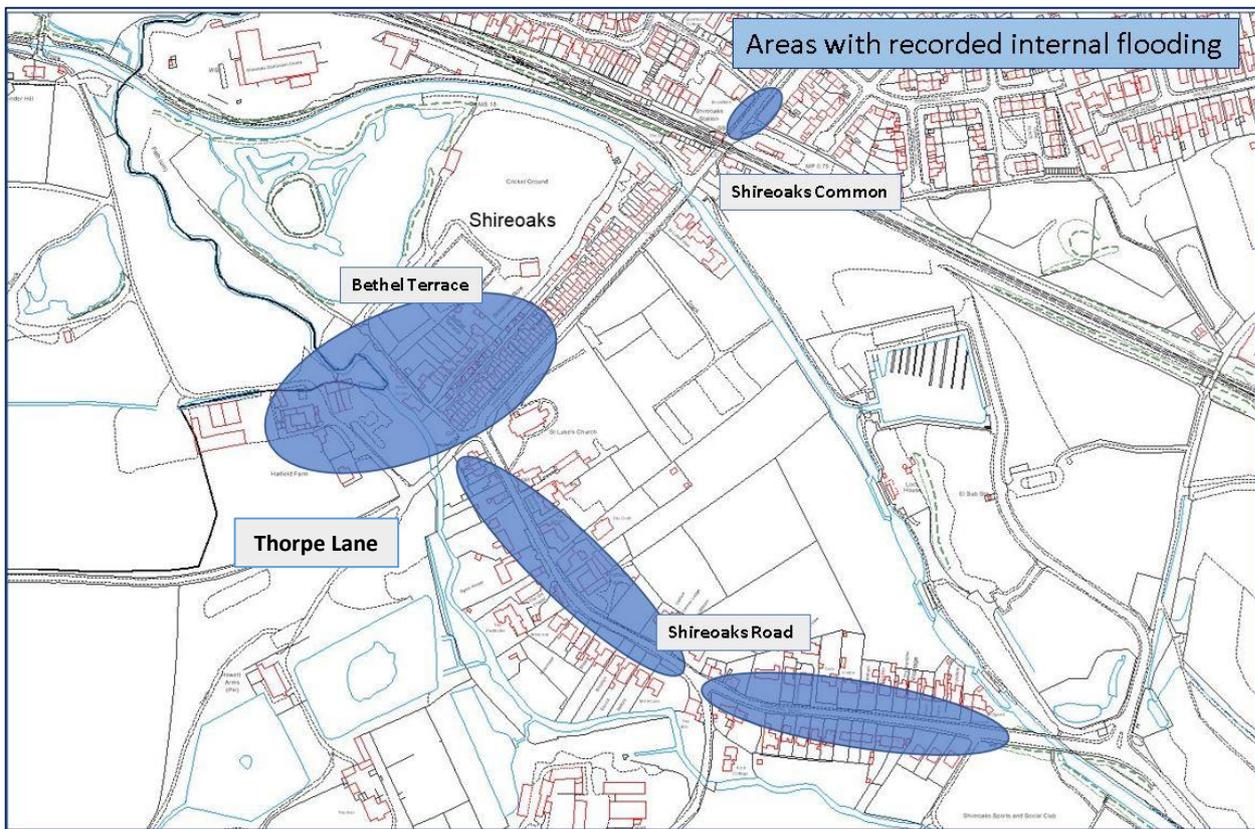


Figure 3. Plan highlighting areas affected by flooding with some recorded internally.

Summary of flooding and its causes

- The flooding that occurred in Shireoaks on the 7th of November came from two sources. Surface Water running overland (pluvial) and water from the River Ryton where it had exceeded the capacity of the river channel (fluvial).

Pluvial

Shireoaks is a small village surrounded by greenfield land of mixed use, this land falls towards the River Ryton from the North and West. The land had become saturated because of an extended period of wet weather.

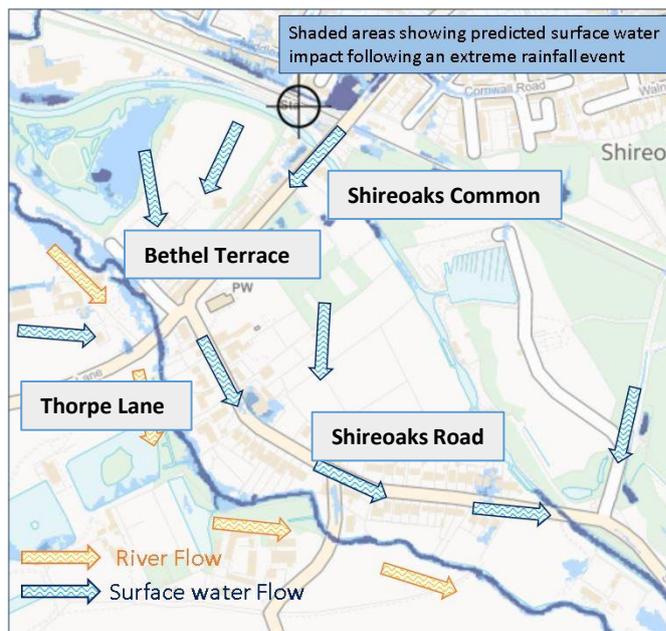


Figure 4. Environment Agency Flood Risk Map for surface water, catchment and water flow paths.

During the morning of the 7th of November a period of extreme rain began to fall on the saturated land and run straight off. The nearby Manton rain gauge would record 50.6mm falling on this day alone.

The Bethel Terrace area was the first to be affected by surface water, flowing over the fields behind where the cricket pitch is and also from the direction of the lakes. As the rain continued and the surface water increased it started to flow through properties on Bethel Terrace, through the rear gardens and properties on Shireoaks Common and out onto the highway.

Surface water was now beginning to run down Shireoaks Common from beyond the train tracks as well, using the road as a channel. Combining with the water coming off the hills to the rear of properties on Shireoaks Common, it started to collect on Shireoaks Road.

Saturated land to the north of Shireoaks road was also causing surface water to run-off through properties and out onto the highway adding to water already collecting there from Shireoaks Common. The high levels of surface water overwhelmed the highway drainage network; the standard design capacity was simply not sufficient to cope. This now quite deep ponding water which was already spreading into front gardens was not deep enough to stop some drivers from driving through it. This caused large bow waves to occur which washed water into the thresholds of a several properties on Shireoaks Road.

Fluvial

Towards the afternoon of the 7th of November, the levels of the River Ryton began to get very high. Where the River flowed under Thorpe Lane the capacity of the bridge or large culvert was not sufficient and so created an obstruction. This forced the river to overtop the bank and it did this in various places flooding into the back gardens of some properties on Shireoaks Road. Some of these properties were under threat of flooding from surface water to the front and the River Ryton to the rear.

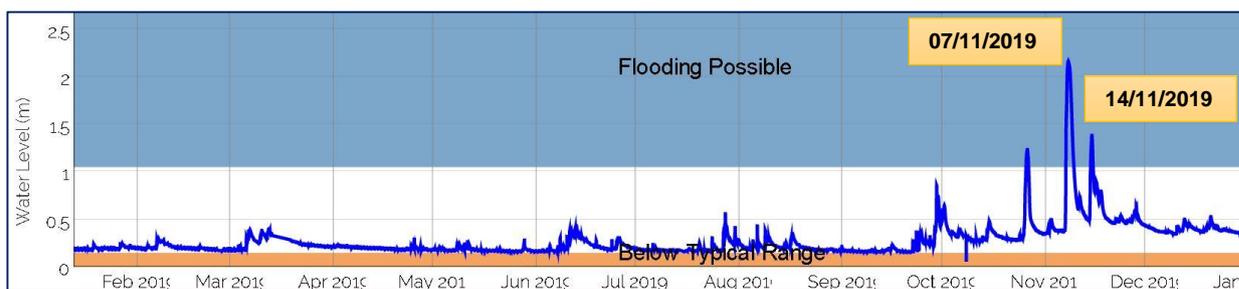


Figure 5. River Ryton levels highlighting peak river levels at time of flooding

Figure 5 shows river levels taken from the River Ryton river gauge. The peak of 2.16m on the 7th of November is the second highest level on record after 2.189m which was recorded in June 2007.

Risk Management Authorities and their responsibilities

8. The Nottinghamshire County Council

- a) Lead Local Flood Authority

- i. Investigate significant local flooding incidents and publish the results of such investigations.
- ii. Play a lead role in emergency planning and recovery after a flood event.
- iii. Lead Local Flood Authorities also have a duty to determine which risk management authorities have relevant powers to investigate flood incidents to help understand how they happened, and whether those authorities have or intend to exercise their powers.
- iv. By working in partnership with communities, Lead Local Flood Authorities can raise awareness of flood risks.
- v. Lead Local Flood Authorities should encourage local communities to participate in local flood risk management.

b) Emergency Planning

- i. If a flood happens, all local authorities are 'category one responders' under the Civil Contingencies Act. This means they must have plans in place to respond to emergencies and control or reduce the impact of an emergency.

c) Highway Authority (Nottinghamshire County Council/Via East Midlands Ltd)

- i. Maintenance of the public highways including highway drainage assets.
- ii. Provided site-based presence and investigations immediately following the event.
- iii. Close roads where a need is identified.

9. Bassetlaw District Council

- i. Category one responder under the Civil Contingencies Act. This means they must have plans in place to respond to emergencies and control or reduce the impact of an emergency.

10. The Environment Agency

- i. Maintenance and Management of the River Ryton
- ii. Category one responder under the Civil Contingencies Act. This means they must have plans in place to respond to emergencies and control or reduce the impact of an emergency.

11. Severn Trent Water

- i. Maintenance of the public sewage system.

Risk Management Authority Responses to Flood

12. The following lists the actions taken by each Risk Management Authority in response to the flooding both in the immediate aftermath as well as in the longer term:

a) The Nottinghamshire County Council:

- i. Initiated and co-ordinated Emergency Planning procedures.
- ii. Delivered sandbags where a need was identified, over 5000 were delivered across the County.

- iii. Administered Nottinghamshire County Councils Flood Hardship Fund to affected residents.
- iv. Attended Parish Council with Elected Member to offer advice and assistance to those personally effected by the flooding.
- v. Closed Shireoaks Road when it was identified as being unpassable.
- vi. Initiated and led the Section19 Flood Investigation.

b) Bassetlaw District Council

- i. Took an active role in the Tactical Coordination Group once a Major Incident was declared.
- ii. Provided emergency response support in management of flooding event.
- iii. Actively engaged in the Section19 Flood Investigation.
- iv. Administered Flood Hardship fund.

c) The Environment Agency

- i. Environment Agency staff anticipated the scale of the event and instigated flood patrols to operate their structures in accordance with their incident response procedures and cleared blockages in the area before and after the peak flows.

d) Severn Trent Water

- i. Provided emergency response crews to assist in management of flooding event.

Additional information and Future Actions

13. Shireoaks has suffered from flooding in the past, most recently in 2007. It appears that the event in November has similarities to the 2007 event, however what did happen is not yet fully understood. Further investigation of local watercourses, ditches and highway drainage is required and will be done over the coming months. Funding is also being sought to carry out a catchment survey for the area to allow us to more accurately understand the reasons behind the flood risk to Shireoaks. This will include looking at any possible correlation between ground water levels and previous mining activity.

The community of Shireoaks has access to a flood resilience store which contains a stock of sandbags. Those sandbags were made available and distributed by local volunteers during this event, vital work to check and keep clear culverts and watercourses was also done by members of the community. If it was not for this community spirit the number of properties internally flooded could well have been higher.

Bassetlaw District Council will support future investigations and reviews into emergency procedures. They are leading the organising of public drop in sessions in Worksop and Retford on the 10th and 12th of February. These will be attended by officers from multiple agencies to provide updates, advice and assistance where required. They will also be administering recovery grants where applicable.

All the Risk Management Authorities involved in this event are committed to continuing the investigations into the causes of this incident. Funding is being sought to enable a full

catchment study into the flood risk in Shireoaks. We will be informed of the outcome of this bid in spring 2020. The Environment Agency will continue to support the Lead Local Flood Authority to undertake future work within this community.

Where appropriate Nottinghamshire County Council and the Environment Agency administer a Flood Warden scheme, including supporting the provision of local sandbag stores, and a Community Flood Signage Scheme in communities at risk of potential flooding. All equipment and training is provided for free should there be sufficient volunteer interest in the community. Further information on these services are available on Nottinghamshire County Council's website.

The Environment Agency is looking to accelerate the hydraulic modelling of the River Ryton in 2020. They anticipate that the hydraulic model will take around 12 months to complete.

As the Lead Local Flood Authority we have witnessed and have experience of how flooding devastates communities. The most vulnerable in the community will be our priority. NCC will continue to work closely with partners and communities to identify ways of proactively reducing the risk, likelihood and consequences of future flooding events.