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 Risk Management Authorities 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 Risk Management Authorities.

3. The objective of this report is to investigate which Risk Management Authorities had relevant flood risk management functions during the flooding in November 2019 and whether the relevant Risk Management Authorities 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 responsibility for 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), Trent Valley Internal Drainage Board (TVIDB) 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 Retford, a town
with a population of approximately 22000 at the 2011 Census. Retford sits in the valley of the River Idle and the Chesterfield Canal passes through its centre.

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.
On the 7th of November 2019 following the prolonged period of heavy rainfall, parts of Retford suffered a significant flood event with 31 reported incidents of internal property flooding. The flooding also affected gardens and curtilages in the area and the public highways in the town to the extent that Grove Lane and Blackstope Lane were impassable. Figure 3 shows the areas of Retford that were affected by internal property flooding.

Figure 3. Plan highlighting areas affected by internal flooding

Summary of flooding and its causes

7. The areas of Retford affected are served by a mixture of highway drainage and an extensive network of surface water culverts and watercourses including the Retford Beck and Carr Dyke. Both the locations affected in November have suffered from historic flooding. Retford Beck is designated as a Main River and as such falls under the jurisdiction of the Environment Agency and the Carr Dyke forms part of the Trent Valley Internal Drainage Board's assets.

Grove Lane and Blackstope Lane are in the area where the Retford Beck becomes culverted (goes from being an open ditch to being piped underground). In times of heavy or persistent rainfall water backs up at the points the beck is culverted, overtops and the natural topography of the area leads to the water flooding houses. Figure 4 shows the points where the Retford Beck is culverted and Figure 5 shows the line of the Retford Beck and its significant upstream catchment.
Figure 4. Key points of culverting on the Retford Beck shown as ★

Figure 5. Plan showing the Retford Beck and its catchment
Internal flooding was also reported at Darrel Road, a residential road that runs adjacent to the Carr Dyke, a tributary of the River Idle. It is understood that flooding at this location occurs because of a combination of capacity within the Carr Dyke, surcharging of the River Idle and the period of significant rainfall leading up to the event.

Figure 6 shows the line of the Carr Dyke and Figure 7 shows evidence of the dyke backing up at where it crosses underneath an access road. Figure 8 shows photos of the dyke and its proximity and impact on the affected properties. It must be noted that whilst two properties were confirmed as flooding internally the flooding to the rear gardens and outhouses of approximately 15 properties and a number of allotment gardens was significant. Darrel Road topography is such that the rear gardens are significantly lower than the front of the properties which ultimately provides a degree of protection from internal flooding.

It is recognised that this area has experienced flooding in the past as recently as 2018 and further clarity of the frequency of flooding will be used to support any future actions.
Figure 7. Evidence of dyke backing up where it passes under an access road

Figure 8. Flooding to rear of Darrel Road and the Carr Dyke
Figures 9 and 10 below are extracts from the Environment Agency’s Flood Risk mapping that clearly shows the predicted high risk of flooding in the area.

Figure 9. Extract from the Environment Agency’s flood risk maps for the Darrel Road area of Retford. The darker the shading, the higher the risk of flooding.

The shaded areas on this map show predicted flooding from rivers (watercourses) in the catchment. These align with known flooding in the area.

The shaded areas on this map show predicted flooding from surface water in the catchment. These align with known flooding in the area.

Figure 9. Extract from the Environment Agency’s flood risk maps for the Darrel Road area of Retford. The darker the shading, the higher the risk of flooding.
Figure 10. Extract from the Environment Agency’s flood risk maps for the Grove Lane / Blackstope Lane area of Retford. The darker the shading, the higher the risk of flooding.
Risk Management Authorities and their responsibilities

8. 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.

9. Environment Agency

i. The Environment Agency carries out maintenance, improvement or construction work on main rivers (Retford Beck) to manage flood risk.
ii. They have a duty as a 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. Trent Valley Internal Drainage Board

i. Internal Drainage Boards are independent public bodies responsible for managing water levels in low-lying areas. They are the land drainage authority within their districts and their functions include supervising land drainage and flood defence works on ordinary watercourses (Carr Dyke).
ii. They hold the powers in Section 25 Land Drainage Act 1991 to require works to maintain a proper flow of water in ordinary watercourses in internal drainage district.

11. Bassetlaw District Council
a) 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.

**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) Nottinghamshire County Council:

   i. Initiated and co-ordinated Emergency Planning procedures.
   ii. Delivered sandbags to affected residents.
   iii. Replaced damaged kerb line along the Grove Lane length of the Retford Beck to add some capacity to and increase structural stability of bank side.
   iv. Initiated and led the Section 19 Flood Investigation.

b) Environment Agency

   i. Provided emergency response to flooding and actively overpumped flood waters away from affected areas at Grove Lane / Blackstope Lane. 7 mobile pumps were used 24/7 until water levels returned to normal winter levels and the response teams cleared debris screens, checked known hotspots and requested road closures where necessary. Liaised closely with Nottinghamshire Fire and Rescue Service during the emergency response to ensure a cohesive response.
   ii. Actively engaged in the Section 19 Flood Investigation.

c) Trent Valley Internal Drainage Board

   i. Actively engaged in the Section 19 Flood Investigation

d) 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 Section 19 Flood Investigation.
   iv. Administered Flood Hardship fund.

**Additional information and future actions**

13. All the Risk Management Authorities involved in this event are committed to continuing the investigations into the causes of this incident. Those investigations may identify further actions not listed below.

14. The Internal Drainage Board will be reviewing ways of improving the operation of the Carr Dyke and its interaction with the River Idle to reduce the risk of future flooding.

15. The local community spirit and resilience during the flooding must be recognised as without their efforts the impacts of the flooding could have been worse.

16. The Environment Agency will pursue the following actions:
a) Continue to progress the proposals for improvements to The Retford Beck and endeavour to secure funding for a flood risk management scheme.

b) Review their Communications and Engagement Plan, including pro-active communications with the community to help them better understand risk management authority responsibilities, maintenance activities and mitigation taking place in the area.

c) Review current Environment Agency maintenance schedules.

d) Review screen design at Grove Lane.

e) Complete bathymetric survey on the River Idle to inform future maintenance.

17. Bassetlaw District Council are working to deliver flood resilience measures to those properties affected in the community through the Environment Agency framework. Bassetlaw District Council will support future investigations and reviews into emergency procedures. They led the organising of public drop in sessions in Worksop and Retford on the 10th and 12th of February. The Retford session was attended by officers from Bassetlaw District Council and Nottinghamshire County Council Flood Risk Management and Emergency Planning Teams as well as the Red Cross who provided updates, advice and assistance where required. Bassetlaw District Council will also be administering recovery grants where applicable.

18. 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.

19. 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.