

Preliminary flood risk assessment: Leicestershire County Council

This addendum by Leicestershire County Council (2017) updates the council's preliminary flood risk assessment report published in 2011. Read the addendum in conjunction with the [preliminary assessment report](#).

Addendum

The preliminary flood risk assessment (PFRA) and flood risk areas (FRAs) for Leicestershire County Council were reviewed during 2017, using all relevant current flood risk data and information,.

Past flood risk

The historic flood records held by the Leicestershire lead local flood authority (LLFA) prior to 2011 were limited partially due to the minimal responsibilities of the County Council prior to the implementation of the LLFA and therefore our understanding of significant flood risk was largely restricted to a review of information gathered from other sources and anecdotal evidence. As such, insufficient data was available to draw any definitive conclusions on the consequences of historic flood events.

Since 2011, Leicestershire LLFA has developed processes to record and investigate flood incidents which have been essential in allowing us to assess and understand flood risk within the LLFA area. This, along with gaining a better understanding of the consequences of these events through investigations and community engagement activities, has assisted in recognising, promoting and implementing suitable mitigation measures to reduce the impact of repeat events.

Localities such as Loughborough, Market Harborough and various smaller settlements were previously identified as being at local flood risk based on past flood information in the 2011 PFRA report. Some of these areas have been impacted by similar events since 2011 however the LLFA's greater understanding of flood risk across the LLFA area as a result of consequences of floods has drawn our attention to areas at risk that were not considered during the 2011 cycle. Significant flood events include those in; Coalville, Breedon On The Hill, Whitwick and Thringstone have contributed to this understanding. The impact of these events has resulted in internal property flooding of both residential and non-residential properties which have had consequences to human health and wellbeing as well as economic consequences where commercial properties were affected.

The Majority of flooding within the Leicestershire area has been as a result of ordinary watercourse and surface runoff, with artificial infrastructure resulting in a greater understanding of these flood mechanisms. Since 2011, a number of flooding incidents linked with groundwater have been recorded however their severity was not considered significant and in some instances the cause was believed to be from a combination of local sources. The location of these groundwater incidents is widespread across the LLFA area rather than being concentrated to a specific locality thus providing the LLFA with the understanding that groundwater flooding is not just restricted to those areas indicated within the 2011 PFRA report.

Future flood risk

Leicestershire LLFAs understanding of future flood risk is predominantly built around a combination of our knowledge and understanding gained from the consequences of past flood events and continued review and assessment of surface water flood maps, the most current of which is the Risk of Flooding from Surface Water (RoFSW).

As part of the 2017 PFRA review, Leicestershire LLFA have carried out an analysis of future flood risk to areas considered to be at highest risk, this analysis was based on the Defra

guidance contained within the PFRA review guidance document and utilising the detailed GIS assessment recorded in Annex 2 Flood ID 15 (for the 1% RoFSW maps). Together with flood events and S19¹ investigations recorded in the updated annex 1 spreadsheet, this has provided both the evidence to propose new FRAs and the LLFA with an approximation of the number of residential and non-residential properties indicated to be at surface water flood risk (as shown in the RoFSW maps) across the county (refer to annex 2).

The LLFAs understanding of flood risk as a result of climate change has expanded on that of 2011, primarily due to the publication of guidance and information produced at a national level. Much of the climate change assessment within the 2011 PFRA report remains relevant however new information has provide the LLFA with a greater understanding of how to manage the impacts more effectively, particularly with respect to future development. National guidance on climate change allowances for flood risk assessments has permitted the LLFA gain a better awareness of the requirements to reduce the impact of climate change on new development. The LLFA therefore acknowledge that, without intervention to reduce the impact, climate change may result in more significant consequences of future floods.

Long term development is understood to potentially impact on the consequences of future floods if not managed appropriately and was considered during our review of the indicative flood risk areas, with particular attention to the District and Borough Council's Strategic Flood Risk Assessments. It is acknowledged that both large and small scale development and its cumulative impact could result in greater consequences to human health, the economy and the environment if not prevented in inappropriate locations. As a statutory consultee in the planning process the LLFA are taking an active role in reviewing surface water drainage proposals and flood risk to proposed development and will continue to do so whilst considering the cumulative impact of continued and long term development. Additionally, the LLFA look for opportunities to provide betterment through development opportunities in areas with existing flood risk.

Leicestershire LLFAs understanding of future flood risk is predominantly built around a combination of our knowledge and understanding gained from the consequences of past flood events (discussed above) and continued review and assessment of surface water flood maps, the most current of which is the Risk of Flooding from Surface Water (RoFSW).

Flood risk areas (FRAs)

The following FRAs have been identified for the purposes of the Flood Risk Regulations (2009) second planning cycle.

- Leicester City, including areas of Leicestershire County (Birstall, Thurmaston, Scaptoft, Thurnby, Bushby, Oadby, Wigston, Glen Parva, parts of Enderby, Braunstone Town, Leicester Forest East, Kirby Muxloe and Glenfield)
- Market Harborough
- Loughborough
- Hinckley and Burbage

Notes on identification of the FRAs

Market Harborough: following a review of the indicative flood risk area² (IFRA) across Market Harborough, the LLFA are in agreement that a FRA is appropriate here. However, the IFRA

¹ An investigation into a flooding event that a lead local flood authority (LLFA) is required to carry out under Section 19 of the [Flood and Water Management Act 2010](#), and according to the LLFA's local flood risk management strategy

² To support LLFAs in the review of PFRA and FRAs, the Environment Agency drew up 'indicative' (or draft) FRAs based on national data for LLFAs to review against local data and knowledge.

boundary results in large areas of undeveloped rural land to the south of Market Harborough which is not considered to be at significant surface water flood risk. Following discussion and agreement with Northamptonshire LLFA, Leicestershire LLFA is proposing to alter the southern boundary of the IFRA to follow the Leicestershire/Northampton county boundary. By doing this, the FRA and subsequent work will focus more on an area deemed to be at significant flood risk and omitting land not considered to be at risk whilst still considering expansion through future development.

Leicestershire LLFA also proposes to alter the northern extents of the Market Harborough IFRA boundary to include the extents of Market Harborough not covered by the IFRA. An analysis of the RoFSW maps indicates that a number of key services (hospital, ambulance station and 2 No schools) are shown to be at surface water flood risk in this area, as such the LLFA consider this area to be appropriate for inclusion in the Market Harborough FRA. Further to the above, Leicestershire LLFA has past flooding information that indicates Market Harborough to be a flood risk area. Numerous flooding incidents have been recorded within the area and three section 19 investigations being carried out since 2011 where local sources of flood risk were considered to have contributed. One of these S19 investigations was within the proposed FRA extension area in the north of Market Harborough. Market Harborough is also identified within the Leicestershire County Council's Local Flood Risk Management Strategy as a 'Priority Settlement.' The LFRMS and action plan also highlights Market Harborough as a suitable location for consideration of a surface water management plan.

Loughborough

The LLFA have carried out a detailed GIS analysis of the area, adhering to the "Defra guidance on signification flood risk for the identification of flood risk areas" criteria contained within Annex A of the PFRA review guidance documentation and utilising the detailed GIS assessment recorded in Annex 2 Flood ID 15. The LLFAs own knowledge and understanding of local flood risk within the area has also been used throughout the process.

This analysis, along with our understanding of flood risk based on past flood incidents and section 19 investigations within Loughborough, identifies Loughborough as a FRA. Sufficient key services, residential and non-residential properties are shown to be at risk. The key services include; various schools, university buildings, nurseries, fire station, hospital and electricity substations.

Further evidence gathered since 2011 to demonstrate the flood risk identified in Loughborough include; four section 19 investigations following internal and external property flooding where surface water and other sources of local flood risk have contributed, and a Surface Water Management Plan (SWMP) which was published in 2013. It should also be noted that Loughborough is recognised by the LLFA as a priority settlement in Leicestershire County Council's Local Flood Risk Management Strategy (LFRMS) and was ranked 69th in Defra's "National Rank Order of Settlements Susceptible to Surface Water Flooding" (2009).

Hinckley & Burbage

The LLFA have carried out a detailed GIS analysis of the area, adhering to the "Defra guidance on signification flood risk for the identification of flood risk areas" criteria contained within Annex A of the PFRA review guidance documentation and utilising the detailed GIS assessment recorded in Annex 2 Flood ID 15. The LLFAs own knowledge and understanding of local flood risk within the area has also been used throughout the process.

This analysis, along with our understanding of flood risk based on past flood incidents and section 19 investigations within this area, identifies Hinckley & Burbage as a FRA. Sufficient key services, residential and non-residential properties are shown to be at risk. The key services include; various schools and an ambulance service.

Further evidence gathered since 2011 to demonstrate the flood risk identified in Hinckley & Burbage include; two section 19 investigations following internal and external property flooding where surface water and other sources of local flood risk contributed. It should also be noted that Hinckley & Burbage is recognised by the LLFA as a priority settlement in Leicestershire County Council's Local Flood Risk Management Strategy (LFRMS) which also recognises that Burbage would benefit from a Surface Water Management Plan (SWMP) and integrated urban drainage study which further highlights the risk associated with this particular area. Leicestershire LLFA is currently working in partnership with Severn Trent Water to develop an integrated urban drainage model in this area to greater inform our knowledge of flood risk to the area.

Other changes

The 2011 PFRA report is not explicitly clear who the risk management authorities (RMAs) are for the Leicestershire LLFA area. Rather, it discusses engagement with various stakeholders as well as detailing the datasets held by partner organisations. Furthermore, the report does not detail the Trent Valley Internal Drainage Board which is also a RMA in Leicestershire. To clearly define the current RMAs for Leicestershire, the LLFA have produced the attached table (see page 5)

**Leicestershire County Council
December 2017**

Leicestershire LLFA PFRA Review 2017 – Updated Risk Management Authorities

Risk Management Authorities (as listed by Defra and Environment Agency guidance)

Authority Name	Flood Risk Management Responsibilities	Contact Details	Changes Since 2011 Report
Environment Agency	<ul style="list-style-type: none"> • Provides and operates flood warning systems. • Carries out works to manage flood risk from the sea and main rivers. • Carries out works in estuaries to secure adequate outfalls for main rivers. • Carries out surveys to inform Flood and Coastal Erosion Risk Management (FCERM) works. • Issues consent for works on or near main rivers, and works affecting watercourses, flood and sea defenses and other structures protected by its byelaws. • Advises planning authorities on the implications of development proposals on flood risk in relation to the risk of flooding from main rivers and the sea. • Designates structures and features of the environment that affect flood or coastal erosion risk. • Has the right to enter private land to carry out FCERM works. <p style="text-align: right;">(Source – Gov.uk, 2015)</p>	<p>Floodline: 0345 988 1188</p> <p>Website: https://www.gov.uk/government/organisations/environment-agency</p>	No longer covers Wales (as of 2013)
Lead Local Flood Authority (LLFA) – Leicestershire County Council	<ul style="list-style-type: none"> • Take a leadership role in local flood risk management i.e. risk from surface water, groundwater and ordinary watercourses. • Prepare, maintain, apply and monitor a strategy for local flood risk management. 	<p>Tel: 0116 305 0001</p> <p>Email: flooding@leics.gov.uk</p>	

	<ul style="list-style-type: none"> • Prepare and maintain a preliminary flood risk assessment, flood hazard maps, flood risk maps and prepare flood risk management plans. • Take the lead on preparing surface water management plans. • Carry out work to manage flood risk from surface water, groundwater and ordinary watercourses. • Investigate flood incidents where deemed necessary or appropriate and publish the results. • Maintain an asset register of structures considered to have a significant effect on flood risk. • Regulation of works on ordinary watercourses through a consenting process. • Designate structures that affect flood risk. • Play a role in emergency planning and recovery after a flood event (category 1 responder). 		
Local Highway Authority (Leicestershire County Council)	<ul style="list-style-type: none"> • Provision and maintenance of highway drainage features including highway drains (gullies), roadside grips (drainage channel dug from road to ditch) and ditches designated as forming part of the highway. 	Tel: 0116 305 0001 Email: highwayscustomerservices@leics.gov.uk	
District & Borough Councils: <ul style="list-style-type: none"> • Blaby District Council • Charnwood Borough Council • Harborough District Council 	<ul style="list-style-type: none"> • Manage flood risk from ordinary watercourses. • Assists in preparing for, responding to and recovering from major emergencies. • Provision of sandbags to residents. 	Blaby Tel: 0116 275 0555 Emergency Tel: 08702 385 000 Web: http://www.blaby.gov.uk/resident/crime-safety-and-emergencies/flooding/	

<ul style="list-style-type: none"> • Hinckley & Bosworth District Council • Melton Borough Council • Oadby & Wigston District Council • Northwest Leicestershire District Council 	<ul style="list-style-type: none"> • Assistance with housing and shelter in flood events in collaboration with the Leicestershire, Leicester City and Rutland Local Resilience Partnership. • Take flood risk into account when making decisions on development. 	<p><u>Charnwood</u> Emergency Management Tel: 01509 634 911 Land Drainage Tel: 01509 634 563 Web: http://www.charnwood.gov.uk/pages/landdrainageandflooding</p> <p><u>Harborough</u> Tel: 01858 828 282 Email: customer.service@harborough.gov.uk Web: http://www.harborough.gov.uk/emergency-planning</p> <p><u>Hinckley & Bosworth</u> Tel: 01455 238 141 Out of hours emergency service: 01455 251 137 Web: http://www.hinckley-bosworth.gov.uk/info/200039/emergencies</p> <p><u>Melton</u> Tel: 01664 502 502 Email: contactus@melton.gov.uk Web: http://www.melton.gov.uk/info/</p>	
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Severn Trent Water Ltd.	<ul style="list-style-type: none"> • Managing the risks of flooding from surface water and foul or combined sewer systems. • Maintenance of drainage assets, in the majority of Leicestershire, including; public storm, foul and combined sewers; water treatment works and pumping stations. 	Tel: 0800 783 4444	
Anglian Water Services Ltd.	<ul style="list-style-type: none"> • Managing the risks of flooding from surface water and foul or combined sewer systems. 	Tel: 03457 145 145	

	<ul style="list-style-type: none"> Maintenance of drainage assets, within parts of the Harborough District and Melton Borough, including; public storm, foul and combined sewers; water treatment works and pumping stations. 	<p>Email: anglianwatercustomerservices@anglianwater.co.uk</p>	
Trent Valley Internal Drainage Board (IDB)	<ul style="list-style-type: none"> Water level management of watercourses falling into Trent Valley basin (northern edge of Leicestershire) and associated infrastructure e.g. pumping stations. 	<p>Tel: 01507 328 095 Email: enquiries@lmdb.co.uk</p>	
Highways England	<ul style="list-style-type: none"> Operation and maintenance of major trunk roads (motorways and A roads) and associated infrastructure, including drainage systems e.g. under-road culverts, attenuation, pumps etc. 	<p>Tel: 0300 123 5000 Email: info@highwaysengland.co.uk</p>	
Regional Flood and Coastal Committee (RFCC)	<ul style="list-style-type: none"> Regional committee incorporating LLFAs and independent members with relevant experience Ensure coherency of plans for “identifying, communicating and managing” flood risk across river catchments. Ensure efficiencies in flood risk investment. 	<p><u>Anglian Central RFCC –</u> Telephone: 03708 506506 Email: AnglianRFCCs@environment-agency.gov.uk. <u>Trent RFCC –</u> Email: dhiren.katwa@environment-agency.gov.uk <u>Severn & Wye RFCC –</u> Email: ESWRFCC@environment-agency.gov.uk</p>	Established by the Environment Agency

Non Risk Management Authorities with which the LLFA liase

Authority Name	Responsibilities	Contact Details	Changes Since 2011 Report
Canal & Rivers Trust	<ul style="list-style-type: none"> Maintain 2000+ miles of waterways in UK – canals and rivers and associated infrastructure e.g. locks, including Leicester Line (Grand Union Canal) and River Soar 	Tel: 0303 040 4040 Urgent calls in relation to flooding: 0800 47 999 47 Email: enquiries.eastmidlands@canalrivertrust.org.uk	Formed from disbanding of British Waterways in 2012 (still exists in Scotland as Scottish Canals)
Natural England	<ul style="list-style-type: none"> Wildlife management and enforcement of regulations in and adjacent to SSSIs Assessing environmental impact of flooding 	Tel - 0300 060 3900 E-mail: enquiries@naturalengland.org.uk	
Network Rail	<ul style="list-style-type: none"> Manage railway infrastructure including watercourses on and running under railway land. 	Tel: 03457 114 141	
Emergency Services (Police, Fire & Ambulance) (Not RMA)	<ul style="list-style-type: none"> Responding to flood incidents and emergencies associated with floodwater. Involved in operations in aftermath of flood events e.g. evacuations, treatment of citizens etc. 	Emergency Tel: 999 Non-emergency Tel (Police): 101 Non-emergency Tel (Medical): 111	
Local Resilience Forum (LLR)	<ul style="list-style-type: none"> Liaises with communities to relay information on awareness and preparedness for flood events Provides support to residents, communities and businesses Co-ordinates information sharing between partners 	Email - llrprepared@leics.gov.uk Tel – 0116 305 6101	