



meeting	<b>ENVIRONMENT AND SUSTAINABILITY SELECT COMMITTEE</b>	
date	<b>19 SEPTEMBER 2005</b>	agenda item no

## **RIVER TRENT FLOOD RISK MANAGEMENT**

### **Purpose of Report**

This report aims to:

- (a) seek Committee's views on the Environment Agency's consultation on the Tidal Trent Flood Risk Management Strategy (relating to the Trent below Cromwell Weir near Collingham);
- (b) summarise the Fluvial Trent Flood Management Strategy (relating to the Trent upstream of Cromwell Weir), which was subject to consultation in 2004 and has recently been published in its final form.

### **Background**

2 Flooding issues are of considerable concern in Nottinghamshire, particularly along the River Trent. The floods of October 2000 affected a significant number of communities in the County, and caused physical and financial hardship for many residents. The County Council's interests in flooding issues are many, and include:

- Politically, as elected representatives of local communities
- Emergency planning and response in respect of major flooding events
- Land use planning, the control of development in floodplains, and the reduction of the impact of development on flooding (for example through the use of "Sustainable Urban Drainage Schemes")
- In particular, our role as minerals planning authority, since aggregates extraction is largely focused on river valleys
- As Highway Authority, both in terms of the impact of flooding on the transport network and the effect of highways on flooding (both the physical presence of roads and the drainage from them)
- Our wider role in promoting the conservation of biodiversity, archaeology, landscape character and sustainable development, and in highlighting the impact of climate change

- The County Council owns a number of buildings which could potentially be affected by flooding. This includes County Hall itself, which houses the emergency operations centre (which would be used in any major flooding incident).
- 3 Partly as a response to the 2000 flood, the Environment Agency has produced flood management strategies for the Trent. These set out methodologies for prioritising investment in flood defences, and a proposed programme of measures. The first such strategy covered the Fluvial Trent (the non-tidal stretch of the river upstream of Cromwell Weir near Collingham), and was subject to consultation in Spring 2004. The County Council made a full response to this consultation, which was approved by Cabinet on 26 May 2004. The final version of this strategy was published in March 2005, and this report provides a summary of the extent to which this addresses the issues raised by the County Council.
- 4 In July 2005 the Environment Agency published for consultation a second flood management strategy to cover the tidal stretches of the Trent, from Cromwell Weir downstream to Keadby Bridge in North Lincolnshire. It is intended to respond as an Authority to this consultation, and Environment and Sustainability Select Committee is invited to contribute its views before a final response is presented to the Cabinet Member for Environment and Sustainability.

### **Tidal Trent Strategy**

- 5 The Tidal Trent runs downstream from Cromwell Weir near Collingham. The Environment Agency published a draft consultation strategy for the management of flood risk along this stretch of river in July 2005. The full document runs to nearly 600 pages including maps, and is summarised in Appendix 1, which also highlights the key issues for Nottinghamshire. The full document is available on the Environment Agency website on [www.environment-agency.gov.uk](http://www.environment-agency.gov.uk), or on <http://www.bvl.bv.com/default.htm?/environment/252.htm>. A display of maps showing current flood defences will be available at the Committee meeting.
- 6 It is intended that the County Council should respond to this consultation. Key issues that are likely to be raised in this response include the following:
- The County Council is concerned at the methodology used to prioritise flood defences. This methodology weights proposals in part by the number of properties protected, and tends to prioritise urban areas over rural communities. The County Council accepts the logic of this approach, but remains concerned over the risks to properties that are currently unprotected, or receive low-level protection.
  - There is a particular concern that the costs of insurance are not currently factored into the benefit-cost ratio used to determine whether a particular proposal should be undertaken. This may have a significant impact for example on the consideration of flood defences at Collingham, which have a benefit-cost ratio of over 1, but have still been discounted.

- In particular, whilst welcoming the proposals to improve flood defences at Spalford, the Authority is concerned that there are no proposals for improvements to defences at Cottam, Sutton, Girton, Collingham or Church Laneham. The Environment Agency is urged to examine other options for protecting those affected within these communities
- The County Council supports the emphasis given to environmental assessment of proposals, and the need to protect in particular key biodiversity, historical and archaeological sites and features.
- In the particular case of the proposed investigation into opportunities for a flood storage area near Sturton-le-Steeple, the County Council is concerned that any proposal should not compromise either the site's nationally important archaeological resources or the important sand and gravel reserves in the area.
- The County Council welcomes the recommendation for possible managed realignment of existing defences in several locations to create a number of smaller flood storage areas, in order to gain environmental benefits particularly in terms of wetland biodiversity. However, the Council notes the Environment Agency's comment that as this work does not change flood risk, sources of funding would need to be identified.
- The County Council also welcomes the Environment Agency's intention to investigate potential for further environmental benefits in connection with individual flood defence projects, eg smaller scale habitat creation or enhancement, landscape enhancement and improvements to the network of footpaths and cycleways.
- The County Council supports the emphasis within the draft Strategy on restraining built development within the floodplain, and on the use wherever possible of Sustainable Urban Drainage Schemes to reduce run-off. The Nottingham and Nottinghamshire Deposit Draft Structure Plan already has supportive policies to this effect.
- The County Council also supports the emphasis in the strategy given to effective early warning of flooding, and to the need in partnership with agencies such as the County Council to plan and implement effective emergency responses in the event of flooding.

7 It is proposed that these comments, alongside any further issues raised in debate at Environment and Sustainability Standing Select Committee, are together built into a draft Authority response for approval by the Cabinet Member for Environment and Sustainability on 29 September and submission to the Environment Agency by the 30 September consultation deadline. Cabinet endorsement would then be sought on 12 October 2005. The Elected Members for Collingham, Caunton, Tuxford and Misterton whose wards include land adjacent to the Tidal Trent will also be consulted, and their views incorporated into the draft response.

## **Fluvial Trent Strategy**

- 8 The County Council's formal response to the Fluvial Trent Strategy consultation raised a number of concerns, which may be summarised as follows:
- Flood management strategies should consider measures to reduce the causes of flooding, and emergency planning proposals, as well as measures to minimise the impact of flooding when it occurs. The draft Fluvial Trent Strategy underplayed these two issues.
  - The national scoring system used to define priorities for investment in flood defences is weighted in favour of larger urban communities to the detriment of rural settlements. The continued risk posed to rural communities from flooding is a matter of grave concern to the Authority
  - The use of a 1:100 year flooding standard for flood defences further emphasises the policy of protecting urban areas above rural ones
  - The need to take insurance costs into account in the economic cost benefit appraisal of flood defence schemes was stressed.
  - Clarification was sought on why dredging was considered not to be an appropriate solution
  - Certain communities (eg Attenborough) appeared to be high in the list of communities at risk, but do not appear in the proposed "top 30" priority list for flood defences
  - Further assessment and feasibility work is required before a specific proposal, to lower the A6097 at Gunthorpe, can be supported
  - New flood defences should be designed to minimise environmental damage, particularly to biodiversity, landscape and archaeology
- 9 The extent to which the finalised Fluvial Trent Strategy, published in March 2005, meets these concerns has been set out in Appendix 2.
- 10 The first major flood alleviation scheme to be proposed for implementation under the Fluvial Trent Strategy is located in the West Bridgford area. The Environment Agency has consulted on the environmental impacts of this proposal.

## **Recommendation**

- 11 It is recommended that the comments set out in paragraph 6 above, along with any further comments of Environment and Sustainability Standing Select Committee and local Elected Members, form the basis of a County Council response to the Tidal Trent Strategy which would be approved by the Cabinet Member for Environment and Sustainability on 29 September 2005 submitted to the Environment Agency to meet the 30 September 2005 consultation deadline, and presented to Cabinet for endorsement on 12 October 2005.

PETER WEBSTER  
Director of Environment

## APPENDIX 1 – TIDAL TRENT FLOOD RISK MANAGEMENT STRATEGY

### SUMMARY OF PROPOSALS

#### Introduction

The strategy covers the Trent from Cromwell Weir/Lock near Collingham 44 miles downstream to Keadby Bridge/Lock. This stretch of the river is tidal, and forms the County boundary between Gainsborough and High Clifton. Flood levels in this section are primarily affected by river flows, whereas levels north of Gainsborough are more influenced by the tide.

Major flooding events have happened in the past. The worst in recent times to be caused by rainfall was in 1947, whilst the biggest flood from a tidal surge was in 1954. During the flooding event in 2000, although most defences held, there were 19 properties flooded in Girton. In addition a number of roads including the A631, A1133, and A57 were closed. The report predicts the potential threat of flooding will increase, due to the influence of climate change on both sea levels and rainfall.

Flood defences of two types exist. Major defences protect urban areas such as Gainsborough. Minor defences protect farmland from frequent flooding, whilst being designed to breach and provide additional storage in major flooding incidents.

Major defences vary in their level of protection, from a 50-year flood to the more exacting 200-year flood standard, and are generally in good condition. Around 5,400 houses are protected by these defences. Nonetheless there are significant numbers of properties in Nottinghamshire which are at risk, either because they lie outside these defences, or because the defences that exist will be breached in particularly high floods. To illustrate this, the Environment Agency has used a benchmark of a 1% (1 in 100 year) flood. The properties at risk from such an event are as follows:

Location	Number of properties at risk
Sutton-on-Trent	341
Girton	26
Spalford	1113
Collingham	27
Cottam	313
Church Laneham	3
Beckingham	18

The Trent valley is important for its wildlife, landscape, archaeology and recreational value. In particular along this section there are 15 Sites of Special Scientific Interest (ie of national importance for biodiversity), including Beckingham marshes and numerous locally important sites. There are also a significant number of historic sites and structures (including bridges) and 10 Scheduled Ancient Monuments.

## Assessment of flood protection options and priorities

The Environment Agency's approach to flood defence is not to adopt a particular standard (e.g. 1 in 100 year) for all flood defences. Instead it looks at each on a case by case basis, and considers the benefit cost ratio of improvements. The assessment of flood protection options in fact involves a two-stage process:

- 1 Consideration of 18 generic flood defence measures, some of which were considered inappropriate anywhere along this section of the Trent (eg dredging).
- 2 Evaluation and ranking flood defence options in each locality, taking into account flood risk, technical feasibility, economic cost-benefit, and environmental impact.

This process has resulted in a table of ranked flood defence proposals, as follows:

### Preferred flood management options

Area	Option description	Standard*
Axholme	Raise and maintain defences along existing lines	0.5%
Susworth	Raise and maintain defences along existing lines	1.3%
Gainsborough	Raise and maintain defences along existing lines	1% 0.5%
Cottam	Do minimum (maintenance of existing defences and flood warning only)	Existing
Lea Marshes	Raise and maintain defences along existing lines	0.5%
Spalford	Raise and maintain defences along existing lines	1%
Sutton	Do minimum (maintenance of existing defences and flood warning only)	Existing
Girton	Do minimum (maintenance of existing defences and flood warning only)	Existing
Collingham	Do minimum (maintenance of existing defences and flood warning only)	Existing
Church Laneham	Do minimum (maintenance of existing defences and flood warning only)	Existing

\* A 1% standard is a flood defence that will protect a community from all but a 1 in 100 year flooding event

The flood defences protecting Gainsborough are subject to separate study which is due to conclude in the near future. In addition a further study is being undertaken into the possibility of creating a new flood storage area at Sturton-le-Steeple.

In all cases inclusion on this list is not a guarantee that the defences will be improved. All proposed schemes instead will be subject to a further viability study before final decisions are made on implementation

Thus in Nottinghamshire only Spalford will potentially have improvements by raising the existing defences.

## APPENDIX 2 – FLUVIAL TRENT STRATEGY

### SUMMARY OF FINAL REPORT AND EXTENT TO WHICH IT ADDRESSES CONCERNS RAISED BY THE COUNTY COUNCIL

Issue	Original NCC comment	EA response/Final strategy content
Strategy is primarily concerned with a methodology for prioritising flood defence schemes	<ul style="list-style-type: none"> <li>Strategy should consider measures to reduce the causes of flooding, and emergency planning proposals, as well as measures to minimise the impact of flooding when it occurs</li> </ul>	The strategy covers development in flood plains, but the EA do not consider climate change to be part of the scope of the report. They also consider emergency planning as a separate process.
The Strategy sets out the national scoring system for prioritising potential flood alleviation schemes, based on flood risk, and the costs of flood defences compared to the costs of not protecting	<ul style="list-style-type: none"> <li>The national scoring system is weighted in favour of larger urban communities to the detriment of rural settlements. The continued risk posed to rural communities from flooding is a matter of grave concern to the Authority</li> <li>The use of a 1:100 year flooding standard for flood defences further emphasises the policy of protecting urban areas above rural ones</li> <li>Insurance costs need to be taken into account in the economic cost benefit appraisal.</li> </ul>	The prioritisation methodology remains unchanged. The EA continue to take a firm cost-benefit based approach, considering protection of urban areas better value than of rural communities because of the density of housing. Phasing will be used to target priority areas which are below the 100-year standard for immediate treatment, over and above areas where maintenance is required
Treatments such as dredging are not considered to be appropriate	<ul style="list-style-type: none"> <li>Clarification was sought on why</li> </ul>	Dredging is considered harmful to riverside habitats
List of 30 top priority schemes set out in strategy	<ul style="list-style-type: none"> <li>Certain communities (eg Attenborough) appeared to be high in the list of communities at risk, but low in the proposed priority list for flood defences</li> <li>Further assessment and feasibility work is required before a specific proposal, to lower the A6097 at Gunthorpe, can be supported</li> </ul>	<p>List of priorities has changed marginally, but not greatly (see below). Attenborough does not reach the top 30 priority list because factors other than the numbers of properties at risk (such as cost benefit) reduce its priority.</p> <p>Gunthorpe proposal does not score highly in priority scoring, but has been proposed by Gunthorpe Flood Action Group for investigation</p>
Detailed design of flood alleviation measures will minimise environmental impact	<ul style="list-style-type: none"> <li>New flood defences should be designed to minimise environmental damage, particularly to biodiversity, landscape and archaeology</li> </ul>	EA will consult on new proposals

Top 30 flood defence priorities. Shaded areas are for immediate consideration for works.

<b>Number</b>	<b>Location</b>	<b>Description</b>	<b>Priority score</b>
1	Burton on Trent	Defences	35
2	Sawley	Defences	34
3	Wilford	Defences	34
4	West Bridgford	Defences	34
5	West Bridgford	Defences	34
6	West Bridgford	Defences	34
7	Queens Drive	Defences	33
8	Burton on Trent	Defences	33
9	Burton on Trent	Defences	32
10	Newark	Defences	32
11	Burton on Trent	Defences	32
12	Rylands	Defences	32
13	West Bridgford	Defences	32
14	Colwick	Defences	32
15	Colwick	Defences	30.5
16	Rolleston (Notts)	Remove banks	28.8
17	Burton on Trent	Defences	28
18	Wilford	Defences	26.4
19	Trent Meadows	Defences	24.9
20	Rolleston (Notts)	Defences	24
21	Farndon	Defences	20
22	Meadows	Defences	19.6
23	Barton in Fabis	Defences	19.4
24	Attenborough	Defences	19.2
25	Shardlow	Defences	18.7
26	Queens Drive	Defences	16.8
27	Newark	Defences	15.9
28	Gunthorpe	Lower A6097	14.5
29	Burton on Trent	Defences	14
30	Swarkestone	Defences	12.4

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