Keeping you informed

Recent Flooding in York

January 2016

Our role is to reduce the impact of floods on people and property. We can't stop flooding, but we work to limit the impact and we do help communities to prepare.

We provide 24/7 cover to respond to flooding and pollution incidents. We issue alerts and warnings to help people reduce the impact of flooding.

The flooding across Yorkshire over the Christmas period has been widespread, with many communities affected. Our thoughts are with those people whose homes and businesses have been impacted.

This briefing gives information about the flooding that happened in York on Boxing Day and how the Foss Barrier operates to reduce flood risk to the city.

What happens when river levels rise in York?

The River Foss and the River Ouse meet in York. The Foss is a highly-urbanised catchment which responds quickly to high levels of rainfall. The Ouse is a more rural catchment that responds to heavy rainfall from the Pennines and can therefore be slower to rise.

Historically, rises in levels of the River Ouse would force water back up the Foss (a tributary of the Ouse) causing it to overtop its banks and flood surrounding properties. This dramatic effect contributed to the severity of the floods in 1947, 1978 and 1982.

About the Foss Barrier

Following the floods of 1982, works were carried out in York to prevent and reduce flood risk in York costing around £8m. This included the construction of the Foss Barrier in 1987 at a cost of £3.4m. It has protected the city on a number of occasions including the floods of 2000, 2007 and 2012. It forms part of York's city-wide defences.

How does it work?

The barrier is a 16.5 tonne gate which is normally held in a horizontal position above the river allowing boat traffic to pass underneath it. Its primary purpose is to prevent high levels from the River Ouse from entering the River Foss. When the River Ouse is high, the barrier is lowered and it forms a seal with the river bed and prevents water 'backing up' from the Ouse into the Foss.

When the barrier is down, water cannot discharge from the Foss into the Ouse, so it must be pumped around the barrier into the Ouse to prevent it backing up.

Boxing Day - 26 December 2015

On 21 December 2015 the Foss Barrier was lowered to deal with rising levels on the River Ouse, in the normal way. On 26 December 2015 there was further heavy rainfall across Yorkshire which resulted in increasing river levels on the Ouse and a rapid increase in river level on the River Foss. Approximately 600 properties were flooded.

The Foss Barrier was in use from 21 December. It was still in use on Boxing Day with all eight pumps operating at full capacity. Water levels in the River Foss continued to rise throughout the day because the flows in the River Foss were in excess of what could be managed by the pumps.

The barrier was raised on Boxing Day evening, to allow the River Foss to flow into the Ouse. The River Ouse was at a similar level to the River Foss by this time, but was rising more slowly). At this point, if the barrier had remained closed, then levels on the Foss through York would have risen more rapidly.

Water, which had already entered the workshop, started to rise at a faster rate. It then entered the electrical switch rooms, situated on the ground floor, where the control panels for both the pumps and the barrier are housed. We are currently looking into how and why the water entered the facility.

If the barrier had been left in the down position once the pumps were turned off because water had entered the electrical switch room, we would have had no means of raising the barrier quickly. This would have resulted in very rapid and even more widespread flooding.

Raising the barrier gate significantly slowed the rate at which the River Foss rose. This provided more time for the emergency services to begin evacuation and for residents to evacuate their properties in the rapidly worsening situation.

As soon as the barrier was lifted the electrical supply to the site was isolated.

What did we do next?

Environment Agency operational staff and our contractors worked around the clock to get the Foss Barrier operating after the high river levels flooded the electrical switch room and affected the power system.

A Chinook helicopter was used to lift equipment onto the Barrier's pump-house roof on Monday 28 December. This equipment enabled us to lower the barrier and restart four of the pumps at 00:50 on 29 December. The army also assisted with the installation of a temporary bridge to route electric cabling across the river on the morning of Wednesday 30 December. This meant we were able to start the remaining four pumps and the barrier was fully operational.

What are we doing now?

Our staff are working in the area, checking defences, clearing blockages and our incident room team continue to monitor the weather situation for further rain.

We are now looking into how and why the water entered the building. We are also planning how we will use Government recovery money to repair the barrier and make improvements to it so that it is more resilient in the future.

We continue to work closely with City of York Council, which is leading the recovery operations, and other local resilience forum partners.

Flood warning information

You can find out if you are at risk of flooding at www.gov.uk/check-if-youre-at-risk-of-flooding.

You can also contact Floodline on 0345 9881188.

Who to contact for more information:

You can contact our National Customer Contact Centre - Mon to Fri, 8am to 6pm
Telephone: 03708 506 506

Minicom service, for the hard of hearing: 03702 422 549 National Customer Contact Centre.

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