

Belford Catchment Solutions

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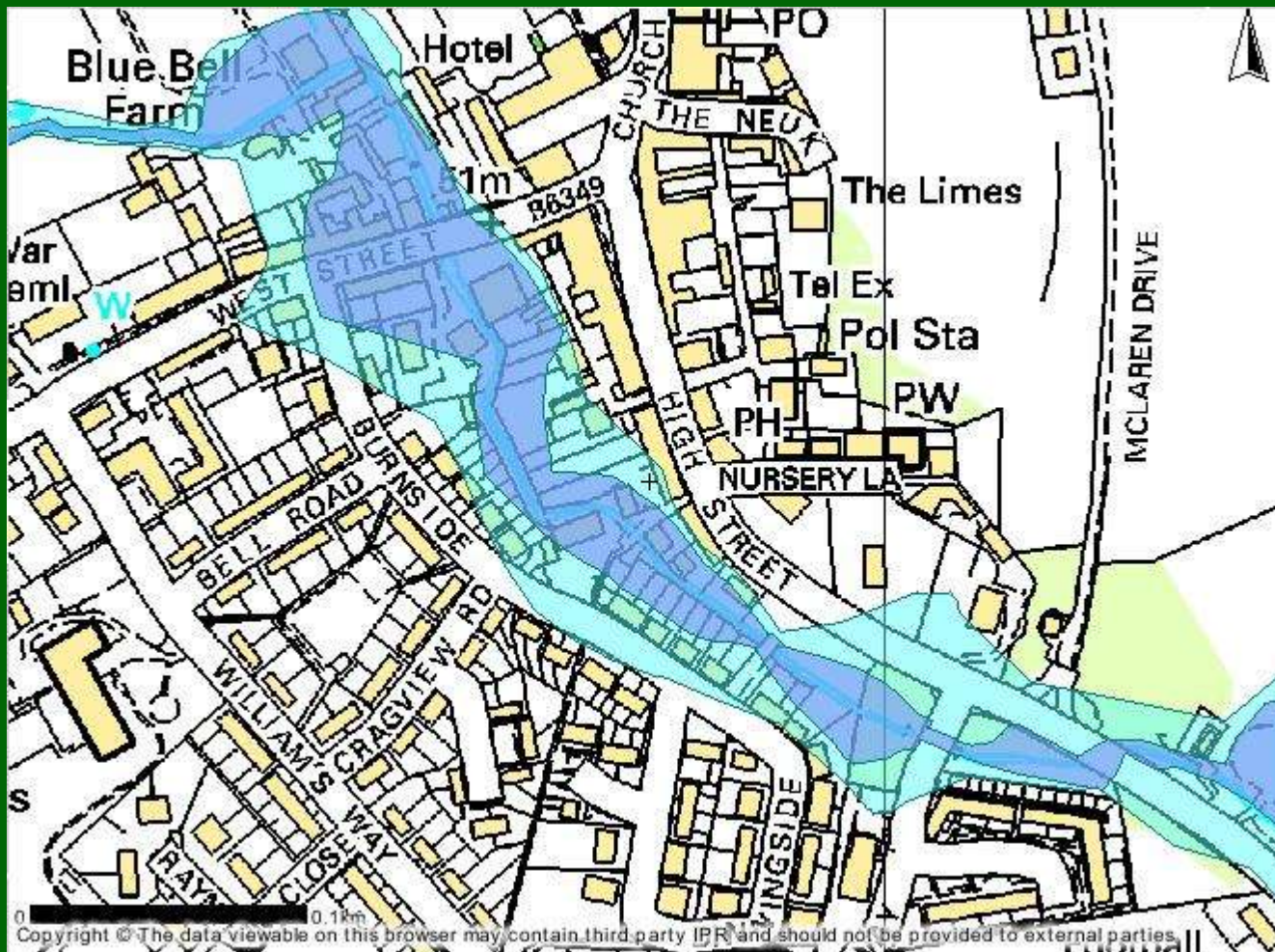


Flood Risk in Belford

- Belford has a long history of flooding with records showing flooding since 1877
- The most recent events occurred in July 2007 and September 2008
- There are 28 properties at risk from a 1 in 100 year event
- However, up to 10 properties flood on a regular basis



Flood Risk in Belford



Belford Flood Risk

Causes of Flooding

- Steep catchment leading to rapid runoff in the catchment
- Lack of flood defences in the town
- Surface water flowing off the hillside into the town.
- Inability for drainage system to cope with surface water



Funding for Belford

- A feasibility study was undertaken in 2006 to determine whether flood defences could be built
- Costs were assessed in the region of £3M - £4M
- Scheme was therefore not 'cost beneficial'
- In response to the continuing flooding, the Regional Flood Defence Committee committed funds via the 'Local Levy' to develop an alternative approach.
- £600,000 has been allocated from the Local Levy to carry out works to reduce the flood risk in Belford

Alternative's to traditional flood defences

- New or improved flood warning service
- Minor works
- Increased channel maintenance
- Individual property protection
- Nothing!
- Catchment works

The Works in Belford

- Upstream Catchment Works
 - Creation of wetlands and ponds to store floodwater
 - Capturing overland flow
 - Maximising the use of the flood plain
 - Increasing channel roughness and slowing flood flow
- Works in the Town
 - Walls in the town to fill in low spots
 - Channel realignment to increase capacity
 - Trash screen to reduce the risk of blockage
- Integrated Flood Solutions
 - Capturing surface water runoff
 - Ensuring capacity in the drainage network
 - Ensuring drains can discharge to the river



Upstream Works

This is main aspect of
the Belford Catchment
Solutions Project

Works being
undertaken by
Newcastle University
using Farm Integrated
Runoff Management
(FIRM) Plans



Works Planned in the Town

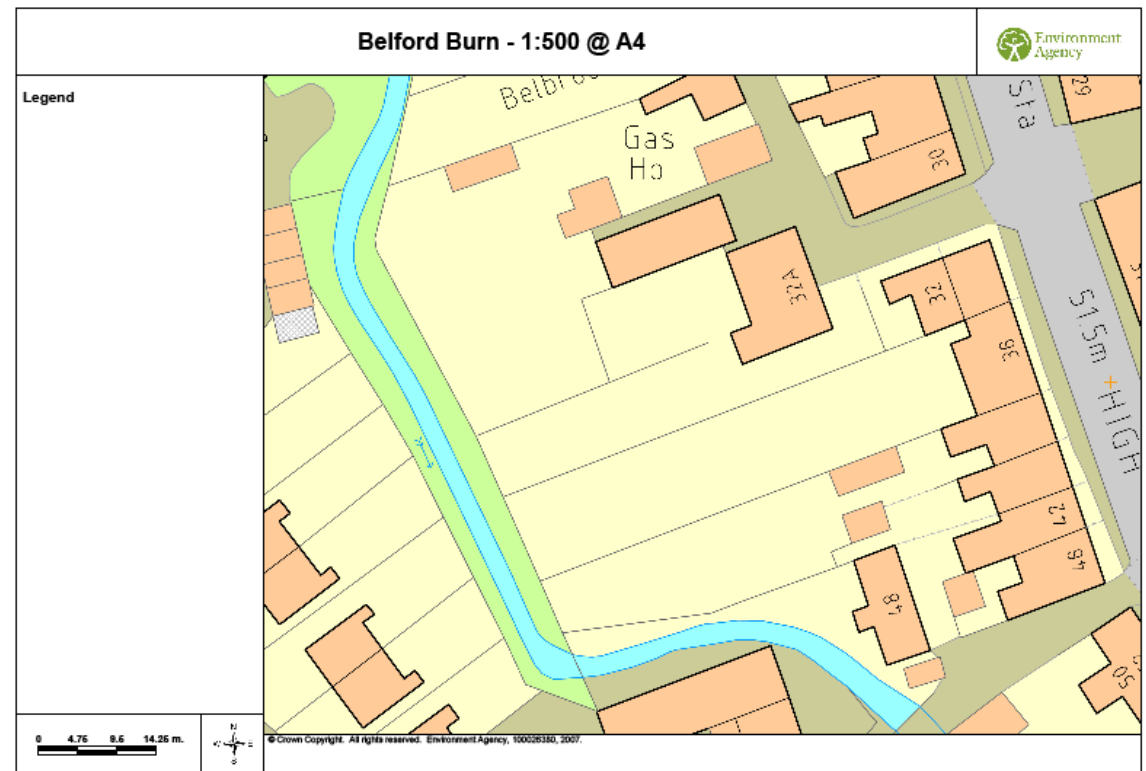
Some new
walls to fill in
low spots
where flooding
first occurs



Works Planned in the Town

Channel
widening where
the river has
become very
constrained

Works planned
for January to
March 2012



Works Planned in the Town



Floods of 3rd
July 2007

Integrated Flooding Solutions with NCC and NWL

- Belford not only suffers flooding from the river – flooding also occurs through surface and sewer flooding.
- NWL have invested around £800,000 bringing the sewer network up to capacity
- NCC have identified some funding to help with surface water runoff.



Integrated Flooding Solutions with NCC and NWL

Cross Drains

- Divert surface water flow running from the hillside to farmland and into a storage pond rather than flowing in the town.



Outcomes

Belford Catchment Solutions

Outcomes/Benefits:

- Reduced Flood Risk in Belford
- Improved Water Quality, new habitat and increased biodiversity – meeting WFD
- A toolkit of methods and techniques to be used on other farms in other catchments
- Understanding of delivery methods and funding possibilities



Belford Catchment Solutions

Questions?