



Stockton-on-Tees
BOROUGH COUNCIL

Lead Local Flood Authority Flood Investigation Report

Ilkeston Walk, Hardwick, Stockton on Tees

18th May 2013

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Version final – J Salisbury – 19/9/13

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Flood Investigation Report – Ilkeston Walk, Hardwick, Stockton on Tees.

1. Legislation

a. Flood and Water Management Act 2010 – Section 19 Flood Investigations

This flood investigation report has been produced by Stockton on Tees Borough Council as a Lead Local Flood Authority under Section 19 of the Flood and Water Management Act 2010:

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 have relevant flood risk management functions, and
 - 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 investigation under subsection (1) it must –
 - a) publish the results of its investigation, and
 - b) notify any relevant risk management authorities.

*Flood and Water Management Act (2010), S.19, c.29, London:
HMSO*

b. Local Flood Investigation

The Tees Valley authorities through the Tees Valley Strategic Flood Risk Partnership, agreed that an investigation for a flood event, is deemed locally significant and considered appropriate, if one or more of the following is affected by flooding:

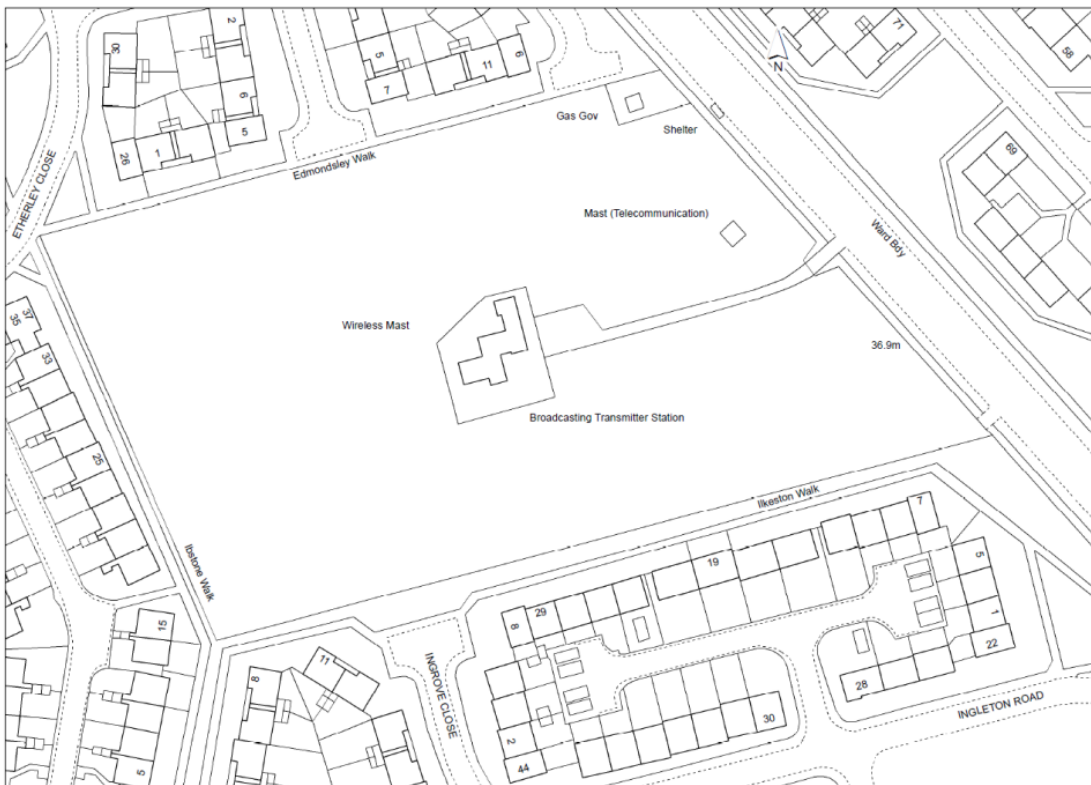
- 5 or more residential properties;
- 2 or more businesses;
- 1 or more critical services;
- 1 or more transport links (Impassable for 10 Hours or more).

2. Incident Details

a. Background

On the 18th May 2013, some areas of Stockton on Tees were affected by very localised intense rainfall, which fell over a matter of hours causing flash surface water flooding in some areas, though rivers and ordinary watercourses were unaffected by the rainfall.

One area severely affected was Ilkeston Walk in the Hardwick area of Stockton on Tees, where up to 9 properties were affected by internal flooding and a further 3 were at risk, causing residents to have to leave their homes.



b. Local Flooding Mechanism

An appraisal of the local flooding mechanism has been carried out, using photographic, anecdotal evidence and site visits. The initial site visit was carried out on 20th May 2013. The flooding affecting Ilkeston Walk on 18th May 2013 was from pluvial sources, the flooding happens quickly 'flash flooding' and takes several hours to subside. Anecdotal evidence suggests that the properties have been flooded on several previous occasions.



Photograph 1 – A flooded property on Ilkeston Walk.

Photograph courtesy of a resident taken on 18th May 2013



Photograph 2 – Clearly shows the source of flooding as run off from the Arqiva site, the water is collecting at the low point and flooding properties

Photograph courtesy of a resident taken on 18th May 2013

c. Site Details

The properties on Ilkeston Walk face on to a privately owned field, with an adopted footpath in between. The topography of the site is that the field is at a higher level than the properties and slopes towards them, the footpath is level to the property boundaries, then the front gardens of the properties fall towards the front of the building. The properties are bound by a combination of low walls and fencing. There are access points in the form of gaps or gates. The majority of the properties have large, very low level air bricks which will be the first point of entry of the flood water, followed by the front doors. The properties are a mix of privately owned and social housing (Vela Homes) and do not have any flood protection measures in place.

The footpath located to the front of the property boundaries is a local authority maintained adopted footpath and has a positive drainage system in place, which connects to the main Northumbrian Water sewerage system, the drainage system was thoroughly investigated following the incident and found to be running freely and clear of any blockages. The drainage system is designed to drain the footpath only and is adequate for that purpose. However when inundated with flood water from the field, it was not surprisingly overwhelmed by volume of water passing over the gully, which then continued towards the properties causing internal flooding.

The field is bounded by a high fence and houses a transmitter. The site is owned by Arqiva, who have been contacted and are unable to supply any details of the land drainage of the site. It is therefore unknown whether or not the site has a positive drainage system.

Anecdotal evidence from residents suggests that the flooding has become worse since some groundwork was carried out in the field on the transmitters. Arqiva have stated that no work has been carried out in the last three years.



Photograph 3 - Ilkeston Walk < Hardwick –
Photograph taken on site visit – June 2013



Photograph 4 – Ilkeston Walk, Hardwick, facing North East
towards Arqiva Site
Photograph taken on site visit – June 2013

3. Mitigation Measures

The area could benefit from a drainage system being installed the field within the boundary, which would be for the consideration of the fields owners, though any system would need to be sustainable as Northumbrian Water do not allow land drainage to be connected to the sewerage system due to insufficient capacity leading to potential flooding issues elsewhere. Any groundwork undertaken in the field needs to be carefully considered so as not to simply move the flooding problem elsewhere.

The highway drainage system is fit for the purpose of footpath drainage and is subject to regular maintenance. The gully whilst fit for purpose is

quite small and replacement may have some albeit very limited benefit. The benefit is very limited as it is dependant on the overall system capacity.

The properties themselves would benefit from property level protection measures, such as waterproof flood doors, one way brick covers and external waterproofing to the brick work. Whilst these measures do not stop the flood water reaching the properties, they would stop it entering and causing internal flooding. This would mean the residents would suffer from occasional inconvenience for a short period of time rather than devastating effects of internal property flooding.

The Council has the opportunity on an annual basis to bid for funding from Central Government and local sources for flood mitigation measures such as property level protection. Ilkeston Walk would benefit from such measures and the Council intends to pursue this.

4. **Recommendations**

In conclusion to the investigation, I would make the following recommendations;

1. The feasibility of installing additional land drainage to the field is investigated further by Arqiva.
2. The Council submits a bid for funding for property level protection measures.
3. The Council investigates further whether installation of a larger gully would be of any, albeit limited benefit.