CASE STUDY: GAINSBOROUGH ROAD, CORBY
Corby, Northamptonshire

Corby is situated in the north of Northamptonshire, approximately 20 miles north of Northampton town centre and 20 miles southeast of Leicester City centre.

Key facts:
- Area: 8,028.09 hectares
- Population: 61,255 (2011 census)
- Corby has the fastest growing population in England (March 2010)
- Known as ‘Little Scotland’ due to the high influx of migrant workers
- The working age population with degree-level qualifications is the lowest in England.
- Corby is amongst the top 1% most deprived communities in England

Predicted Flood Risk

The town of Corby is deemed to be at risk from both fluvial flooding from the Main Rivers and Ordinary Watercourses and surface water flooding as shown in figure 1 and 2. Groundwater flooding also affects small pockets of the Borough.

Figure 1: Main Rivers
Gainsborough Road

Gainsborough Road is an area with a history of flooding, it is approximately 600 metres south/southwest of Corby town centre. An Ordinary Watercourse (which originates approximately 4 miles west of the affected area) flows east through Corby, adjacent to Gainsborough Road. This watercourse is part culverted and part open with grilles along its length. The watercourse eventually joins the River Nene 12 miles east of Corby.

Gainsborough Road is a residential area with housing, schools and other community facilities such as youth centres as well as commercial premises and open space. The ownership and associated responsibilities for this stretch of watercourse was unattributed from 1972 to 2012. The watercourse flows through a number of different land holdings as can be seen in the plan below.
Cause of Flooding
The flooding that occurs is often due to high water levels in the part-culverted Ordinary Watercourse. The inability of this watercourse to contain heavy flows effectively leads to its banks overtopping and private property, commercial premises and the public highway being affected by the overflow of water. Significant quantities of debris are washed through the watercourse in times of high rainfall. This builds up at debris grilles at the entrance to culvert sections of watercourse, exacerbating the flooding issues.

History of Flooding
There has been an extensive history of flooding on Gainsborough Road, as can be demonstrated below:

- 1972 watercourse was culverted to facilitate growth
- Early 1990’s – flooding of properties
- Easter 1998 – flooding affecting open space and highways
- 24th November 2012 - flooding affecting open space and highways
- 5th August 2013 - flooding affecting open space and highways
- October 2013 - flooding affecting open space and highways
- November 2013 - flooding affecting open space and highways
- 24th December 2013 – internal flooding of 3 properties
- 7th February 2014 - flooding affecting open space and highways
- 9th March 2016 - flooding affecting open space and highways
Area affected by flooding

The public highway and private gardens are regularly flooded. Floodwater is often only 75mm away from property thresholds. The bow waves from vehicles attempting to drive through the floodwater presents a real danger of internal flooding to dwellings. It is estimated that the depth of flood water at the area outside residential properties on Gainsborough Road exceeds 500mm. Groundwater flooding also affects small pockets of the Borough.

On Gainsborough Road, the sections of the culverted watercourse is situated north of Hazel Leys Primary School. Another open section of watercourse exists immediately west of the Lidl supermarket and car park at the junction of Gainsborough Road and Oakley Road. The open sections of watercourse ultimately flow into the culverted sections via headwalls with debris grilles.

Figure 6: Flooding of gardens and roads
[2012] Blocked Grille [2013]
The following work was project managed by Northamptonshire County Council as the Lead Local Flood Authority

- Formal Section 19 Flood Investigation (F&WMA) carried out in 2014 following reference to the flooding in House of Commons. Note: does not meet the threshold for formal investigation- see here for more information here: [https://www.floodtoolkit.com/risk/investigations/](https://www.floodtoolkit.com/risk/investigations/)
- Full CCTV survey undertaken by Northamptonshire County Council (NCC) Highways Contractor. This showed no faults or problems (no root penetration, collapses or blockages)
- Debris (bikes and mattresses) removed as part of CCTV inspection
- Hydraulic modelling informed by the CCTV survey was undertaken by Corby Borough Council’s (CBC) contractor as part of their Surface Water Management Plan (SWMP). The modelling tested the system in all different rainfall events and blockage scenarios. This proved that there is sufficient capacity within the watercourses and culverted sections and concluded that the grilles were the main problem when they become blocked
- Flood and Water Management responsibilities were ascertained along the entire stretch of the watercourse. A large proportion is privately (Riparian) owned i.e. Lidl, the School, a landowner etc. with parts in the ownership of Anglian Water Services and a housing association – see figure 7
- Numerous partnership meetings were facilitated with the Risk Management Authorities
- Riparian responsibilities were identified and letters sent to all concerned explaining how often they should inspect and maintain their assets
- A public meeting was held to explain these findings with Environment Agency, Northamptonshire Highways, CBC and the LLFA – with over 70 residents attending
- An inspection and maintenance regime was identified for a more holistic approach. CBC agreed to undertake a twice weekly inspection and associated maintenance of grilles on behalf of landowners, with additional inspections undertaken when adverse weather is forecast. All partners contribute financially towards these inspections
- Cyclical maintenance regime of gullies has been increased by Northamptonshire Highways on their roadside gullies
- Funds were raised by the LLFA to replace the two NCC owned highway grilles to reduce the chance of flooding. These are all now openable in a safe manor and the bar width increased to reduce blockages. This work was completed in summer 2016
- The LLFA worked with Anglian Water to replace their grilles to reduce the chance of flooding and these works were also undertaken Summer 2016.
Figure 7: Ownership

Areas of Ownership and Responsibility Gainsborough Road Corby

- Screen at Position 1: Owner: Anglian Water Services. Maintained by Anglian Water Services on a monthly basis.
- Screen at Position 4: Owner: Anglian Water Services. Maintained by Anglian Water Services on a monthly basis.
- Screen at Position 5: Owner: Anglian Water Services. Maintained by Anglian Water Services on a monthly basis.
- Screen at Position 6: Owner: Lidl. Maintained by Lidl on a fortnightly basis.
- Open watercourse between 1 and 2: Owner: Hazel Lyle School. Maintained by Hazel Lyle School.
- Open watercourse between 2 and 3: Owner: Northamptonshire Highways. Maintained by Northamptonshire Highways.
- Open watercourse between 3 and 4: Owner: Private. Maintained privately.
- Open watercourse between 4 and 5: Owner: Anglian Water Services. Maintained by Anglian Water Services on an annual basis.
- Open watercourse between 5 and 6: Owner: Lidl and Leicester Housing Association Ltd. Maintained by Lidl and Leicester Housing Association Ltd.

Figure 8: New Road Grille
Conclusions and lessons learnt

- Political priorities often supersede programmed projects
- Partnership working is critical to resolving flood related problems
- Often a number of risk management authorities and private landowners are responsible for small sections of watercourses – everyone involved must be aware of the part they play in effective management
- Agreeing a holistic approach is often more efficient and effective, particularly where one organisation is willing to work on behalf others
- Community engagement and awareness raising is fundamental to ensure that they understand the implications of their actions – driving through floodwater, putting fire officers lives at risk and causing flooding from bow waves
- Big improvements, derived from simple solutions do not have to be expensive!

Further Information & Contacts

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