

# School Brow, Moresby Parks

## Flood Investigation Report 43



**Flood Event 30/8/2012**

This flood investigation report has been produced by Cumbria County Council as a Lead Local Flood Authority under Section 19 of the Flood and Water Management Act 2010.

Version	Undertaken by	Reviewed by	Approved by	Date
Preliminary	Colin Parkes	Anthony Lane		11 <sup>th</sup> April 2013
Draft	Colin Parkes	Anthony Lane		30 <sup>th</sup> April 2013
Published	David White	Anthony Lane	Doug Coyle	18 <sup>th</sup> Sept 2013

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# Executive Summary

Cumbria County Council as Lead Local Flood Authority has prepared this report with the assistance of other Flood Risk Management Authorities under Section 19 of the Flood and Water Management Act 2010.

The report identifies that 4 School Brow, Moresby Parks, suffered from flooding on 30<sup>th</sup> August 2012. The main cause of the flood event was surface water flooding.

Two actions have been identified in the report which would minimise the risk of future flooding. The key recommendation is to provide a means for surface water runoff to discharge to a culverted watercourse.

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# Event Background

## Flooding Incident

School Brow is on the north side of the village of Moresby Parks. A school occupies land on the north side of the road. Flooding occurred at the bottom of the hill in a low point next to the cul-de-sac close to the school. A tributary watercourse to Lowca Beck is culverted under School Brow, the cul-de-sac development, to an outfall on the north side of the school playing field. See Figures 1 & 3.

The Sidings, 4 School Brow, Moresby Parks, Whitehaven, Cumbria, CA28 8UZ.  
299651, 519652

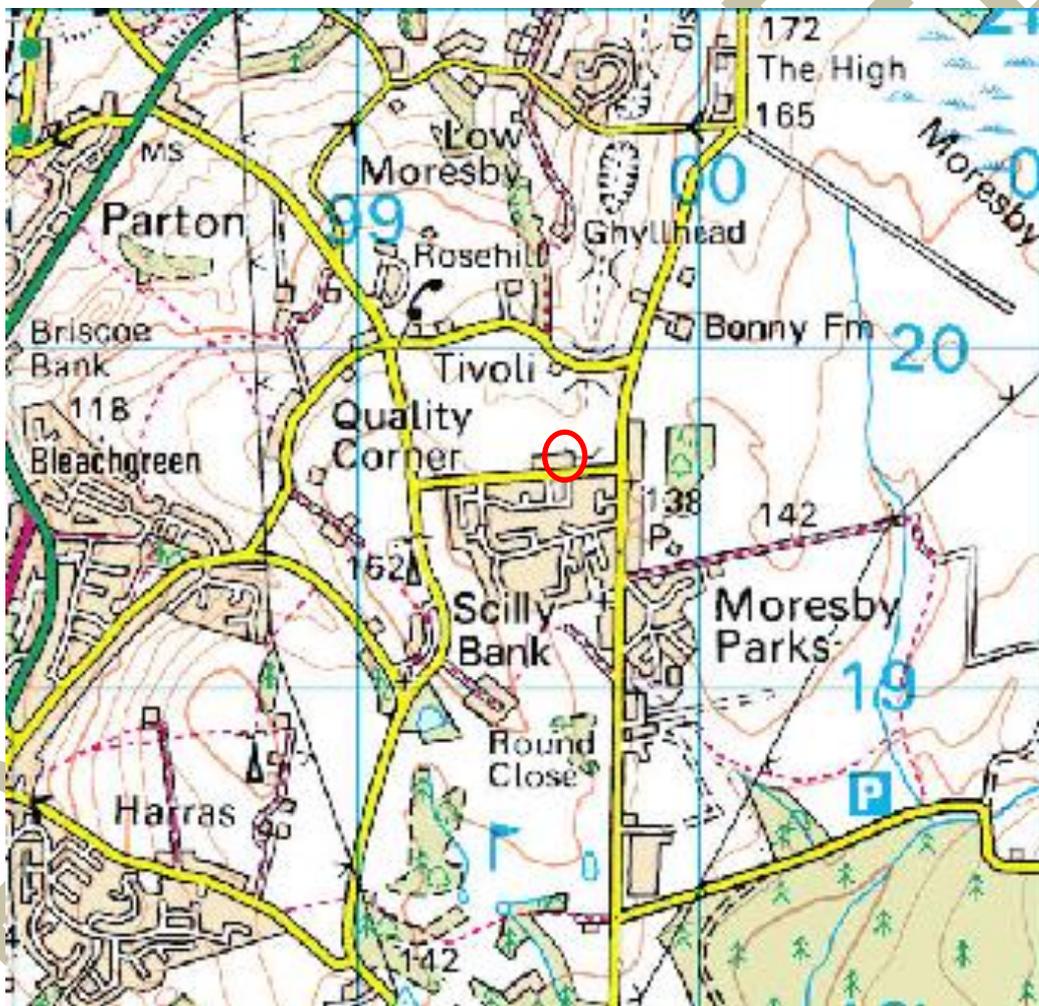


Figure 1: Location of School Brow, Moresby Parks.

During the night of 29-30<sup>th</sup> August intense rainfall caused water to flood into the property of The Sidings, 4 School Brow.

Flood water pooled in a low point in the field to the east of 4 School Brow. The footpath for the road runs along the edge of the field and floodwater ran out of the field submerging the footpath. The low point of the path is also adjacent to 4 School Brow and water flooded into the property from here and the field.

# Investigation

## Rainfall Event

No rain gauge data is available and the following has been calculated from rainfall radar data at Moresby Parks. Peak rainfall was about 15mm/hr and occurred at about 2am. Rainfall started at 9:35pm and finished at 3:45am with 27mm falling in 5hrs 10mins.

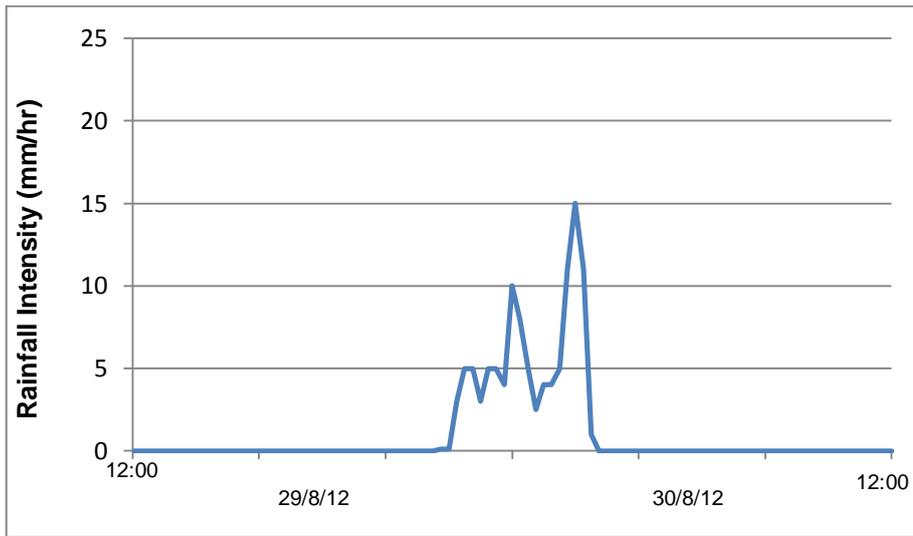


Figure 2. Rainfall intensity at Moresby Parks from 12pm 29/8/12 to 12pm on 30/8/12.

The average total rainfall for the whole of August is 92mm (1981-2010) at St Bees Head, the closest climate monitoring station.

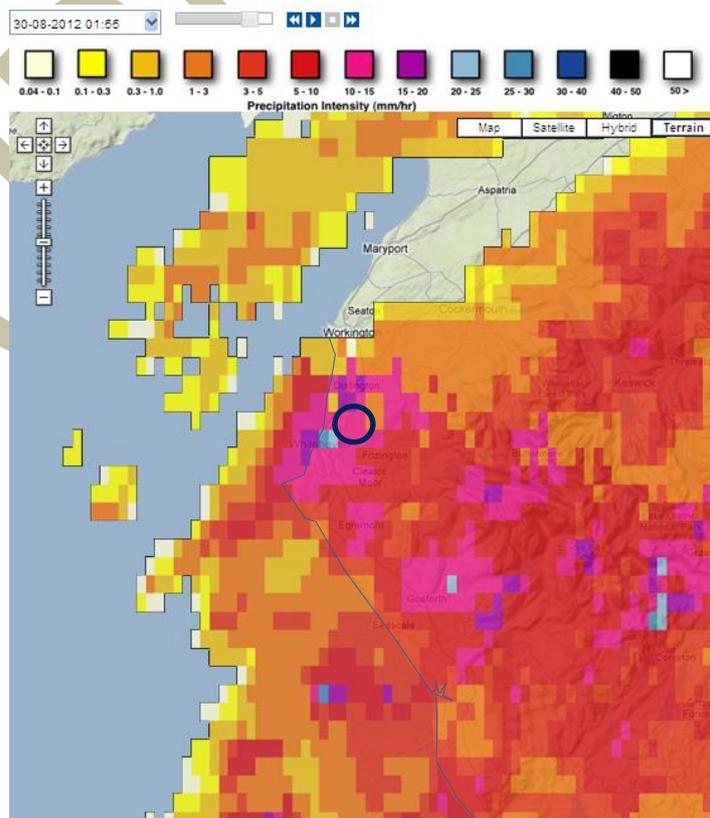


Figure 3. Rainfall radar image as the storm passed over West Cumbria and Moresby Parks (circled)

## Likely Causes of Flooding



Figure 4. Map of flooding and drainage.

A culvert carries a watercourse that would naturally flow on the surface. In heavy rain it would be expected that surface water would pool on the low ground surrounding the watercourse. The fact that the flooding actually occurs away from the watercourse shows that conditions have changed. Flooding is more severe and more frequent than would be expected because the surface water has been cut off from the stream, firstly by the culverting of the watercourse, and secondly by changes in the land levels for the creation of the cul-de-sac.

## Flooding History

Flooding has been a regular occurrence and often goes unreported. Notable events occurred here in June and July prior to the August event.

## Recommended Actions

Action by	Recommended Action	How
Riparian Owners	Reconnect surface water with the watercourse.	The field should be positively drained into the culverted watercourse
Resident.	Ensure property is resilient against future flood events.	Consider property level protection measures.

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## Next Steps

CCC as the LLFA will continue to ensure that any actions identified within the actions table of this report are appropriately taken forward by each Risk Management Authority identified. Actions will continue to be prioritised through the Making Space for Water process and monitored through regular meetings of the group. Details of the MSfWG members and summary of related processes are detailed in Appendix 2.

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# Appendices

## Appendix 1: Glossary

### Acronyms

EA	Environment Agency
CCC	Cumbria County Council
LLFA	Lead Local Flood Authority
LFRM	Local Flood Risk Management
MSfW	Making Space for Water

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## Appendix 2: Summary of Relevant Legislation and Flood Risk Management Authorities

The Flood Risk Regulations 2009 and the Flood and Water Management Act 2010 (the Act) have established Cumbria County Council (CCC) as the Lead Local Flood Authority (LLFA) for Cumbria. This has placed various responsibilities on CCC including Section 19 of the Act which states:

### Section 19

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

A 'Risk Management Authority' (RMA) means:

- (a) the Environment Agency,
- (b) a lead local flood authority,
- (c) a district council for an area for which there is no unitary authority,
- (d) an internal drainage board,
- (e) a water company, and
- (f) a highway authority.

The table below summarises the relevant Risk Management Authority and details the various local source of flooding that they will take a lead on.

Flood Source	Environment Agency	Lead Local Flood Authority	District Council	Water Company	Highway Authority
<b>RIVERS</b>					
Main river					
Ordinary watercourse					
<b>SURFACE RUNOFF</b>					
Surface water					
Surface water on the highway					
<b>OTHER</b>					
Sewer flooding					
The sea					
Groundwater					
Reservoirs					

The following information provides a summary of each Risk Management Authority's roles and responsibilities in relation to flood reporting and investigation.

Government – Defra develop national policies to form the basis of the Environment Agency's and Cumbria County Council's work relating to flood risk.

Environment Agency has a strategic overview of all sources of flooding and coastal erosion as defined in the Act. As part of its role concerning flood investigations this requires providing evidence and advice to support other risk management authorities. The EA also collates and reviews assessments, maps and plans for local flood risk management (normally undertaken by LLFA).

Lead Local Flood Authorities (LLFAs) – Cumbria County Council is the LLFA for Cumbria. Part of their role requires them to investigate significant local flooding incidents and publish the results of such investigations. LLFAs have a duty to determine which risk management authority has relevant powers to investigate flood incidents to help understand how they happened, and whether those authorities have or intend to exercise their powers. LLFAs work in partnership with communities and flood risk management authorities to maximise knowledge of flood risk to all involved. This function is carried out at CCC by the Local Flood Risk Management Team.

District and Borough Councils – These organisations perform a significant amount of work relating to flood risk management including providing advice to communities and gathering information on flooding.

Water and Sewerage Companies manage the risk of flooding to water supply and sewerage facilities and the risk to others from the failure of their infrastructure. They make sure their systems have the appropriate level of resilience to flooding and where frequent and severe flooding occurs they are required to address this through their capital investment plans. It should also be noted that following the Transfer of Private Sewers Regulations 2011 water and sewerage companies are responsible for a larger number of sewers than prior to the regulation.

Highway Authorities have the lead responsibility for providing and managing highway drainage and certain roadside ditches that they have created under the Highways Act 1980. The owners of land adjoining a highway also have a common-law duty to maintain ditches to prevent them causing a nuisance to road users.

Flood risk in Cumbria is managed through the Making Space for Water process which involves the cooperation and regular meeting of the Environment Agency, United Utilities, District/Borough Councils and CCC's Highway and LFRM Teams to develop processes and schemes to minimise flood risk. The MSfWGs meet approximately 4 times per year to cooperate and work together to improve the flood risk in the vulnerable areas identified in this report by completing the recommended actions. CCC as LLFA has a responsibility to oversee the delivery of these actions.

Where minor works or quick win schemes can be identified, these will be prioritised and subject to available funding and resources will be carried out as soon as possible. Any major works requiring capital investment will be considered through the Environment Agency's Medium Term Plan or a partners own capital investment process.

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Flood Action Groups are usually formed by local residents who wish to work together to resolve flooding in their area. The FAGs are often supported by either CCC or the EA and provide a useful mechanism for residents to forward information to the MSfWG.

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## Appendix 3: Residents feedback to Draft report

The draft version of this report was issued to the residents of School Brow in July 2013. No feedback was received.

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## Appendix 4: Useful contacts and links

To report flooding: Incident hotline tel: 0800 80 70 60 (24hrs)

Floodline: tel. 0845 988 1188

**Cumbria County Council (Local Flood Risk Management):**

[lfrm@cumbria.gov.uk](mailto:lfrm@cumbria.gov.uk), [www.cumbria.gov.uk](http://www.cumbria.gov.uk), tel: 01228 221330

**Cumbria County Council (Highways):**

[highways@cumbria.gov.uk](mailto:highways@cumbria.gov.uk), [www.cumbria.gov.uk](http://www.cumbria.gov.uk), tel: 0845 609 6609

**Cumbria County Council Neighbourhood Forum:** tel: 01946 505022

[cumbria.gov.uk/sayit](http://cumbria.gov.uk/sayit)

**United Utilities:** tel: 0845 746 2200

**Copeland Borough Council**

[info@copeland.gov.uk](mailto:info@copeland.gov.uk), [www.copeland.gov.uk](http://www.copeland.gov.uk), tel: 0845 054 8600

**Flood and Water Management Act 2010:**

<http://www.legislation.gov.uk/ukpga/2010/29/contents>

**Water Resources Act 1991:**

<http://www.legislation.gov.uk/all?title=water%20resources%20act>

**Land Drainage Act:**

<http://www.legislation.gov.uk/all?title=land%20drainage%20act>

**Highways Act 1980:**

<http://www.legislation.gov.uk/all?title=highways%20act>

**EA – ‘Living on the Edge’** a guide to the rights and responsibilities of riverside occupation:

<http://www.environment-agency.gov.uk/homeandleisure/floods/31626.aspx>

**EA – ‘Prepare your property for flooding’** how to reduce flood damage including flood protection products and services:

<http://www.environment-agency.gov.uk/homeandleisure/floods/31644.aspx>

## Translation services

If you require this document in another format (e.g. CD, audio cassette, Braille or large type) or in another language, please telephone 01228 606060.

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