
# Calderdale Metropolitan Borough Council

Local Flood Risk Management Strategy
**Non-Technical Summary**

June 2016

Calderdale MBC
Westgate House
Westgate
Halifax
HX1 1PS

# 1 Why is a Local Flood Risk Management Strategy Required?

Under the Flood and Water Management Act Calderdale Metropolitan Borough Council has a legal duty to develop, maintain, apply and monitor a Local Flood Risk Management Strategy. This Strategy is a tool to help understand and manage flood risk within Calderdale using a catchment based approach. Its principal aims are to tackle local flood risk including flooding from surface water, groundwater and ordinary watercourses. However, in Calderdale flooding from Main Rivers, canals and reservoirs create complex and interconnected sources of flooding so this Strategy considers all flooding.

# 2 What is The Purpose of The Strategy?

This document represents the single strategic overarching plan for the River Calder and all other watercourses in Calderdale. It relies on and draws from other subsidiary documents provided by partners such as Yorkshire Water (YWS) and the Environment Agency (EA). These organisations are of critical importance to supporting CMBC in the development of a single focussed approach to flood risk and response to flooding across the communities.

In view of the significance and severity of flooding, and the frequency of repeat events, CMBC will seek to work at the heart of best practice on flood management to mitigate the risk of loss of life and avoid a repeat of such major events that impact our local businesses, economy, schools and crucially the homes and communities within Calderdale. This will require support into and leadership within relevant organisations.

# 3 What is The Strategy About?

The Strategy is about setting objectives, measures and actions to manage and reduce flood risk with a particular emphasis on ensuring active intervention and practical action takes place.

# 4 Flood Risk in Calderdale

The winter 2015 floods were the latest of many to have hit Calderdale. During the summers of 2012 and 2013 there were four major floods in Calderdale. In 2012 more than 900 properties and 253 businesses were flooded. The Upper Calder Valley was cut off and the main trunk road up the valley and the Leeds to Manchester rail link were impassable.

On Boxing Day 2015, Calderdale was the UK's worst affected Borough from flooding following sustained and heavy rainfall. Todmorden, Walsden, Hebden Bridge, Mytholmroyd, Sowerby Bridge and Elland were all struck by serious flooding. Over 2,000 homes in the Calder Valley were badly affected and over 1,000 businesses were also hit. Bridges at Elland and Mytholmroyd collapsed disrupting communications. Several electricity sub-stations failed causing power cuts across the valley. No lives were lost but that is probably due to the fortunate timing of the flood striking over the holiday period when schools and businesses were closed. The flood was the worst in living memory.

# 5 Types of Flood Risk in Calderdale

Historic flood events have proven that the nature and extent of flooding in Calderdale is as a result of a complex interaction of different sources of flooding. These sources include the following:

**Groundwater flooding** - flooding that occurs when levels of water in the ground rise above the surface.

**Surface Water flooding** - is flooding caused by high intensity rainfall ponding on hard-standings or soils with low infiltration.

**Sewer flooding** - is flooding that occurs when the capacity of sewers is exceeded.

**Ordinary watercourse flooding** – Flooding from all watercourses not designated as Main River. An ordinary watercourse includes all rivers and streams, ditches, drains, cuts, culverts, dikes, sluices, sewers (other than public sewers within the meaning of the Water Industry Act 1991) and passages, through which water flows.

**Main River Flooding** – Flooding from Main Rivers, which are larger streams and rivers or smaller watercourses of strategic importance. A Main River is defined as a watercourse marked as such on a main river map available from the Environment Agency.

**Highway Flooding –** Flooding of the highway as a result of discharge of flows on to the highway or overwhelmed drainage infrastructure. Flooding from the highway can occur where adjacent properties are at a lower elevation.

# 6 Roles and Responsibilities

While Calderdale MBC is the Lead Local Flood Authority (LLFA) for the Calderdale area, there are several other authorities (known as Risk Management Authorities) that have a role in managing the risk of flooding from different sources, so working together is an essential part of this strategy. The responsibility areas for sources of flood risk of each partner are shown in the illustrations below.

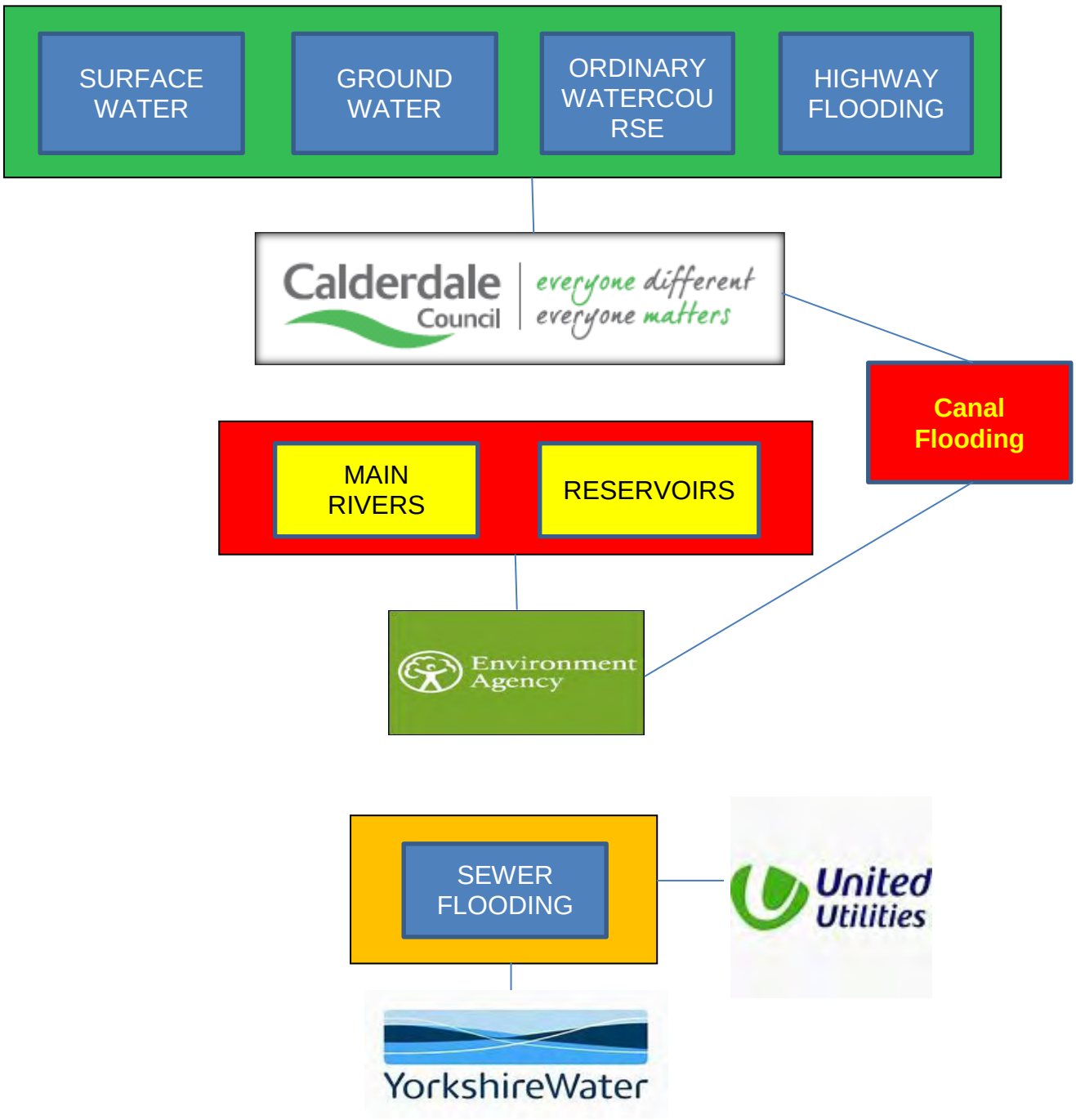


**Figure 6.1 – Roles and responsibilities**

# 7 Partnership Working

Flood recovery and resilience is delivered in Calderdale by the Calderdale Flood Recovery and Resilience Programme, which is a programme based on working in partnership with a range of stakeholders. The programme brings together a number of partners including the Council, the Environment Agency, Canal and River Trust, local flood groups, Yorkshire Water, Network Rail, and the voluntary sector. The aim of the partnership is to work together to substantially reduce the impact of flooding in Calderdale as well as supporting the local community to build its resilience against future flood events.

The delivery of the Programme is ensured by a Programme Board, Core Senior Officer's Group, four Operational Groups and a crosscutting Communications sub group, as shown in Figure 7.1 below:

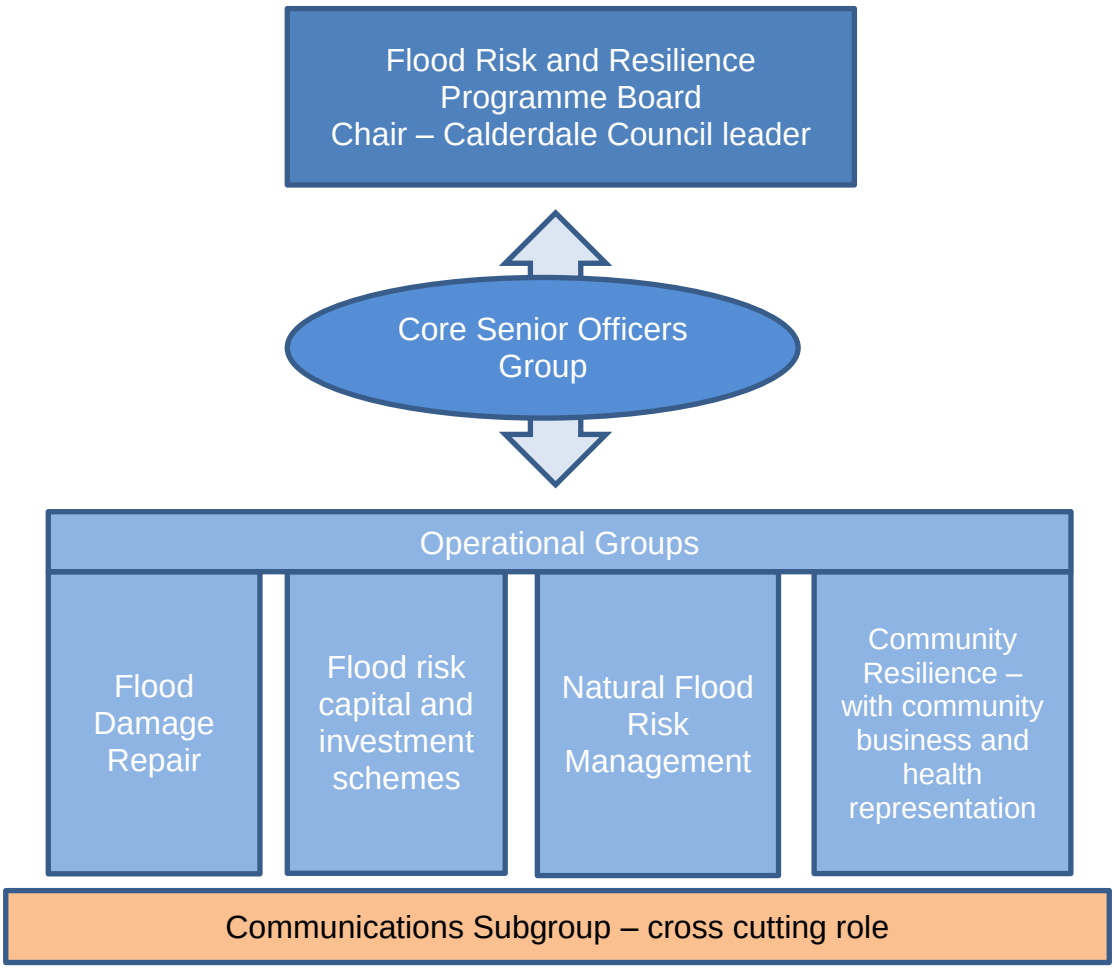


**Figure 7.1 - Flood Risk and resilience Programme Board**

# 8 Strategy Objective Measures & Actions

## 8.1 Strategy Objectives

The Strategy has been based on four principle objectives:

- Build a better understanding of local flood risk issues from all sources.
- Actively reduce flood risk.
- Manage and reduce residual flood risk.
- Improve preparedness to flood events.

## 8.2 Strategy Measures & Actions

The following tables summarise the measures and actions for each objective.

| **Objective** | Build a better understanding of local flood risk issues from all sources |
|---|---|
| | |
| **Measure** | Build a Comprehensive Asset Data Register |
| **Proposed Actions** | |
| • Update and expand the asset register to include all potential flood defence assets.<br>• Identify high risk culverts, watercourses, highway drains and other drainage assets, structures and locations. Designate critical assets as required.<br>• Use asset management techniques to improve the long term performance of Flood Risk Management Assets.<br>• Review and improve data collection and recording from all sources. | |
| **Measure** | Improve Understanding of Existing Flood Risk |
| **Proposed Actions** | |
| • Work with the EA mapping teams to add local data to surface water flood risk maps to counter inappropriate national modelling assumptions.<br>• Complete Surface Water Management Plans for the whole borough reflecting flooding priorities.<br>• Continue to develop integrated models of surface water sewer and watercourse flooding for at risk locations in Calderdale.<br>• Improve understanding of flood risk, weather patterns, flooding mechanisms and flow paths to inform development of solutions using all available 'tools.<br>• Determine appropriate responses to the risks. | |

- Improve recording of flood incidents and protocols for undertaking investigations.

| **Measure** | Strategic Environmental Assessment |
|---|---|

**Proposed Actions**

- Carry out an SEA which delivers the ambition of the Environment and Infrastructure Project Board.
- Develop and maintain a Strategic Environmental Assessment (SEA) for flood risk management.
- Liaise with the EA, CMBC Environmentalists and other partner organisations to ensure that the document is practical and fit for purpose.

| **Objective** | Actively reduce flood risk |
|---|---|

| Measure | Increase Critical Infrastructure Resilience |
|---|---|

Proposed Actions

- Improve resilience of key utility infrastructure to flood risk.
- Liaise with Network Rail to develop measures to improve resilience of the Leeds to Manchester railway route to flood risk.
- Investigate measures to improve resilience of the main highway routes in Calderdale, in particular the A646 trunk route in the Upper Calder Valley.
- Encourage YWS to develop schemes to prevent sewer flooding wherever network deficiency is identified.
- Encourage utility owners to promote flood resilience of their key assets at flood risk.

| Measure | Implement Robust Development Control Procedures |
|---|---|

Proposed Actions

- Establish a robust local plan and policies Supplementary Planning Document to support flood risk management.
- Identify CDAs so surface water drainage is a key feature of planning decisions.
- Work with Development Control Section to review planning controls, Ordinary Watercourse Consent, SuDS enforcement and ensure policies are implemented fully.
- Ensure land allocations in the local plan include all potential functional floodplain (washland) areas.

| Measure | Improve Asset, River and Habitat Maintenance |
|---|---|
| Proposed Actions | |
| • Develop regular maintenance programmes of critical assets to reflect flood risk management priorities<br>• Encourage other RMAs, partners, stakeholders and riparian owners of critical and non-critical assets to carry out appropriate maintenance<br>• Identify and implement improved river and habitat management in the Calder Valley<br>• Establish stakeholder objectives by working with EA, flood groups and community organisations.<br>• Help build local capacity to commission and deliver work.<br>• Implement strategies in partnership with interested organisations. | |
| Measure | Improve Upland Catchment Land Management |
| Proposed Actions | |
| • Develop a land management strategy that will potentially reduce upland runoff.<br>• Develop initiatives with land and asset owners to implement natural flood management schemes to maximise water retention, storage and slow flows.<br>• Develop a management protocol for upland catchments that maximises flood alleviation benefits for the downstream catchment. | |

| **Objective** | Manage and reduce residual flood risk. |
|---|---|
| | |
| Measure | Deliver the Calderdale Flood Investment Plan (FIP) |
| Proposed Actions | |
| • Progress years 1 and 2 of the FIP with funding already secured.<br>• Continue to develop the FIP through present and future phases and iterations.<br>• Manage funding secured from central government to deliver Flood Risk Management schemes in a cost beneficial manner.<br>• Investigate sources of capital match funding to support the medium and long term objectives.<br>• Ensure that Calderdale is represented at West Yorkshire Flood Risk Partnership and RFCC meetings at which programming is discussed. | |
| Measure | Improve Management of Surface Water Flows |
| Proposed Actions | |
| • Investigate channelling surface water flows to designated low risk runoff routes | |
| Measure | Determine scheme priorities |
| Proposed Actions | |
| • Use all available data across RMA and stakeholders to establish guidelines for determining scheme priorities for areas of greatest need.<br>• Complete timely applications for entry to the EA Medium Term Plan for all identified proposals.<br>• Have regard to the accrual of benefits rules which apply to Flood Defence Grant in Aid partnership funding to avoid ‘double counting’ of scheme benefits. | |

| **Objective** | Improve preparedness to flood events. |
|---|---|
| | |
| Measure | Test and Improve existing warning systems |
| Proposed Actions | |
| • Existing flood warning measures will be improved by extending the rain gauge network, using telemetry, use of CCTV network, Flood Forecasting Centre and available data.<br>• Ensure that the current flood response plans and other multi-agency plans continue to be reviewed and updated to reflect legislative changes. | |

| Measure | Improve community resilience |
|---|---|
| Proposed Actions | |
| • Build relationships with the Flood Action Groups in the upper Calder valley to ensure their work is aligned with the strategy.<br>• Ensure legacy outcomes from the Defra Community Flood Resilience Pathfinder programme support the strategy.<br>• Work with communities that are part of the EA's Flash Flood programme in Luddenden, Sowerby Bridge and Brighouse, to ensure their work is aligned to the strategy.<br>• Promote measures for property level protection, building on the work done during the Defra Pathfinder Programme. | |
| Measure | Risk management authorities and stakeholders |
| Proposed Actions | |
| • Maximise liaison with RMAs and emergency services.<br>• Encourage sharing of data to improve understanding of flood risk. | |
| Measure | Improve Communication during and following a flood event |
| • Communicate risk, warning and preparedness to all stakeholders and encourage self-help<br>• Communicate information on flood risk in simple non-technical language that can be understood by both partners and stakeholders.<br>• Continue to develop the community-led web portal, Eye on Calderdale.<br>• Review plans for communicating information before, during and after events.<br>• Encourage and assist private owners to be prepared for flood events. | |

# 9 Calderdale Staff Resources

The core functions Local Flood Risk Management Strategy will be delivered by the following staff at Calderdale:

- **Flood risk manager** - responsible for: implementation of the Strategy, overseeing the team's activities, managing external consultants, liaison with external risk management authorities and Calderdale stakeholders.

- **Four flood risk and drainage engineers** (two engineers plus two assistants) - responsible for: reviewing flood risk assessments and drainage studies, land drainage investigations, flooding reports, land drainage designs and advice on property level protection measures.
- **Flood risk asset manager** - responsible for: upkeep of the flood risk data asset register, integrating output from surface water management plans and other studies into the database, prioritising flood risk assets and flooding hotspots, development and updating of asset maintenance schedules and mapping of assets in geographical information systems.
- **At least two civil engineers** - responsible for: delivering the flood risk reduction schemes and the contractual management of design and build consultants during the implementation phase
- **Strategic partnership manager** - responsible for: liaison with external stakeholders, educating landowners and completion of funding applications for schemes.
- **Natural Flood Risk Management Project Officer** - responsible for natural flood management initiatives within Calderdale.

.

The above team will be supported by Civil Engineers responsible for delivering Flood Risk Resilience Schemes and supervision of design and build activity.

# 10 Funding

The following table summarises the finding available for Calderdale to help deliver the Strategy.

| Funding Amount | Source | Purpose |
|---|---|---|
| £24.970m | Capital Grant for flood repairs approved by the Department for transport | Repair of infrastructure damaged by Boxing Day Floods |
| £1.375m | CMBC approved Capital resource | Current flood defence resources approved by the Council to deliver the FRRS 1 programme. |

| | | |
|---|---|---|
| £3.0m | CMBC approved Revenue funding. | To provide immediate support to deliver recommendations contained in the Council's Strategy. |
| £9.0m | Capital Grant for flood repairs provided to the EA. | To repair flood defences and remove debris following winter 2015 flooding. |
| Potential Funding | | |
| £5 million | Share of £40 million Government Emergency Relief Fund that may be available for the Yorkshire Region. | Deliver the recommended flood defence works within the "Mytholmroyd plan". |
| £14.6 million | Current Defra Flood Defence Grant in Aid contained within 6 year capital investment plan for Calderdale Flood Recovery and Resilience Programme. | For delivery of FFRS 1, 2, Hebden Bridge, Brighouse and Mytholmroyd. |
| £35 million | HM Treasury Special Grant that may be available to the Council or one of our partners. | Potential Flood recovery grant for delivery of FRRS 1 and FFRS 2, Hebden Bridge and Mytholmroyd |
| Total Approved and Potential Capital and Revenue Funding £92.945m | | |

This significant level of funding places Calderdale in a position to deliver most of the Strategy objectives.