

Cabinet

16 November 2011

Surface Water Management Plan

Key Decision NS/10/11



Report of Corporate Management Team

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Purpose of the Report

- 1 To update members of Cabinet on the progress of the content of the Surface Water Management Plan (SWMP).

Background

- 2 The SWMP has been produced to look at the sources of surface water flooding in the County Durham area and considers the most effective methods by which to manage the risk of surface water flooding. The plan provides a strategic approach whereby key local partners, such as Northumbrian Water Limited, Environment Agency, developers/landowners and the Council, with responsibility for surface water and drainage can work together.
- 3 Defra identifies four distinct phases involved in the preparation of a SWMP as detailed below. The first three relate to undertaking the study and the final to the implementation phase of the plan itself.
 - **Preparation Phase:** Includes partners setting the objectives and scope of the study.
 - **Risk Assessment Phase:** Includes the collating and analysing of information to identify areas at greatest risk of flooding and the use of modelling techniques to assist in the understanding of the causes of flooding and to test mitigation measures.
 - **Options Phase:** Where specific measures to manage the risk of flooding are identified/assessed and preferred options are agreed with partners.
 - **Implementation Phase:** Includes the preparation of an agreed action plan based on the evidence gained from the SWMP study and implementation/review of the plan.
- 4 Surface water flooding can include the following.
 - Water runoff as a result of high intensity rainfall before it enters the underground drainage network or watercourses (known as pluvial flooding).
 - Flooding from groundwater discharging at the surface.

- Sewer flooding, when the capacity of underground systems is exceeded due to heavy rainfall, flooding from open-channel and culverted watercourses.
- 5 AECOM Limited were commissioned by Regeneration and Economic Development to develop the SWMP both to influence planning policy and to satisfy the needs of the Flood and Water Management Act 2010. The outputs of the report will address the following.
- Influence the Local Development Framework (LDF) land allocations.
 - Control drainage.
 - Inform flood risk management measures.
- 6 Ultimately, the SWMP will form the basis of an action plan to manage surface water risk in areas of Durham County which are susceptible to surface water flooding and should determine or influence matters such as the following.
- The level of capital investment required to reduce flood risk.
 - The preparation of drainage maintenance and improvement programmes.
 - Land-use, spatial planning and sustainable drainage options for future development.
 - Emergency planning for high flood risk areas.

Partnership Arrangements

- 7 In accordance with Defra's guidance on the preparation of SWMPs, a partnership has been formed between the following.
- Durham County Council (as Lead Local Flood Authority - LLFA)
 - Environment Agency
 - Northumbrian Water Limited (as the water and sewerage company for the area)

Responsibilities of the Partners

- 8 Durham County Council are responsible for flooding as detailed below.
- Ordinary watercourses
 - Surface water run-off
 - Groundwater
 - Highway drainage

In Durham County Council's duties identified by the Flood and Water Management Act 2010, as Lead Local Flood Authority, Durham County Council are responsible for working with partners in investigating significant flooding events and reporting findings. With respect to Durham County Council's duties on the coast, under the 1949 Coast Protection Act, Durham County Council have permissive powers and duties in connection with the protection of land. These duties include the following points.

- Establish the policy
- Monitor the coastline
- Design and procure works related to the protection of the coastline. Durham County Council holds a small budget for maintenance works on the coastline. Applications can be made to the Environment Agency for large schemes and study works whereby funding can be obtained from a national source.
- Maintain coastline works and structures

9 The Environment Agency are responsible for flooding from the following areas.

- Main rivers
- Critical water courses. An ordinary watercourse is a watercourse that does not form part of a river. A Critical Ordinary Watercourses (COWS) is a subdivision of an ordinary watercourse responsibility for which lies with the Environment Agency. COWS are watercourses that have been identified as having the potential to put property and health at risk if they flood. A number of examples are detailed below.
 - Smallhope Burn at Lanchester
 - Howden Beck at Howden le Wear
- Flooding from the sea
- Body for reservoirs

The Environment Agency have published a main rivers map on their website that identifies all of the water courses they are responsible for. The Environment Agency are also responsible for building, maintaining and operating flood defences on main rivers along with issuing flood warnings to the public. The Environment Agency publish a three day flood risk forecast on their website to inform the public and other bodies of potential flooding risks.

10 Northumbria Water are responsible for attending to and investigating the following flooding issues.

- Foul sewers: These are sewers that convey dirty water from a point of source to a treatment plant. The pipes can become blocked and cause flooding to property and land with raw sewerage.
- Surface water sewers : These are sewers that convey storm water via a drain to the nearest watercourse or combined sewer.
- Combined sewers : These are old sewers where both foul sewer and storm water are conveyed in the same pipe. During times of storm these pipes can become inundated and discharge their contents onto streets, highways and properties.
- Water mains
- Clearing blockages in sewers on their network

Since 1st October 2011, as part of the gradual enactment of the Flood and Water Management Act 2010, Northumbrian Water have taken responsibility for approximately 13,500kms of private sewers in addition to their existing 16,000kms of sewer network.

11 Each partner has actively engaged in the SWMP process, working together in co-operation and sharing information with all partners openly. Decisions made by the partnership, in respect of the plan and its implementation, will also affect

other stakeholders such as riparian owners, adjoining Local Authorities, developers and, of course, members of the public. Indeed, stakeholders themselves can assist the process, through the provision of local knowledge and information, and the partners must decide how and when to engage with them as the process evolves. Options available are detailed below.

- Key stakeholder meetings
- Public consultations
- Regular meetings between the partners

12 On a regional basis there are four partnership arrangements that form the Northumberland River Basin district, these are detailed below.

- Tees Valley
- Northumberland
- Tyne and Wear
- Durham County Council

Current Situation

13 The SWMP is a high level, strategic document, which serves as a starting point for the Partners to address surface water flood risk across County Durham and contribute robust evidence to support the core strategy. A holistic approach has been undertaken to address the surface water flood risk to existing and proposed development, assessing surface water flooding from sewers, drains, groundwater, and runoff from land and small watercourses that occur as a direct result of heavy rainfall.

14 The objectives of this SWMP are detailed below.

- Guide limited resources to critical areas of greatest need (existing development).
- Ensure the level of future development does not exacerbate existing problems and identify opportunities for new development to provide benefits in terms of flood risk management.
- Inform emergency planning and feed into Durham County Council's Flood Plan.
- Protect and improve water quality in accordance with the objectives of the Water Framework Directive (WFD).

15 The risk assessment identified 139 surface water risk areas (SWRA) across the County and prioritised the risk. As part of the options phase, 9 SWRA's were deemed the areas of greatest need, with measures identified by which the surface water risk can be mitigated, and analysed in terms of their suitability and practicality. Action plans have been developed by which the partners can work together to manage the risks broadly on a County-wide basis and with the 9 SWRA's.

16 The geographical locations of the SWRA's are identified as follows and are detailed in Appendix 2.

- STA3 - East Stanley/Shield row
- CLS2 – Chester Burn, Chester le Street

- CLS3 – South Chester le Street
- DC1 – Pity Me Durham City
- DC8 – Gilesgate/Belmont/Carrville, Durham City
- BIS3 – Gaunless & Coundon Grange, Bishop Auckland
- NEW1 – Burnhill Way and Industrial Estate, Newton Aycliffe
- CRO1 - Crook
- RAIL1 – Ireshopeburn to Blckett's Gill

- 17 The findings of the SWMP risk assessments need to be disseminated within each of the partner organisations to inform and update (multi-agency) flood plans / severe weather plans and local resilience forum community registers. This might include information on high flood risk areas, roads and access routes likely to be impassable, impacts on critical infrastructure or vulnerable people.
- 18 The SWMP is also an opportunity to formulate co-ordinated improvements in water quality and this has been considered as an integral part of the study. An overview of the strategic water environment in County Durham has been included in order to be able to understand the current water quality status and the role that the SWMP could potentially play to work towards achieving the WFD targets.

Surface Water Risk

- 19 Surface water poses a widespread risk across County Durham, concentrated in the urban areas to the East of the county. There are a number of known incidents which correlate well with the modelled Flood Map for Surface Water and Areas Susceptible to Surface Water Flooding. In some instances, associations have been formulated by local communities in response to flooding.
- 20 Maintenance of man-made natural drainage systems is critical to mitigating the surface water risk as many known incidents are due to inadequate maintenance.

Options

- 21 Preferred options have been identified for each SWRA including source control measures which go hand-in-hand with planning policies and development control measures (refer to section C.4 of Appendix C of SWMP for short-listed measures for each SWRA).

Summary

- 22 Development presents the best opportunities to manage the risk of surface water flooding. For the development sites that progress to the planning process, Durham County Council should encourage developers to, not only address surface water runoff from their site, typically by implementing source control measures, but to realise the potential benefits that can be achieved for the wider area. These measures can be implemented through planning policies and development control. If development sites, situated in areas with a high risk of surface water flooding, are unlikely to progress in the planning process, the partners ought to consider using the sites themselves to provide surface

water management, water quality benefits and green infrastructure opportunities, for example through the creation of wetlands. Where development sites do not offer opportunities to manage the surface water risk, partners will be required to take action themselves to manage the risk, such as retrofit schemes. The partners can also encourage and support individuals / communities to take action themselves.

- 23 Northumbrian Water wishes to limit the volume of surface water entering combined sewer systems. Re-development that manages surface water on site will increase the capacity of the combined sewer networks thereby limiting the risk of sewers surcharging and causing flooding.

Actions

- 24 An action plan has been produced at a County-wide scale and for each SWRA (detailed in Appendix D of the SWMP). The actions from the SWMP should be implemented by the partners to manage surface water flooding, inform emergency planning, control drainage, review Local Development Framework (LDF) land allocations and develop investment programmes, at the same time as satisfying the requirements of the Flood and Water Management Act and contributing to the evidence base supporting the Durham Plan. This will be carried out by the Flood and Coastal Protection Team who will engage partners and seek funding.
- 25 The SWMP is a 'living' document and it is vital that the partners continue to work together after the completion of the SWMP to discuss the implementation of the proposed actions and to discuss progress of any further work or follow up actions which were identified in the preparation of the plans. Durham County Council should review the plans on a regular basis however there are circumstances which might trigger a review and or an update sooner. These may include the occurrence of a flood incident or additional data becoming available, which may alter the understanding of risk within the study area or the outcome of investment decisions by partners which may be different to the preferred option, and lead into a revision to the action plan.
- 26 With reference to the identified actions within the SWMP, Durham County Council have commenced updating the GIS database of known flooding incidents and adding reports of new occurrences. Durham County Council are actively investigating and recording flooding incidents along with establishing systems with other Durham County Council departments to ensure relevant staff are kept as fully informed of flooding incidents as possible. Durham County Council are also collating data regarding the Asset Data Register, this is a register of structures or features that are considered to have a significant effect on flood risk in an area, at a minimum recording ownership and state of repair; the register must be available for inspection.
- 27 Durham County Council are yet to establish a Sustainable Urban Drainage Systems (SUDS) approval body, as Central Government have yet to enact this element of the Flood and Water Management Act or issue the associated guidance.

Finance

- 28 Investment programmes will be developed by the partner organisations and sources of income identified. Defra have recently announced changes in the way flood relief schemes are to be funded and intend to make funding available to more parties however this has the effect of reducing the level of support. Defra believes that an element of the scheme should be supported by the local community. This can be via action groups or Local Authorities.
- 29 Sources of funding are identified as follows.
- Defra
 - Environment Agency
 - Northumbria Regional Flood and Coastal Committee
 - Community Groups/businesses
 - Durham County Council Capital programme (MOWG)

Recommendations and Reasons

- 30 Cabinet are asked to authorise the following.
- To note the progress to date of the SWMP.
 - To agree to the adoption of the action plan contained in the SWMP.
 - To confirm the preparation of the implementation phase and note the financial implications.

Background Papers

- Durham County Surface Water Management Plan, produced by AECOM Limited (including the action plan). A copy is available through the Members library.
- Catchment Flood Management Plan – Environment Agency
- Strategic Flood Risk Assessment – Golder Associates

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Appendix 1: Implications

Finance

Finance for commission of SWMP has been provided by Planners. Please note that there are implications for the implementation phase, the extent of which is yet to be determined.

Staffing

None

Risk

There are significant risks of property flooding if no action is taken.

Equality and Diversity / Public Sector Equality Duty

An equality and diversity impact assessment screening has been completed.

Appendix 3

Accommodation

None

Crime and Disorder

None

Human Rights

None

Consultation

Consultation is ongoing with relevant agencies.

Procurement

Commission has been agreed by Planners and produced by AECOM.

Disability Issues

None

Legal Implications

New duties are supported under Flood and Water Management Act 2010.

Appendix 2

