

# Transport and Environment Committee

10.00am, Tuesday, 1 November 2016

## Surface Water Management Plans

<b>Item number</b>	7.4
<b>Report number</b>	
<b>Executive/routine</b>	Executive
<b>Wards</b>	All

### Executive Summary

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The Flood Risk Management (Scotland) Act 2009 (FRM Act) seeks to promote a proactive approach to Flood Risk Management by identifying areas considered vulnerable to flooding.

Part of this process is the development of Surface Water Management Plans (SWMPs), which is included in the Flood Risk Strategy and the Local Flood Risk Management Plan, and should be completed by 2018.

This report outlines the process to be followed in identifying the vulnerable areas and how to manage the risk.

SWMPs aim to identify options to reduce local flooding and include a realistic action plan to implement, or deliver, the agreed management measures.

Prior to the development of the SWMPs, additional drainage is to be installed at Mid Liberton to help alleviate the existing surface water flooding.

### Links

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<b>Coalition Pledges</b>	<a href="#">P28</a>
<b>Council Priorities</b>	<a href="#">CP12</a>
<b>Single Outcome Agreement</b>	<a href="#">SO1</a>

## Surface Water Management Plans

### 1. Recommendations

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- 1.1 To note the content of this report that SWMPs are to be developed by 2018.
- 1.2 To note that additional road gullies and drainage improvements will be installed at Mid Liberton to alleviate the existing surface water flooding problems.
- 1.3 To approve the use of consultants to develop the SWMPs.
- 1.4 To note the timescales in developing the SWMPs and the installation of drainage at Mid Liberton.

### 2. Background

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- 2.1 The Flood Risk Management (Scotland) Act 2009 (FRM Act) aims to reduce the adverse consequences of flooding on communities, the environment, transport, cultural heritage and economic activity. More thought is to be given to alternative means of reducing flood risk by avoiding the likelihood of flooding through effective land use planning, maintenance and better control/management of runoff.
- 2.2 SWMPs will ensure that mechanisms of flooding are better understood and that funds can be targeted to undertake work to help reduce flood risk. In addition the information on flooding obtained can also be used in the evaluation of future development.
- 2.3 The final draft of the Forth Estuary Flood Risk Management Plan was approved by the Transport and Environment Committee on 7 June 2016. It was requested by the Committee that an update report be submitted in six months time that considers the surface water management plans.

### 3. Main report

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#### Surface Water Management Plans

- 3.1 Surface Water Management Plans (SWMPs) are projects to investigate local flooding issues such as flooding from sewers, drains, groundwater, runoff from land, small watercourses and ditches that occur as a result of heavy rainfall.

- 3.2 The term 'surface water flooding' is often used to describe flooding from high intensity rainfall events that results in flooding. It is distinct from flooding that occurs from larger rivers and the sea.
- 3.3 The general term of surface water flooding is often a complex interaction of many sources of flooding, including flooding from the natural (eg smaller watercourses) and artificial (eg sewers) drainage systems and direct inundation of areas from surface water runoff.
- 3.4 The term surface water flooding includes flooding from the following sources:
  - 3.4.1 Pluvial flooding - flooding as a result of rainfall runoff flowing or ponding over the ground before it enters a natural or artificial drainage;
  - 3.4.2 Sewer flooding and other artificial drainage system flooding;
  - 3.4.3 Groundwater flooding - flooding as a result of raised levels to the water table; and
  - 3.4.4 Flooding from small urban watercourses (including culverted watercourses).
- 3.5 SWMPs aim to identify options to reduce local flooding and include a realistic action plan to implement or deliver the agreed management measures.
- 3.6 It is important that the issue of surface water management is considered holistically to ensure that sustainable cost effective solutions are identified and the flooding is not merely moved to another area.
- 3.7 Benefits of SWMPs include:
  - 3.7.1 Increased understanding of local flooding;
  - 3.7.2 Increased understanding of where local flooding will occur;
  - 3.7.3 An action plan to identify measures to mitigate local flooding;
  - 3.7.4 Increased awareness of the duties and responsibilities for managing flood risk of different partners and stakeholders; and
  - 3.7.5 Improved public engagement and understanding of local flooding.
- 3.8 As the skill base to deliver the SWMPs is not available internally, it will be necessary to appoint consultants. It is intended that a programme will be developed on this basis.
- 3.9 SWMPs will identify the most sustainable range of actions that will manage and reduce flood risk across the City as well as provide details of how mitigation measures may be delivered.

### **Integrated Catchment Study**

- 3.10 To complement the SWMPs an Integrated Catchment Study (ICS) is being undertaken in partnership with Scottish Water, East Lothian Council and Midlothian Council.

- 3.11 The ICS aims to deliver an integrated approach to hydraulically model the combination of flooding from sewers, rivers, seas and surface water. It will include Scottish Water's hydraulic model of the sewerage system with combinations of river, surface water and tidal models and will enable identification of the flood risk from a combination of these sources.
- 3.12 Given the complexity of the sewer system and the types of hydraulic modelling programmes available, it was agreed that Scottish Water would be responsible for carrying out the ICS, with local authorities contributing a proportion of the funding for their area.
- 3.13 The ICS covers the majority of the City of Edinburgh with the exception of Ratho, Newbridge, Queensferry and Kirkliston. It is expected that these areas will be identified for further study as part of the SWMPs.
- 3.14 The ICS Needs Assessment is now complete and the next phase is to identify potential solutions for the areas of surface water flooding. It is likely that this phase will take time due to the complexity and scale of the work. In order to target government funds it will be necessary to complete this by 2018.

#### **Mid Liberton - Existing Surface Water Flooding**

- 3.15 The Mid Liberton Residents Association presented a deputation, in relation to the Forth Estuary Local Flood Risk Management Plan, to the Transport and Environment Committee on 7 June 2016.
- 3.16 The T&E Committee requested that an update report be submitted in six months time that considered possible actions to alleviate flooding.
- 3.17 It had been agreed that additional road gullies and improved drainage would be installed to alleviate the surface water flooding to Mid Liberton. The design has been progressed and work is expected to commence on site before the end of November 2016.

#### **Progress**

- 3.18 Subject to approval by Committee to employ consultants, it is anticipated that the draft SWMPs will be complete within the first cycle of the FRM local plan, with the final reports and recommendations ready by 2018. Where possible measures identified in the SWMPs will be included in the Annual Flood Maintenance Works Programme. If additional funding is required this will be reported back to Committee at that time.

## **4. Measures of success**

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- 4.1 Sources of flooding and the areas at risk, and level of risk, are better understood.
- 4.2 The study will highlight areas for further studies and mitigation measures that could be implemented.
- 4.3 Resources for flood prevention are effectively prioritised and targeted.
- 4.4 Effective partnership working with neighbouring local authorities, Scottish Water and SEPA.

## **5. Financial impact**

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- 5.1 It is expected that the full cost for developing the SWMPs will be met from the annual Flood Prevention Revenue Budget.
- 5.2 Once the solutions to surface water flooding have been identified and prioritised consideration will be given to targeting funding from Scottish Government through Flood Risk Management. A report will be provided in 2018 to advise of funding needs.

## **6. Risk, policy, compliance and governance impact**

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- 6.1 The risks associated with not developing the SWMPs are:
  - 6.1.1 The Council will fail to deliver the actions identified in the Local Flood Risk Management Plan;
  - 6.1.2 It will not be possible to identify vulnerable areas and prioritise a realistic action plan or deliver management measures;
  - 6.1.3 It will not be possible to fully promote a proactive approach to management of flood risk;
  - 6.1.4 Failure to complete the SWMPs by 2018 will result in the Council being unable to target government funds to implement solutions until 2022.

## **7. Equalities impact**

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- 7.1 The developed SWMPs will identify vulnerable groups such as hospitals, care homes and schools that are at risk of flooding.
- 7.2 The SWMPs will allow for a proactive approach for managing flood risk in relation to vulnerable groups.

## 8. Sustainability impact

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- 8.1 The ethos of the FRM Act is to manage flood risk sustainably which requires a long term approach to be taken. It is necessary to improve the understanding of flood risk and its impacts before actions can be planned to manage flooding.

## 9. Consultation and engagement

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- 9.1 In the development of the Forth Estuary Local Flood Risk Management Plan and the ICS, extensive consultation and engagement has taken place with SEPA and Scottish Water.
- 9.2 Internal and external stakeholders have been consulted allowing the collection of information on known areas of flooding.
- 9.3 Further consultation will be necessary as the results of the studies become known and solutions are developed.

## 10. Background reading/external references

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- 10.1 Flood Risk Management (Scotland) Act 2009.
- 10.2 Transport and Environment Committee 7 June 2016 - Forth Estuary Local Flood Risk Management Plan.
- 10.3 Local Flood Risk Management Plan  
[http://www.edinburgh.gov.uk/info/20006/emergencies\\_safety\\_and\\_crime/1433/flood\\_risk\\_management\\_plan](http://www.edinburgh.gov.uk/info/20006/emergencies_safety_and_crime/1433/flood_risk_management_plan)
- 10.4 Scottish Government - Surface Water Management Planning Guidance which is available at <http://www.gov.scot/Resource/0041/00413778.pdf>
- 10.5 Scottish Government - Surface Water Management Planning Guidance (Summary) which is available at <http://www.gov.scot/Publications/2013/02/7909/1>

### **Paul Lawrence**

Director of Place

Contact: Tom Dougall, Maintenance Manager

E-mail: [tom.dougall@edinburgh.gov.uk](mailto:tom.dougall@edinburgh.gov.uk) | Tel: 0131 469 3753

## 11. Links

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<b>Coalition Pledges</b>	P28 – Further strengthen our links with the business community by developing and implementing strategies to promote and protect the economic well being of the city
<b>Council Priorities</b>	CP12 – A built environment to match our ambition
<b>Single Outcome Agreement</b>	SO1 - Edinburgh's economy delivers increased investment, jobs and opportunities
<b>Appendices</b>	None