

## ABERDEEN CITY COUNCIL

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<b>COMMITTEE</b>	Enterprise Planning and Infrastructure
<b>DATE</b>	21 January 2014
<b>DIRECTOR</b>	Gordon McIntosh
<b>TITLE OF REPORT</b>	Flood Risk Management (Scotland) Act 2009 - Progress Report
<b>REPORT NUMBER</b>	EPI/13/245

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### 1.0 PURPOSE OF REPORT

To update the Committee on progress with the Flood Risk Management Plan (FRMP) and the Integrated Catchment Study (ICS) and to reference specific flood protection and drainage initiatives identified for Aberdeen City.

### 2.0 RECOMMENDATION(S)

It is recommended that the Committee:-

Notes:

- 2.1 The content of the report.
- 2.2 That ultimate responsibility for avoiding or managing flood risk still lies with land and property owners
- 2.3 The key outputs which underpin the approach to Flood Risk Management
- 2.4 That local authorities and Scottish Water have a joint responsibility for surface water drainage which can be difficult to unravel.

Approves:

- 2.5 The proposed flood protection scheme for the Denburn.
- 2.6 The establishment of an additional Engineer post to assist with flooding and drainage duties.

### **3.0 FINANCIAL IMPLICATIONS**

The publication of the FRMP (Flood Risk Management Plan) in 2015/16 will create some budget pressures from 2016 onwards.

Grant funding from the Scottish Government is unlikely to be available to Aberdeen City Council (ACC) for at least the first 6 year cycle (2015-21) of the FRMP and therefore actions listed in the Plan will require to be funded from Council budgets and developer contributions (planning gain). There is also the possibility of marketing surface water capacity in regional SUDS (Sustainable Urban Drainage Systems) to developers. Discussions are ongoing with SEPA, Planning and Legal to assess the practicalities of this option. Regional SUDS would be managed and maintained by ACC as part of the integrated drainage network.

Scottish Water is funded through the sewerage charges element of the Council Tax to adopt shared public SUDS systems, there is a danger that local authorities could drift towards a situation where they assume at least part of this responsibility without commensurable funding.

The additional engineer post will be funded from the roads revenue budget. A sum of £210,000 had been identified in the revenue budget to pay ACC's share of the ICS. Approximately £70,000 of the total £500,000 contribution will remain to be paid in financial year 2014/15. It is proposed that the additional engineer post is funded from the residual of the identified sum. The full year impact of the post will be £44,700 (min) – £51,100 (max)

### **4.0 OTHER IMPLICATIONS**

There are opportunities within Aberdeen City to develop flood protection schemes that serve a dual purpose as regional SUDS. These schemes could be built by ACC, on land owned by the Council and 'space' made available either through planning agreements or as commercial agreements, between the Council and developers.

There is also the possibility of developers constructing SUDS/flood protection measures which benefit the City generally but are contained within the footprint of their development. These schemes could be adopted by ACC.

Although publication of the Local Flood Risk Management Plan is some time off (2015/16), there is no reason why ACC should not progress flood protection measures now – especially where these measures fit the key outputs established by the Scottish Government for sustainable flood management. A scheme has been developed for the Denburn. The scheme will provide up to the 1 in 200 year protection level from

fluvial flooding to properties in the Queens Cross/Fountainhall and Mackie Place/Jacks Brae areas. The cost of constructing the scheme is estimated at between £50 -£100k and will be funded from developer contributions.

At present Scottish Water (SW) is responsible for the adoption of SUDS systems, the exception are those which service roads drainage only and are the responsibility of the local roads authority. An initiative by SW and supported by SEPA (Scottish Environmental Protection Agency) is calling on the Scottish Government to urgently review this situation, with, it may be supposed a view to relieving SW of at least some of its responsibility to adopt. This has the potential to create uncertainty regarding the future of SUDS systems and may leave local authorities with additional responsibilities and costs which will not be budgeted for. A working group has been set up within Society of Chief Officers of Transportation in Scotland (SCOTS) to review the situation and advise COSLA. If some of Scottish Waters obligations are to be transferred to local authorities then there would be funding issues. – at present Scottish Water is funded through the sewerage charges element of the Council Tax to adopt SUDS.

## **5.0 BACKGROUND/MAIN ISSUES**

Flooding is a natural process which cannot be prevented entirely, but it can be managed to reduce its social and economic consequences and to safeguard the continued functioning of services and infrastructure. Some locations are already susceptible to intermittent flooding and climate change is expected to worsen the situation. Inadequate drainage infrastructure also increases the risk of flooding.

The Flood Risk Management (Scotland) Act 2009 set in place a statutory framework for delivering a sustainable and risk-based approach to managing flooding. This includes the preparation of assessments of the likelihood and impacts of flooding, and catchment focused plans to address these impacts. By 2015/16 flood risk management plans will be in place across Scotland.

The Scottish Government set out five outcomes in *Delivering Sustainable Flood Risk Management* (June 2011). These outcomes underpin the new approach to Flood Risk Management and are:

- 5.1 A reduction in the number of people, homes and properties at risk from flooding as a result of public funds being invested in actions that protect the most vulnerable and those areas at greatest risk of flooding;
- 5.2 Rural and urban landscapes with space to store surface water and slow down the progress of floods;

- 5.3 Integrated drainage that decreases burdens on our sewer system while also delivering reduced flood risk and improved water environment.
- 5.4 A well informed public who understand flood risk and adopt actions to protect themselves, their property, or their businesses, and;
- 5.5 Flood management actions undertaken that will stand the test of time and be adaptable to future changes in the climate.

Although ultimate responsibility for avoiding or managing flood risk still lies with land and property owners, certain public bodies are expected to take a proactive role in managing and, where achievable, lowering overall flood risk. The Flood Risk Management (Scotland) Act 2009 places a duty on Scottish Ministers, SEPA, local authorities, Scottish Water and other responsible authorities to exercise their functions with a view to managing and reducing flood risk and to promote sustainable flood risk management.

Aberdeen City Council has a statutory duty to work in partnership with the North East Local Plan District (NELPD), SEPA, SW and other responsible authorities to develop a Local Plan for Flood Risk Management – the North East Local Flood Risk Management Plan (NELFRMP)

The NELPD includes Aberdeen City, Aberdeenshire, and Moray Councils, Scottish Water and SEPA. The lead authority for the NELPD is Aberdeenshire. There is both officer and elected member representation on the LPD with one elected member for each authority. The final draft of the Plan will require the approval of each member authority, separately. In the case of Aberdeen City it will be presented to Committee for approval.

Once approved the Plan will list those actions expected to be advanced in the period 2015-21. The Plan will then be revised on a six yearly cycle. Once the list is published there will be a public expectation for action and pressure to take forward the short listed projects. Appendix A gives a flavour of the possible flood protection actions which could appear in the plan. The list has not been discussed with our partners in the LPD and is presented here for information/discussion only. It should be noted that the list includes locations where residential or non-residential properties are at risk – flooding of agricultural land or public parkland will not be addressed through this process unless it benefits the overall flood management strategy – it is more likely that consideration will be given (as per the Scottish Government criteria) to allowing increased (planned) flooding of these areas, where it can reduce the flooding of homes, buildings and businesses.

Major schemes (construction cost estimated in excess of £2.0M and a benefit to cost ratio of 1 or better) with high priority may be eligible for 80% grant funding. At present COSLA has responsibility for distributing

the annual capital grant of £42M for flood protection works. It is understood that the grant is already largely committed for the spending period 2015-21. It is therefore most likely that the Council will require to fund projects from existing Council budgets, with possible contributions from developers taking forward new developments.

Because of the complexity of the integrated catchment in Aberdeen, where the interactive effects of river, surface water, coastal and sewer flooding can be significant, it was considered necessary to commission an integrated catchment study. The project is led by Scottish Water and jointly funded by SW, ACC and Aberdeenshire. The project involves surveying sewers and watercourses, measuring flows and rainfalls and building a computer model of the integrated catchment. The completed model will allow predictions to be made about flooding events but will also serve as a tool for assessing the future needs of the integrated drainage and sewer network. It was intended that the study would be completed in time to inform the NELFRMP prior to publication in 2015/16, and although this is still the aim, delays in commissioning some elements of the work could prevent this happening.

The model will be used to inform the location of flood protection schemes and measures as well as to identify the best locations for regional SUDS schemes.

The Water Environment (Controlled Activities) (Scotland) Regulations 2005 require all surface water from new development to be treated by a sustainable drainage system ( SUDS) before it is discharged into the water environment, except for single houses or where the discharge will be into coastal water. The aim of SUDS is to mimic natural drainage, encourage infiltration and attenuate both hydraulic and pollutant impacts to minimal adverse impacts on people and the environment. Surface water drainage measures proposed as part of a planning application should have a neutral or better effect on the risk of flooding both on and off the site. Where flooding is an issue, SUDS should be designed to mitigate the adverse effects of a storm inflow into the watercourse or sewer.

Local development plans incorporate the legal requirement for SUDS, promote a coordinated approach to SUDS between new developments and set out expectations in relation to the long term maintenance of SUDS. The local development plan would be used to promote the principle of 'regional' SUDS. The general expectation is that Scottish Water should adopt shared public SUDS, however with a handful of exceptions this has not happened. The usual reason given by SW for not adopting a system is that it does not comply with their specification 'Sewers for Scotland'. Scottish Water with SEPA support is now lobbying the Scottish Government for an urgent review of SUDS, creating uncertainty over responsibility for their maintenance. Also of concern is the lack of a national or local register of SUDS schemes, with the possibility that many are forgotten about until such time as

maintenance issues arise. Although the development of regional SUDS planned and managed by the local authority could not replace the existing SUDS arrangements (certainly in the short to medium term), if developed thoughtfully it would allow a degree of management to be exerted over this important element of the integrated drainage network.

Regional SUDS would be designed to create enhanced capacity within the integrated drainage network. Areas of land would be identified as suitable to act as flood plain and engineered to store water at times of intensive rainfall. At present developers are required to design SUDS for a 1 in 30 year return period, plus additional storage up to the 1 in 200 year return period, if the development is within a flood risk area (which a present includes most of Aberdeen). Initially regional SUDS could be designed to accommodate the difference between the 1 in 30 year rainfall event and the 1 in 200 year event. The developer would benefit by requiring less land take within the development for SUDS infrastructure and from the reduced cost of engineering works. Aberdeen City Council would benefit from greater control over the SUDS and drainage infrastructure and also the flood risk management process. Occasional flooding of public open space would occur, but this needs to be offset against the reduced flood risk to homes, buildings and businesses

In 2012 there were three flooding events in the Queens Cross/Fountainhall Road area. A major factor was the Denburn overflowing onto Beaconsfield Lane and Fountainhall Road. As an interim measure a wall of sandbags has been erected along the Denburn at Beaconsfield Lane. In addition feasibility work has identified an area of Council owned park land/open space at Stronsay Drive/Kings Gate as suitable to operate as a detention pond – holding back a large quantity of water at times of exceptional rainfall and preventing flooding downstream. The proposal is to use an area of existing flood plain but allow it to flood to a greater depth. This would be an occasional and short term (several hours) event (it would have happened twice in 2012, but not at all in 2013). Normal flow would be allowed to pass under Kingsgate - higher flows would be restricted. There wouldn't be any new works other than a penstock chamber at the Kingsgate culvert to control flow, possibly some fencing and upgrading of paths.

This detention pond is also suitable to operate as a regional SUDS scheme and developer contributions have been identified as appropriate to fund the scheme. The proposed scheme fits well with the Scottish Government criteria listed. The scheme does not need planning permission, nor is a flood protection order considered appropriate. A CAR (Controlled Activities Regulations) Licence is required from SEPA for engineering work in the Denburn. The scheme would serve as a pilot for future schemes. A location plan is included in Appendix B.

## **6.0 IMPACT**

There will be public reaction to the Plan, both from those who will be expecting flood protection measures to be completed in the first six year cycle and from those disappointed that they have to wait until at least the next cycle.

Some opposition can be expected to the Denburn scheme and other similar schemes.

## **7.0 MANAGEMENT OF RISK**

The list of actions in the FRMP needs to be realistic and deliverable, which may mean that some issues are left and not addressed until later cycles of the Plan.

The Flood Risk Management Act requires the Council to advance projects on the agreed list before addressing new projects. Projects in the first 6 year cycle will need to be funded from Council budgets, developer contributions or if viable by selling surface water capacity in council developed and managed regional SUDS systems.

The workload generated by the Flood Risk Management Act is considerable and will increase over the next few years. There is also a substantial workload associated with drainage issues, which will also increase substantially if regional SUDS are successful. At present one engineer (G14) and one principal technical officer (G13) are allocated to these duties. To allow the service to meet these demands it is assessed that the establishment should be increased with the addition of a second engineer (G14), and that the staffing situation should be monitored with the expectation that future additions to the team will be required.

COSLA should be made aware of the funding implications associated with any change to responsibility for shared public SUDS.

A local public meeting will be held to explain the Denburn scheme and to listen to concerns.

## **8.0 BACKGROUND PAPERS**

**New Flood Regulations – Flood Risk Management (Scotland) Act 2009 – Report to the EP&I Committee 15 March 2011**

**Flood Risk Management (Scotland) Act – Implementation Progress Report – Report to the EP&I Committee, 13 September 2011**

**City Wide Flooding Issues – Report to the EP&I Committee, 6 November 2012** **Flood Risk Management (Scotland) Act 2009 -**

Delegation of Decision Making Powers to Council Officers – Report to EP&I Committee, 29 August 2013.

Local Plan Districts and Potentially Vulnerable Areas, 6 North East - [http://apps.sepa.org.uk/nfra/lpd/pdf/lpd\\_06.pdf](http://apps.sepa.org.uk/nfra/lpd/pdf/lpd_06.pdf)

Flood Risk Management in Scotland, Arrangements for 2012-16 - [http://www.sepa.org.uk/flooding/flooding\\_publications.aspx](http://www.sepa.org.uk/flooding/flooding_publications.aspx)

## **9.0 REPORT AUTHOR DETAILS**

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# Appendix A

## (List of Possible Flood Protection Actions)

The Following list is based upon known flooding hotspots – The five PVA's for Aberdeen are also included at the end of the list  
The PVA information gives the total (actual experienced flooding plus predicted from the National Flood Risk Assessment (under review)).

Priority	Location	Ward	Type of Flooding	Actual or Predicted	Properties Affected	Located Within PVA?	Responsible Authority	Has solution been identified	Suitable for Use as Regional SUDS ?
1	The Merchant Quarter	George Street/Harbour	Sewer and Surface Water	Actual	Non -residential – 6 No	Yes 06/18	Scottish Water (lead)+ ACC	Only partial solution with floodguards	No
2	Queens Cross/Fountainhall	Hazlehead, Ashley, Queens Cross	River and Surface Water	Actual	Residential– 4 No	Yes 06/18	ACC (lead) + Scottish Water	Yes – creation of detention pond + additional road drainage	Yes
3	Culter Mill/The Paddock	Lower Deeside	River	Actual	Residential – 10 No.	Yes 06/19	ACC	No – interim solution may be floodguards.	Possibly
4	Braeside/Deeside Gardens	Airyhall, Broomside, Garthdee	River	Actual	Residential – 2 No.	Yes 06/18	ACC (Lead) + Scottish Water	Yes but need co-operation from Scottish Water	Possibly
5	North Deeside Road at Murtle	Lower Deeside	River	Actual	Residential – 2 No	Yes 06/18	ACC	No – needs investigation	Possibly
6	Langstracht/Summerhill		River	Actual	Residential – 10 Non-Residential -3	Yes 06/18	ACC (Lead) +Scottish Water	Yes – but needs considerable investigation and investment	No
7	Fassiefern Avenue	Bridge of Don	River	Actual	Residential – 2 No	Yes 06/16	ACC	Yes but needs considerable investigation and investment	Yes – major development in the area which will benefit from regional SUDS.
8	North Deeside Road/St Devenicks	Lower Deeside	River	Actual	Residential -2, Non-residential -1	Yes 06/18	ACC	Possible solution – detention pond	Yes
9	Bridge Of Don Barracks	Bridge of Don	River	Actual	Commercial - 1	Yes 06/15	ACC	As per Fassiefern above	Yes
10	Leggart	Kincorth, Nigg and Cove	River	Actual	Residential -1	Yes 06/18	Scottish Water/ACC	No	No
11	Abbotshall Gardens	Lower Deeside	River	Actual	Residential -1	Yes 06/18	ACC	Partial – but exiting drainage system needs to be upgraded.	No
12	East Tullos Industrial Estate	Kincorth, Nigg and Cove	River and Surface Water	Actual	Non-residential - 2	No	ACC	No	Possible
	Aberdeen City – totals for potentially vulnerable areas.								
13	Potentially Vulnerable Area 06/15	Dyce, Bucksburn, Danestone. Bridge of Don. Tillydone, Seaton, Old Aberdeen. Hilton, Woodside, Stockethill. Northfield Mastrick North	River and Surface Water	Actual + Predicted	Residential 475, Non – residential 55	Yes	ACC +Scottish Water		Possible
14	Potentially Vulnerable Area 06/16	Bridge of Don	River, Surface Water and Coastal	Actual + Predicted	Residential 7, Non-residential 2	Yes	ACC +Scottish Water		Possible
15	Potentially Vulnerable Area 06/17	Kingswells, Sheddocksley, Summerhill. Lower Deeside	River +Surface Water	Actual + Predicted	Residential 42, Non-residential 4	Yes	ACC +Scottish Water		
16	Potentially Vulnerable Area 06/18	<b>All wards</b> except Bridge of Don , Dyce Bucksburn and Daneston	River + Surface Water	Actual + Predicted	Residential 641, Non-residential 278	Yes	ACC +Scottish Water		Possible

17	Potentially Vulnerable Area 06/19	Lower Deeside	Coastal River +Surface Water	Actual Predicted +	Residential 184, residential 2 Non-	Yes	ACC +Scottish Water		Possible
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**Appendix B**  
Denburn Flood Protection Scheme  
Proposed Detention Pond at Stronsay Drive/Kingsgate



