



CITY DEVELOPMENT PLAN  
Background Paper 8

Water Environment



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### 1.0 Introduction:

- 1.1 This paper provides background information in support of City Development Plan policy CDP 8: Water Environment, examining, in greater detail, the contextual basis for the Policy.

### 2.0 Background

- 2.1 Climate change predictions suggest that the severity of storm events across Scotland is likely to increase, with an increased likelihood of flooding from pluvial (surface water), fluvial (watercourses such as rivers or burns) and coastal (the Clyde Estuary) sources and, as a result of the interconnectivity of sewerage and drainage infrastructure, an increased likelihood of flooding from sewers also. This can have direct implications for the places, facilities and properties affected but can also impact on biodiversity and health, not least through impacts on water quality.
- 2.2 The Planning system has a key role to play in helping the City adapt to these new circumstances. The City Development Plan can assist in the management of areas at flood risk as well as ensuring that new development is not at risk of flooding or would not increase the risk of flooding elsewhere. It can also help protect land which can contribute to sustainable flood management, including land identified for such purposes through Surface Water Management Plans. In safeguarding land and delivering flood management infrastructure, opportunities exist to improve biodiversity, access and place-setting.

### 3.0 National and International Policy Context

#### EU Water Framework Directive

- 3.1 The Water Framework Directive was introduced in 2000 with the aim of coordinating water environment policy and regulation throughout Europe. The Directive is transposed into Scottish law through the *Water Environment and Water Services (Scotland) Act 2003*. Through River Basin Management Planning (RBMP), it provides a mechanism for the protection, improvement and sustainable use of the water environment and aims, where possible, to restore surface waters and groundwater damaged by pollution, water abstraction, dams and engineering activities to 'good status'. Two RBMPs have been for Scotland, the cross-border Solway-Tweed RBMP, and a Scotland RBMP for the remainder of the country, including Glasgow.

#### Climate Change (Scotland) Act 2009

- 3.2 Section 44 of the Climate Change (Scotland) Act 2009 requires all public bodies to act in the way best calculated to help deliver the Government's climate change adaptation programme. *Climate Ready Scotland*, a draft Scottish Climate Change Adaptation Programme, was produced for consultation in June 2013. It recognises the need for Scotland to adapt to the prospect of increased flooding as a result of climate change.

#### The Flood Risk Management (Scotland) Act 2009

- 3.3 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. SEPA's National Flood Risk Assessment has identified Potentially Vulnerable Areas, where the potential impact of flooding justifies further assessment and appraisal of actions to address flooding. This is being taken forward through Flood Risk Management Strategies (FRMSs) which will set out the most sustainable combination of actions to address flooding in these areas over the short, medium and long term. FRMSs are being prepared for 14, river catchment-based, Local Plan Districts (LPDs) across Scotland, with Glasgow lying in the Clyde and Loch Lomond LPD. SEPA are producing a Flood Risk Management Strategy for

each LPD which summarises the main flooding issues and flood impacts and sets out a vision for how flooding should be managed.

- 3.4 Within this framework, local authorities are to produce a Local Flood Risk Management Plan to take forward the objectives and actions set out in FRMS. It will provide detail on the funding, timeline of delivery, arrangements and co-ordination of actions at the local level. The Local Flood Risk Management Plan requires to be consistent with the FRMS and is to be published by June 2016.
- 3.5 Section 42 of the Act amends the Town and Country Planning (Development Management Procedure) Regulations (Scotland) 2009, with the result that planning authorities require applicants to provide an assessment of flood risk where a development is likely to result in a material increase in the number of buildings at risk of being damaged by flooding.

#### **The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR)**

- 3.6 CAR contains General Binding Rules (GBRs), with GBR10 relating to the discharge of surface water run-off from a surface water drainage system to the water environment from construction sites, buildings, roads, yards and any other built-up areas. For new developments, GBR 10 requires that the site must be drained by a Sustainable Urban Drainage System (SUDS), the only exceptions being if the run-off is from a single dwelling and its curtilage, or if the discharge is to coastal water. SEPA define SUDS as “a sequence of water management practices and facilities designed to drain surface water in a manner that will provide a more sustainable approach than what has been the conventional practice of routing run-off through a pipe to a watercourse”  
[http://www.sepa.org.uk/water/water\\_regulation/regimes/pollution\\_control/suds.aspx](http://www.sepa.org.uk/water/water_regulation/regimes/pollution_control/suds.aspx)

#### **The River Basin Management Plan for the Scotland river basin district 2009–2015**

- 3.7 The RBMP indicates that Scotland’s waters make a substantial contribution to quality of life through providing good quality drinking water, because of their significance for nature, wildlife and recreation and because of the role they play in underpinning the economy. It notes that much of the water environment is already in a good condition, but that there are a number of significant environmental problems, most of these affecting waters around the larger population centres, such as Glasgow.
- 3.8 The RBMP highlights that around 35% of the waters in the river basin district are under significant pressure from human activity and are not in good condition. The RBMP outlines the actions that will be taken to improve such waters whilst protecting those already in good condition, with an overall aim of having 98% in a good condition by 2027. This will require a more co-ordinated and integrated approach than has been the case in the past, involving waters users, land managers and public bodies.
- 3.9 In preparing the LDP, the Town and Country Planning (Development Planning) (Scotland) Regulations 2008 require the Council to have regard to the RBMP relating to the Plan area.
- #### **National Planning Framework 2**
- 3.10 National Planning Framework 2 (NPF2) highlights that the projected increase in flood risk as a consequence of climate change has implications for the siting of new development, the protection of existing development and the safeguarding of cultural heritage. It indicates that improving the quality of the water environment can help to create healthier ecosystems, deliver substantial amenity and recreational benefits and contribute to urban regeneration and that sustainable catchment management measures have an important part to play in providing long-term solutions to problems of flooding.
- 3.11 NPF2 indicates that River Basin Management Plans set environmental objectives for individual water bodies and that planning authorities will have to have regard to them when preparing development plans. A catchment based approach can help slow the flow of water to burns and

rivers by increasing the capacity of natural features such as wetlands, meanders and flood plain woodlands as well as by engineered flood protection structures.

- 3.12 NPF 2 identifies the Metropolitan Glasgow Strategic Drainage Partnership (MGSDP) as a National Development, recognising that substantial improvements in drainage infrastructure and water catchment management are required to reduce flood risk and support regeneration and economic development in Glasgow and especially the east end. It recognises the need for a strategic approach in which drainage and catchment management measures are coordinated with major projects, including the development of the Glasgow and the Clyde Valley Green Network.

#### **Scottish Planning Policy**

- 3.13 Scottish Planning Policy (SPP) recognises that flooding is a natural process but one which climate change is expected to intensify. It states that development which would have a significant probability of being affected by flooding or would increase the probability of flooding elsewhere should not be permitted and indicates that Flood Risk Management Plans should be taken into account when development plans are prepared.

- 3.14 SPP sets out a flood risk based on the probability of a flood occurring. The framework differentiates between sites at little or no risk from flooding (1 in 1000 likelihood of flooding occurring in any given year) through to sites with a medium/high risk, where the annual probability of watercourse, tidal or coastal flooding is greater than 1 in 200. The medium-high risk sites are generally not suitable for essential civic infrastructure and, if built development is permitted, appropriate measures to manage flood risk will be required and the loss of flood storage addressed. The SPP indicates that the settlement strategy set out in the development plans should take account of the potential risks from flooding and set out a framework for safeguarding functional flood plains, indicating when a drainage assessment will be required and indicating when water resistant materials and forms of construction will be appropriate.

- 3.15 SPP further states that LDPs should 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.

#### **Planning Advice Note 61: Planning and Sustainable Urban Drainage Systems**

- 3.16 PAN 61 states that planners have a central co-ordinating role in getting SUDS accepted as an integral part of the development process. Planning policy should set the framework in structure and local plans and in masterplanning exercises. It emphasises the need to apply ecological principles in designing SUDS schemes to facilitate new development and the opportunity that certain SUDS may contribute to satisfying a development's open space requirement.

#### **Planning Advice Note 69: Planning and Building Standards Advice on Flooding**

- 3.17 PAN 60 sets out the responsibilities of local authorities and developers in ensuring that future built development is not located in areas with a significant risk of flooding, including functional flood plains.

#### **Planning Advice Note 79: Water and Drainage**

- 3.18 PAN 79 recognises that the adequate provision of water and waste water infrastructure is essential for communities, businesses and the environment. It must not only meet existing demands and comply with water quality and environmental legislation but be sufficient to allow proposed development to proceed without unreasonable delay. Provision for water and waste water is therefore an important consideration in the delivery of public policy objectives, including those set out in development plans.

- 3.19 To reflect the 2009 Act, the Scottish Government has commenced work on a consolidated Planning Advice Note to replace PAN 61, PAN 69 and PAN 79.

## 4.0 Strategic context

### **Glasgow and the Clyde Valley Strategic Development Plan (SDP)**

- 4.1 The SDP identifies a Green Network as a key component of the Plan's Spatial Development Strategy. The Glasgow and Clyde Valley Green Network is a programme of positive action to address the need for green infrastructure across the city-region, linking urban and rural communities and delivering multi-functional benefits including climate change adaptation and soft infrastructure solutions to flooding.
- 4.2 The SDP goes on to state that securing improvements to water and drainage capacity and water quality as well as reducing flood risk are fundamental in supporting the long term sustainable development of the SDP area. It recognises the key role of the MGSDP and also the role of SUDS and soft engineering solutions to flooding in contributing to the delivery of the Green Network.
- 4.3 The SDP also highlights the importance of maintaining and improving water quality through river basin management planning, and notes that the SDP area is covered by the RBMP for the Scotland river basin district. The SDP area has 67% of its defined water bodies at less than good status.
- 4.4 In seeking to achieve the target of 98% of water bodies at good, or better, status by 2027, the SDP indicates that water bodies currently at good or high status will be protected from deterioration and action taken to enhance and restore the others. The detailed measures are set out in the Clyde Area Management Plan (which supplements the Scotland RBMP) and will require joint working between SEPA, Scottish Water, local authorities and others.
- 4.5 SDP Strategy Support Measure 14 indicates support for the protection and enhancement of the water environment and the reduction of flood risk through the delivery of the MGSDP, the extension of the Green Network, the use of SUDS and the safeguarding of the storage capacity of the functional floodplain.

### **Clyde Area Management Plan**

- 4.6 The Clyde Area Management Plan has been produced to co-ordinate the delivery of the river basin management plan for the Scotland river basin district within the Clyde advisory group area. The Plan covers a wider area than the SDP, and notes that, whilst the overall goal of the Scotland river basin district is for 98% of water bodies to be in good or better condition by 2027, the aim for the Clyde area is to improve 91% of water bodies by 2027. The planning system has a key role in meeting identified key actions, including addressing urban drainage and diffuse pollution through SUDS.

### **Metropolitan Glasgow Strategic Drainage Plan**

- 4.7 The Metropolitan Glasgow Strategic Drainage Partnership (MGSDP) is a collaborative venture between local authorities (Glasgow City Council leading), the Scottish Environment Protection Agency (SEPA), Scottish Water, Scottish Enterprise and others. The Partnership recognises the need for substantial improvements in drainage infrastructure and water catchment management to help reduce flooding and support regeneration and development, whilst improving water quality and the environment.
- 4.8 Work has been undertaken to model the relationships between the City's rivers, sewers and watercourses during normal and storm conditions, which will help identify the most effective flood management and drainage solutions. Solutions include improved surface water management, to prevent the waste water system from being overwhelmed, by diverting into 'green corridors', flood plains or storage areas until a storm passes. A Surface Water Management Study has been prepared to provide direction and guidance on the preparation of Surface Water Management Plans (SWMPs). SWMPs will set out sustainable drainage solutions to for their areas, including measures which will have direct land-take implications.

Such land will require to be safeguarded. SWMPs will act as Supplementary Guidance to the Plan.

## 5.0 Local Context

### **Glasgow City Council Strategic Plan 2012 – 2017**

5.1 The Council's strategic plan was approved in spring 2013. It sets out five priority areas where the Council aims to drive real progress and achievement in Glasgow over the next five years. These are to make sure Glasgow has:

- Economic growth; and is
- A world class city
- A sustainable city
- A city that looks after its vulnerable people
- A learning city.

5.2 The Water Environment policy will help deliver on the first 3 of these outcomes in particular, through facilitating new development, helping protect the existing urban area and promoting more natural forms of flood water management.

### **Glasgow City Plan 2 – The Local Plan**

5.3 City Plan 2 supports a sustainable approach to drainage and flood risk which addresses the removal of development constraints, reduction of flood risk and improvement of both water quality and watercourse habitats. It identifies a role for SUDS and a multifunctional green network as well as the River Clyde Flood Management Strategy (RCFMS), which identifies areas adjacent to the River Clyde where flood risk needs to be addressed.

5.4 These aims are supported by policies on SUDS, Flood Prevention and Land Drainage and Protecting the Water Environment. City Plan 2 also includes a detailed Development Guide on the RCFMS.

## 6.0 Glasgow City Development Plan - The Local Development Plan

### **Monitoring Statement**

6.1 The monitoring statement prepared in support of LDP Main Issues Report analysed the progress that had been made to date on flooding and drainage issues. It noted that, whilst some progress had been made in respect of surface water management studies and increasing the capacity of the Camlachie Burn overflow, capacity constraints with the surface water drainage system and resultant flood risk continues to be a major issue. It stated that these constraints were limiting the City's development aspirations and were a major consideration for the LDP.

6.2 The Monitoring Statement further noted that the Flood Risk Management (Scotland) Act 2009 came into force in June 2009 and that the more sustainable and co-ordinated approach to flood risk management which it introduced would require to be reflected in the LDP.

### **Main Issues Report (MIR)**

6.3 The MIR was published for consultation in October 2011. Issue 5.2 addresses flooding and drainage, with the preferred MIR option being to meet the requirements of the Flood Risk Management (Scotland) Act 2009 through continuing to work with partners in the MGSDP and delivering its objectives through new or revised policy. It indicated that this approach was the best way to deliver a comprehensive approach to flood management across the City, fulfil the requirements of the 2009 Act and maximise green network benefits.

6.4 Issue 6.5 relates to retrofitting the urban environment to help contribute to climate change mitigation and adaptation. In relation to adaptation, it identified a number of potential options, including green roofs and growing roofs and adapting streets to introduce more trees and

other green spaces, providing shade and wind breaks and opportunities for retrofitting SUDS into urban landscapes. The MIR's preference was to investigate options for retro-fitting, and, should this prove feasible, produce policy.

### **Considerations for the Emerging Plan**

- 6.5 Consultation on the MIR identified a wide-ranging support for Issue 5.2's preferred option, but with many commentators requesting further consideration be given to ensuring flood management measures helped deliver wider benefits for biodiversity and active travel. LDP policy CDP 8 has therefore been drafted as one of a series of complementary and interconnected policies dealing with the Green Belt and Green Network, the Natural Environment and Sustainable Transport. Each emphasises the need for the delivery of multifunctional green infrastructure, providing for flood management, sustainable drainage, access and biodiversity.
- 6.6 In relation to Issue 6.5, green roofs are viewed as a key component in the green network, providing a stepping stone for biodiversity in urban areas and helping slow the run-off of water from the built form. The role which they, and the adaptation/design of streets and other public spaces can play in climate change adaptation will be reflected in Supplementary Guidance.

### **7.0 References**

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