



Glasgow City Council

Net Zero City Policy Committee

**Report by George Gillespie, Executive Director of
Neighbourhoods, Regeneration and Sustainability**

Item 1

23rd September 2025

Contact: David Hay

Ext: 78602

FLOOD RISK MANAGEMENT UPDATE

Purpose of Report:

To provide an update on flood risk management and the associated capital investment programme.

Recommendations:

The Committee is recommended to:

1. Note the report.
2. Receive a report on the Property Flood Resilience Pilot.
3. Receive a flood risk management update in September 2026.

Ward No(s):

Citywide: ✓

Local member(s) advised: Yes ☐ No ✓

consulted: Yes ☐ No ✓

1. Introduction

- 1.1. Glasgow is a rainy city, receiving 1370mm of precipitation annually: yet as a motion passed unanimously by Glasgow City Council on 15 May 2025 noted, this obvious fact is not always acknowledged. The motion, titled 'Living with Rain', highlights the publication of the 'Living with Rain – Planning for Everyday Life in Glasgow' report by Dr Hoolachan and Dr Lawson of the University of Glasgow which challenges governments to create a more holistic approach to our city's wetness, increasing resilience and learning to 'live with rain', rather than simply mitigate its effects – especially in a context where climate change increases pressures on existing flood risk management systems.
- 1.2. This motion highlighted "the report's acknowledgement of the way that direct impacts of rain and flooding are taken seriously in the Council's work; likewise the positive impact the widespread adoption of 'Blue-Green' infrastructure like Sustainable Urban Drainage Systems (SuDs) in planning policy across the city", and this update should build on that.
- 1.3. This report provides an overview of the impact of climate change on flood risk and the policy response.
- 1.4. The Clyde and Loch Lomond (CaLL) Local Plan District (LPD) and the Metropolitan Glasgow Strategic Drainage Partnership (MGSDP) were established to consider measures that will reduce the risk of flooding. This report summarises the roles played by both partnerships.
- 1.5. Updates on the MGSDP City Deal, Tidal Clyde, GCC Capital Funding, Property Flood Resilience and Raingarden workstreams are also presented.

2. Impact of Climate Change on Flooding

- 2.1. In the last 12 months, devastating floods have occurred in Valencia, Spain (October 2024) and Central Texas, USA (July 2025). Climate change impacts are forecast to increase the frequency and severity of flooding.
- 2.2. Whilst Glasgow doesn't share the same geography or climate as Valencia and Central Texas, it is likely that in the future, due to climate change, Glasgow will experience flooding at a scale not previously experienced. The 2018 National Flood Risk Assessment estimated 45,000 properties in Glasgow to have a medium risk of being flooded.
- 2.3. The latest Climate change trends and projections for Scotland recently published by Adaptation Scotland reported an increase in rainfall over Scotland in the past few decades. The annual average rainfall in the last decade (2015-2024) was 9% greater than the 1961-1990 average, with winters 25% greater. Scotland has been impacted by at least 60 named storms since 2015 (<https://adaptation.scot/scotland-and-climate-change/climate-change-trends-and-projections/>).
- 2.4. Glasgow is also vulnerable to increased coastal flooding along the Tidal Clyde corridor. Mean sea level around the UK has risen by approximately

18.5cm from the start of the 20th century and the rate of sea level rise has increased over the last 30 years and is likely to continue.

3. Policy

- 3.1. The Scottish Government published the National Flood Resilience Strategy on 18 December 2024, setting out a vision for a flood resilient Scotland through to 2045 and beyond – *‘Our people and places are prepared for increased flooding and we are adapting to a changing climate and creating sustainable resilient places in ways that are inclusive and fair’*. (<https://www.gov.scot/publications/national-flood-resilience-strategy-3/pages/1/>). To be flood resilient we must adapt our places to our future climate. If achieved, our city will look quite different in the future. We will see more space being made for blue-green infrastructure (BGI) to manage water in the urban setting. The retrofit BGI investment in the City Centre Avenues programme is a positive step on our adaptation journey.
- 3.2. Flooding and BGI are also key strands of the Scottish National Adaptation Plan 2024-2029 published on 25 September 2024 - <https://www.gov.scot/publications/scottish-national-adaptation-plan-2024-2029-2/pages/2/> - and the Scottish Biodiversity Strategy to 2045 published on 27 November 2024 - <https://www.gov.scot/publications/scottish-biodiversity-strategy-2045/>.
- 3.3. The preparation of City Development Plan 2 has been supported by a Strategic Flood Risk Assessment. This will allow candidate sites for flood storage to be identified and ensure that future flood risk is considered before any sites are allocated for water vulnerable development.
- 3.4. Audit Scotland published on 28 August 2025 the report ‘Flooding in communities, Moving towards flood resilience’ [<https://audit.scot/publications/flooding-in-communities-moving-towards-flood-resilience>]. This report makes several recommendations relevant to the work of NRS Flood Risk Management. The report also presents the MGSDP partnership and the MGSDP Glasgow City Deal Queensland Gardens project as best practice case studies for collaboration and delivering for communities.

4. CaLL LPD Local Flood Risk Management Plan

- 4.1. The Flood Risk Management (Scotland) Act 2009 established a series of six-year planning cycles. We are currently in Cycle 2 (2022 – 2028).
- 4.2. Several Cycle 1 projects have experienced significant delays and escalating costs. Both GCC projects that received Cycle 1 funding were completed prior to 2022. Due to these wider programme issues, CoSLA and the Scottish Government have agreed not to release any funding for Cycle 2 until cost certainty is reached on the remaining Cycle 1 projects.
- 4.3. The Local Flood Risk Management Plan (LFRMP) is meant to prioritise actions to mitigate the future risk of flooding. As the prioritisation of actions could not be undertaken until the funding arrangements for Cycle 2 were

confirmed, the CaLL LPD Joint Committee agreed to defer finalising the LFRMP.

5. MGSDP

- 5.1. The MGSDP brings together Glasgow City Council, Scottish Water, SEPA, Clyde Gateway, Scottish Canals, Glasgow City Region and other stakeholders to reduce the risk of flooding through multi-functional interventions. The vision, objectives and guiding principles can be viewed at www.mgsdp.org.

6. MGSDP City Deal

- 6.1. GCC secured £40m City Deal funding to deliver a programme that has reduced flood risk and created drainage capacity to support regeneration. The Council has levered in an additional £8.5m funding for this programme.
- 6.2. Practical completion has been achieved on:
- Camlachie Burn Phase 2, including a new open channel on Shettleston Road and a realigned channel at Biggar Street;
 - Cardowan Surface Water Management Plan (SWMP), including daylighting the Whamflett Burn through Blairtummock Park, four flood storage basins, new and enhanced BGI and new surface water pipes to facilitate housing led regeneration;
 - Garrowhill SWMP, including daylighting the Tollcross Burn through Sandyhills Park along its original course, two flood storage areas, diverting road drainage in the Pendeen Road area from the combined sewer to the Tollcross Burn after treatment to reduce flood risk, and creation of new habitat;
 - South East Glasgow SWMP Phase 2, including daylighting the Spittal Burn through Croftfoot Park, two flood storage basins, enhancement of the Croftfoot Primary School playground to provide flood storage, highway raingardens and new woodland planting;
 - Drumchapel SWMP Phase 1, including working in partnership with Scottish Water to create over 60,000m³ in flood storage and reduce the risk of internal property flooding; and
 - Hillington / Cardonald SWMP Phase 1 (Moss Heights – new park with flood storage), Phase 2 (Queensland Gardens – new public realm with flood storage) and Phase 3 (Penilee Park – enhanced park with flood storage).
- 6.3. To complete the programme, interventions are proposed to deliver components of the following surface water management plans:
- Eastern Springburn SWMP including flood storage to facilitate the Red Road TRA;
 - High Knightswood SWMP including flood storage to reduce the impact of sewer flooding at Rotherwood Avenue and Trinley Road; and

- Cockenzie Street SWMP including working in partnership with Scottish Water to create flood storage on the Camlachie Burn downstream from Barlanark Park.
- 6.4. At the suggestion of NatureScot, the MGSDP City Deal programme has been entered into the Nature of Scotland Awards in the Nature and Climate Action category and was announced as a finalist on 10 September 2025.

7. Tidal Clyde

- 7.1. Under the umbrella of the MGSDP, the Council has worked in partnership with SEPA to develop a new 2-D hydraulic model for the River Clyde between Glasgow Green and Greenock. This is the section of the river where peak water levels are tidally influenced.
- 7.2. Discussions are ongoing with SEPA to further develop the 2021 hydraulic model. This will provide an evidence-based platform to inform the development of a long-term Clyde Mission adaptation strategy for the Tidal Clyde corridor.
- 7.3. To facilitate the regeneration of the Tidal Clyde corridor, the Council also developed in partnership with SEPA a set of masterplan principles. This workstream has facilitated planning consents being granted for Yorkhill Quay and the Graving Docks without objections being lodged by SEPA.
- 7.4. The Council and SEPA now meet regularly with other Tidal Clyde local authorities, in recognition of the value gained from adopting a catchment approach.

8. GCC Capital Funding

- 8.1. GCC capital is funding the delivery of the following projects, which are at a range of pre-construction stages from concept design to the issue of construction tenders:
- Camlachie Burn Phase 3 to remove the decades of silt build-up in the culvert between Shettleston Road and Biggar Street and install a penstock to activate the Camlachie Burn Overflow;
 - Drumchapel SWMP Phase 2A to increase drainage capacity at the junction of Summerhill Road and Pitmilley Road to reduce the risk of flooding to residential properties;
 - Drumchapel SWMP Phase 2B to create a flood storage basin at Pitmilley Road to reduce the risk of flooding to residential properties;
 - Yoker mains SWMP Phase 1A to divert treated surface water flows into Knightswood Park pond to reduce the risk of flooding to residential properties and help sustain water levels in the pond;
 - Yoker mains SWMP Phase 2A to deliver highway raingardens in the Wykeham Road area to reduce the risk of flooding to residential properties;

- Spittal Burn to realign along Croftpark Avenue a section of culvert in poor condition that currently passes through private gardens;
- Camlachie Burn Phase 4 to improve conveyance capacity upstream of Shettleston Road at the confluence with the Light Burn;
- Battle and Molendinar Burns to improve the structural condition of the culverts to mitigate the risk of collapse and significant flooding; and
- Glasgow's Lost Rivers (Capelrig / Auldhouse & Brock Burns), working in partnership with SEPA, who has provided a Water Environment Fund grant, and East Renfrewshire Council.

9. Property Flood Resilience

- 9.1. There are properties in the city vulnerable to surface water flooding due to intense rainfall where due to the density of development it is unlikely that sufficient flood storage can be provided in the sub-catchment to significantly lower the risk.
- 9.2. For these properties, the implementation of Property Flood Resilience (PFR) measures should reduce the risk of flooding. PFR measures include building products such as flood doors, smart air bricks and non-return valves.
- 9.3. PFR programmes are currently operated by Scottish Water and several other Scottish local authorities.
- 9.4. A PFR pilot for Glasgow is currently under development with the intention that it would be open to both residential and non-residential properties. The pilot is likely to adopt a grant funding model where the level of grant offered reflects the affordability of the PFR products for the building owner.
- 9.5. The PFR pilot is proposed to be funded from an existing flood risk management capital budget. We are also exploring external grant funding for the pilot.

10. Street Raingarden Investment

- 10.1. The 25/26 Council budget included £1.0m capital investment in street raingardens to deliver nature-based flood prevention.
- 10.2. To maximise the value gained from this investment, the proposal is to use some of the fund to link the construction of street raingardens to the social housing programme. This will support Registered Social Landlords (RSL) to obtain Scottish Water approvals by helping to offset any additional surface water entering the combined sewer from the development. The linking of street raingardens to social housing developments also offers the opportunity for the RSL to take on the maintenance of the raingarden. Preliminary discussions have been held with NRS Housing to understand the forward RSL investment programme.
- 10.3. For the street raingarden to support securing a Scottish Water consent, it would be located out-with the housing development boundary but within the

sewer sub-catchment serving the proposed development. This will enable the street raingardens to be located where they deliver a positive impact on the place quality of the local community.

11. Policy and Resource Implications

Resource Implications:

Financial: All activities are funded from existing budgets.

Legal: Legal support continues to be provided to the flood risk management programme for construction contracts, grant agreements and property transactions.

Personnel: Recruitment to bring the Flood Risk Management team back up to complement is ongoing.

Procurement: Technical support and civil engineering construction contracts are normally procured via existing frameworks.

Council Strategic Plan: Specify which Grand Challenge (s) and Mission (s) the proposal supports. Where appropriate the relevant Commitment can also be listed.

Grand Challenge 3 > Mission 2 > Commitment 9. Deliver sustainable urban drainage and promote nature-based solutions to manage flooding and pollution.

Equality and Socio- Economic Impacts:

Does the proposal support the Council's Equality Outcomes 2021-25? Please specify. There is not a direct relationship between the flood risk management programme and the 14 Equality Outcomes.

What are the potential equality impacts as a result of this report?

Flood risk management interventions usually have no significant impact to a minor positive impact.

Please highlight if the policy/proposal will help address socio-economic disadvantage.

Yes, as vulnerability to flooding is increased where households are unable to afford comprehensive insurance cover.

Climate Impacts:

*Does the proposal support any Climate Plan actions?
Please specify:*

The flood risk management programme supports delivery of all the Climate Plan adaptation actions to mitigate the risk of flooding.

What are the potential climate impacts as a result of this proposal?

The flood risk management programme supports adaptation to mitigate the risk of flooding.

Will the proposal contribute to Glasgow's net zero carbon target?

The flood risk management programme seeks to deliver blue-green infrastructure to minimise the carbon footprint of the construction process.

Privacy and Data Protection Impacts:

Are there any potential data protection impacts as a result of this report Y/N

No

If Yes, please confirm that a Data Protection Impact Assessment (DPIA) has been carried out

12. Recommendations

12.1. The Committee is recommended to:

1. Note the report.
2. Receive a report on the Property Flood Resilience Pilot.
3. Receive a flood risk management update in September 2026.