



The Metropolitan Glasgow Strategic Drainage Partnership

The Metropolitan Glasgow Strategic Drainage Partnership (MGSDP) is a collaborative venture between Glasgow City Council, the Scottish Environment Protection Agency (SEPA), Scottish Water, Scottish Enterprise, Clyde Gateway, Clydeplan, South Lanarkshire Council, Scottish Canals, Renfrewshire Council, East Dunbartonshire Council, North Lanarkshire Council and Network Rail. The MGSDP Vision is to transform how the city region thinks about and manages rainfall to end uncontrolled flooding and improve water quality. This vision will be realised through partnership working shaped by the MGSDP Guiding Principles.

Red Bull Neptune Steps Event

On 28 March, Maryhill Locks on the Forth & Clyde Canal rocked to the sound of Neptune Steps - an amazing new swimming event from Red Bull that saw 100 top athletes taking on the challenge of the world's first uphill swimming course over a custom made course of canals and lock gates.

Red Bull Neptune Steps challenged swimmers to take on a 420m sprint-swim up Maryhill Locks, climbing the eight locks that dominate the famous stretch of the canal and tackling various obstacles on their way to the finish line.

Organised by Red Bull and Scottish Canals, the event was the first of its kind to take place on the nation's inland waterways. More than 1700 people turned out on the day to witness the race.

This event is a further demonstration of Scottish Canals actively promoting a reconnection to our waterways, in line with the MGSDP Vision and Guiding Principles, and re-energising this important asset. Further information relating to this event is available on the Scottish Canals website.



Mark Deans, from Glasgow, crowned the first Neptune Steps champion

Flood Risk Management Planning - Another Step Closer to Scotland's First National Plans to Manage Flood Risk

From 22 December 2014 to 2 June 2015 a joint consultation between SEPA and local authorities took place to gain views on the proposed plans for how Scotland will tackle flood risk. The MGSDP area is part of the Clyde and Loch Lomond (CaLL) Local Plan District with Glasgow City Council as the lead local authority. The consultation shared the most comprehensive assessment of flood risk and its impacts ever compiled in Scotland, bringing us a step closer to producing Scotland's first Flood Risk Management Strategies and Local Flood Risk Management Plans.

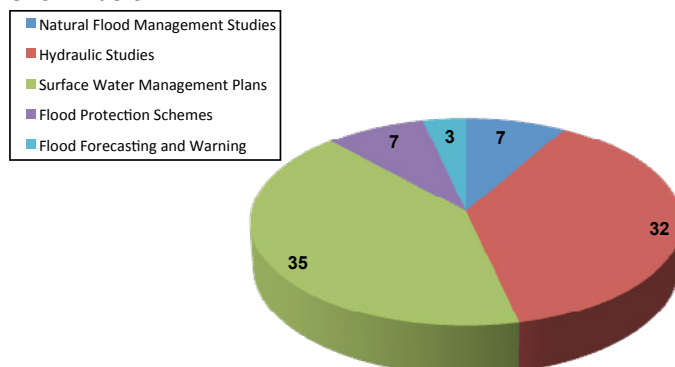
The next step is for SEPA to publish Flood Risk Management Strategies in December 2015 which will outline the most sustainable combination of actions to address flooding in areas at greatest risk and where the benefits of intervention can have the greatest impact. Taken together, the 14 Flood Risk Management Strategies (one for each Local Plan District) will provide a national plan for Scotland. The lead local authority for each Local Plan District will then produce a Local Flood Risk Management Plan in June 2016 which turns the Strategy into a local delivery plan that considers delivery dates, funding and how actions will be co-ordinated. The CaLL Local Plan District will also hold a targeted, non-statutory, consultation of the local delivery plan in late 2015, to help inform the development of the Local Flood Risk Management Plan.

Many of the MGSDP partners are involved in the process

and are responsible authorities as designated in the Flood Risk Management (Scotland) Act 2009. Working in partnership through the delivery of the MGSDP Vision, the flood risk management planning process is helping us to make the most effective use of shared resources and target actions in the areas that will benefit.

Flood risk management actions for each Local Plan District will, typically, range from awareness raising / education, maintenance of existing systems and avoidance of flood risk by appropriate land use planning, through to engineering actions such as hydraulic studies / surface water management plans and, potentially, flood protection schemes being built.

The split of proposed engineering actions for the first cycle (2016 to 2022) for the CaLL Local Plan District is shown below:



Glasgow's Green Year 2015 – From Steam to Green

Through 2015, Glasgow is hosting its very own Green themed year with the management of urban water one of its key themes. The partners within the MGSDP have been supporting this celebration of Glasgow's green evolution as it directly links to the delivery and realisation of the MGSDP Vision. Glasgow's Green Year 2015 aims to champion the city's ambition to be one of the most sustainable cities in Europe and to grow a green economy which supports new jobs and businesses. At its heart will be the celebrations of the 250th anniversary of engineer James Watt's eureka moment on Glasgow Green which sparked the Industrial Revolution. This anniversary is also marked in the full title of the year – "Green Year 2015 - From Steam to Green" – with the city and its citizens embracing an exciting range of events and activities from a Green Maze in George Square to a Green Jobs Fair.

With the emphasis on fun, inclusive yet educational activities, Green Year 2015 has been showcasing the innovation and creativity of our Dear Green Place. Each month of Green Year will bring with it a packed programme of exciting events based around these themes, with something for everyone to enjoy. In April, for example, the monthly theme was "using water

wisely" and the Botanic Gardens in Glasgow's West End became home to a Museum of Water which invited the public to think about the precious resource of water and how we use it and protect it for future generations with the onset of climate change. December will have a theme of "managing urban water" and link directly with the MGSDP Vision and Guiding Principles.

For further information on the many Green Year events in 2015, visit the Green Year website www.greenglasgow.com and on Twitter: @greenglasgow



Aerial view of Glasgow Green

Colquhoun Park Flood Alleviation Scheme, Bearsden, Completed

The Colquhoun Park Flood Alleviation Scheme, first noted in the Winter 2014/15 MGSDP Newsletter, undertaken by East Dunbartonshire Council (EDC) in open recreational area and parkland adjacent to Conon Avenue, Bearsden, was completed in late 2014.

Final landscaping will be undertaken in the summer of 2015 to improve the aesthetics of the works and install a new play park to higher ground adjacent to the north wetland area. The scheme is now in operation and helping to reduce flood risk in the area.

The project, which started on site in September 2014, has established the existing skating pond and former play park as new wetland areas in Colquhoun Park that function as additional flood storage during high rainfall storm events. The works also incorporated local ground raising / bunding to manage exceedence flows above ground.

This project is an excellent example of managing water on the surface, enhancing urban diversity, creating blue-green networks, implementing sustainable drainage solutions and delivering climate-change resilience, in line with the MGSDP Vision and Guiding Principles.



Skating pond awaiting final landscaping



New wetland area awaiting final landscaping

North Renfrew Flood Prevention Scheme Making Good Progress

The final, and largest, phase of the North Renfrew Flood Prevention Scheme is progressing well on site, as shown in the images below, and is currently 3 months ahead of programme. The project is an important element of the Renfrewshire Council strategy for protecting local communities, and is part of an integrated approach to making sure Renfrewshire is properly prepared to cope with the challenges of current extreme weather and future climate change. The current construction contract total of £3.4m is to finalise land raising and construct a large (5,000 litres per second, 13m dia, 10m deep) pumping station on the Mill Burn for a 0.5% annual probability event and tidal surge. The project is required to address the current combined sources of tidal flooding from the River Clyde and flooding, particularly during heavy rain, of the culverted Mill Burn due to tide locking. The project will protect 376 properties that are at risk of coastal flooding.

The current phase started on site in September 2014 and is due for completion August 2015. Earlier phases of the project involved diverting the Mill Burn, constructing nearly a kilometre of earth embankments and dredging more than 10,000 tonnes of contaminated sediment from the ferry dock, which was then in-filled with imported material. When completed, the total value of the scheme will be circa £9.6m.



Aerial view of caisson construction



Caisson excavation jacking

Major Environmental Improvement Project for Springburn

A major environmental improvement project which will tackle sewer flooding in part of the Springburn area of Glasgow was started by Scottish Water in April. The £12.4m investment in improvements to the waste water network will help reduce the risk of flooding in the Elmvale Row area.

A total of 34 properties have experienced recurring problems with flooding for a number of years, including flooding to garages, car parks and roadways. The project is part of a £250 million, five-year programme of work Scottish Water announced in February 2013 which will continue to improve river water quality and the natural environment of the River Clyde, enable the Greater Glasgow area to grow and develop, alleviate sewer flooding and deal with the effects of increased rainfall from climate change, in line with the MGSDP Vision and Guiding Principles.

The new storm storage will include two large circular tanks, which will each be about 25 metres in diameter and 18 metres deep. The tanks, which will be installed in open ground adjacent to Elmvale Row, will provide storage in the combined sewer network to minimise the likelihood of the system surcharging in storm conditions. The project will also include the upsizing of about 400 metres of waste water pipes in Elmvale Row, Elmvale

Street, Ratho Drive, Fernbank Street and Hawthorn Street.

The works are expected to be completed in about two years. This project is part of Scottish Water's 2015 – 2021 Business Plan commitment to remove all customers from the internal sewer flooding register (those with a 10% or greater chance of flooding occurring per annum) as quickly as possible and typically within four years.



Flooding at Elmvale Row, July 2002

New Home for Otters as part of White Cart Project

An important upgrade to the waste water infrastructure in the Cathcart area of Glasgow will improve the natural environment of the White Cart Water.

The £1.2m project, which is part of Scottish Water's ongoing £250m, five-year investment in the Greater Glasgow area's waste water infrastructure, involves the construction of a new Combined Sewer Overflow (CSO) with a screen and pipework at Holmhead Crescent. The investment will improve the natural environment of the White Cart Water where an existing CSO has no screen. The new infrastructure will mean that, in storm conditions when the new CSO discharges into the river, solids will remain in the sewer network.

As part of the project, Scottish Water relocated a number of otters from the south to the north bank of the river before the construction work began. Otters are given protection under the Conservation (Natural habitats) Regulations 1994 as a European protected species and Scottish Water and its contractors were granted a licence from Scottish Natural Heritage to enable the work to be undertaken.

A man-made otter holt on the south bank of the river was replaced by a newly constructed holt on the north bank. Special gates were installed for use in the relocation process to encourage the otters to make the new holt their home. After the otters were moved to their new holt,

and the old one was decommissioned, work started on the construction of the new CSO. The project is due to be completed late this summer.

Allan Dougall, Scottish Water's project manager, said: "Scottish Water takes its environmental responsibilities very seriously and, in accordance with the regulations, did everything possible to protect the otters and avoid them being adversely affected by our work and the new infrastructure. The operation was delicate and took some time, but we are delighted that it has been successful."



Otter holt entrance. Picture by SNS

North Lanarkshire Council joins the MGSDP

The MGSDP is pleased to announce that North Lanarkshire Council has joined the partnership.

David Miller, North Lanarkshire Council – Assistant Business Manager, Roads & Structures Design, said “There is considerable hydraulic interaction across the shared boundary between North Lanarkshire Council and the MGSDP partners, and we are delighted to join the MGSDP and engage in multi-agency strategy planning and delivery of MGSDP Vision and Objectives”.

David Hay, Chair of the MGSDP Steering Group, welcomed North Lanarkshire Council to the MGSDP and said “Delivering the Vision of the MGSDP is a complex challenge and best tackled through an integrated, partnership approach, in line with the Flood Risk Management Act. The MGSDP will only be strengthened through closer working with North Lanarkshire Council

and the sharing of ideas, knowledge and enthusiasm to set and deliver strategic and local objectives”.



MGSDP Vision Implementation Challenges Workshop Held

On 23rd April, key MGSDP stakeholders held a half-day Vision implementation challenges workshop. The purpose of the workshop was to review the challenges of ensuring a consistent and collaborative approach to implementing the MGSDP Vision and Guiding Principles across the range of MGSDP partners.

The workshop was well attended, with all present actively engaging in productive discussion. Updated Scottish Water Development Planning Guidance was noted, and is available via the Scottish Water website here:–

www.scottishwater.co.uk/business/connections

The update to Sewers for Scotland, now the 3rd Edition, was also noted, available here –

www.scottishwater.co.uk/business/connections/connecting-your-property/sewers-for-scotland-and-suds/sewers-for-scotland-v3

Sewers for Scotland is the technical manual that sets out the design and construction standards for drainage systems and SuDS that are to be vested (adopted) by

Scottish Water. The latest version of the manual takes a much stronger line with regard to a presumption against taking surface water into the combined sewer system. A consultation on the next version of Sewers for Scotland is anticipated to commence in autumn 2015.

From the workshop a number of key focus areas were identified for more detailed analysis, and through group review and feedback sessions, the workshop captured a number of actions that will be taken forward in the coming months to clarify and better align partner processes.



Workshop Presentation Session



Workshop Feedback Session

Resilient Glasgow Consultation

In December 2013, Glasgow was named as one of the first 32 members of the Rockefeller Foundation's 100 Resilient Cities (100RC) network. Through membership of the 100RC network, Glasgow is developing a Resilience Strategy that will act as a roadmap to greater resilience, focusing on the capacity of the city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks we experience.

Currently, the city has plans for dealing with individual emergency events, such as major incidents or pandemics, but this initiative hopes to make Glasgow stronger for decades to come. Some of the city's key challenges include extreme weather such as storms and flooding caused by climate change; securing sustainable and affordable energy supplies amid increasing pressure on the national grid; as well as the social and economic conditions that have a major impact on the lives of so many Glaswegians. This initiative focuses on developing people, places and businesses that are more resilient to both acute shocks and chronic stresses.

The city is now embarking on an intensive consultation exercise to fully understand its key resilience challenges and opportunities. The consultation exercise will run from 16 June 2015 to 15 September 2015, and allow for development of a meaningful set of recommendations and actions.

The work of Resilient Glasgow is an excellent example of high impact resilience building in the face of major challenges – bringing together the right people to focus on innovative and practical solutions that deliver massive benefits to Glasgow. The MGSDP will engage in this conversation to ensure the MGSDP Vision and Guiding Principles are delivered through resilience planning and measures, to deliver a future for Glasgow that withstands and grows despite the many inevitable challenges, shocks and stresses the city faces.

To review and comment on the Resilient Glasgow Conversation document, visit

www.glasgow.gov.uk/index.aspx?articleid=15642



For more information on our work to deliver the MGSDP Vision, visit our website at www.mgsdp.org



www.glasgow.gov.uk



www.scottishwater.co.uk



www.sepa.org.uk



www.clydegateway.com



www.clydeplan-sdpa.gov.uk



www.scottishcanals.co.uk



www.southlanarkshire.gov.uk



www.renfrewshire.gov.uk



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