



The Metropolitan Glasgow Strategic Drainage Partnership

The Metropolitan Glasgow Strategic Drainage Partnership (MGSDP) is an innovative and collaborative venture between local authorities (Glasgow City Council leading), the Scottish Environment Protection Agency (SEPA), Scottish Water and Scottish Enterprise that will upgrade and modernise the Glasgow area's drainage and sewerage network, reduce flooding and support urban development requirements while improving water quality and the environment.

White Cart Water flood defences pass first test



Kirkland Bridge storage area in normal conditions on the left and the same storage area on the right with the water level reducing after the flood event in February 2011.

New flood defences in the south of Glasgow have passed their first major test with flying colours.

Their success is great news for the White Cart Flood Prevention Scheme especially as the project, which is being constructed in two major stages, will not be finished and fully operational until the end of this year.

In February 2011, the water levels along the White Cart Water started to rise as a result of a 1 in 10 year storm. But the new flood alleviation controls held back the swollen river.

It is estimated that nearly £3 million of damage would have been done to homes and businesses along the White Cart Water without these new defences.

Officials at Glasgow City Council, which promoted and lead the project, said that all the defences were monitored throughout the flood threat and they worked extremely well during their first "real life" test as expected.

The White Cart, which runs through Busby, Cathcart, Pollok Country Park and Paisley before joining the River Clyde

at Renfrew, is normally a shallow, fast-flowing but placid watercourse.

However, in certain conditions, water can rise more than 20ft in less than 12 hours and become a raging torrent in certain conditions.

Since 1908, the river has inflicted more than 20 serious floods on homes and other properties in the south side of the city.

The £53 million project, which is Scotland's largest confirmed flood prevention scheme, is designed to reduce the risk of flooding at 1750 properties in the south of Glasgow. The scheme was a direct response to the serious flooding of the 1980s and 1990s which caused major damage to hundreds of homes and businesses.

The scheme covers the White Cart Water and its tributaries and involves the formation of three flood storage reservoirs upstream of the city, which are capable of temporarily holding back the millions of gallons of floodwater generated by extreme rainfall.

White Cart Water flood defences pass first test (cont.)

As well as creating storage reservoirs capable of holding millions of gallons of water, engineers have installed devices called “hydro brakes” which throttle back the flow of water, slowing it down and allowing the reservoir to fill up.

Water is then released back into the rivers in a controlled manner once the peak has passed. The hydro brakes being used in the White Cart scheme are the largest in the world.

As well as the new flood storage areas, the scheme includes new flood defences downstream including five miles of new embankment walls.

Once fully operational, the scheme will give those living along the White Cart and its tributaries peace of mind and provide protection from an up to a 1 in 200 year storm.

To find out more visit <http://whitecartwaterproject.org/>



White Cart “hydro brakes” being installed

Camlachie Burn Overflow work progressing

Work on the first phase of Glasgow City Council’s plans to help alleviate flooding in the East End of the city is now well under way.

The Camlachie Burn Overflow (CBO) is a £13 million project to construct a 2.7m diameter flood by-pass channel from the Camlachie Burn at Camlachie Street to the River Clyde.

Many areas within the Camlachie Burn catchment were devastated by flooding in July 2002. The burn was one of the contributing factors in the flooding.

The CBO will create additional capacity in the lower section of the Camlachie Burn and this will allow the development of flood alleviation schemes. The historic lack of capacity has not only caused flooding but hindered the regeneration of the East End.



Work progressing on the Camlachie Burn Overflow project

The flood by-pass channel is being constructed in conjunction with the East End Regeneration Route and sites being constructed for the Glasgow 2014 Commonwealth Games.

Scottish Water has in the past two years also completed significant work which has helped improve the environment in and around the Camlachie Burn.

It also allowed Scottish Water to comply with requirement of the Urban Waste Water Treatment Directive the Urban Waste Water Treatment Directive and the Water Framework Directive.

This work included the installation of a new storm overflow in the car park area of the Forge Retail Park and the abandonment of a storm overflow in Camlachie Street, which involved investment of more than £2m, provided improved screening and ensured a reduced volume of sewage spilled into the Camlachie Burn in storm conditions.

In Greendykes Street near Glasgow Green, Scottish Water installed a static screen at a storm overflow to improve the water quality of the Camlachie Burn in a £400,000 project which was completed in March 2009.

Integrating Green Infrastructure in Glasgow and the Clyde Valley



A SUDS pond at The Sidings, Easterhouse Road, Easterhouse

Developers with construction projects within the Glasgow and Clyde Valley area are being encouraged to consider 'Integrating Green Infrastructure Plans' and deal with the issue of surface water management at the design stage of development projects.

The Glasgow and Clyde Valley Green Network has worked with partner organisations, including the MGSDP, to develop four Integrating Green Infrastructure Design Studies:

- Jackton and the Gill Burn Valley, near East Kilbride
- Cowlares Urban Village, Glasgow
- The Burgh of Pollokshaws, Glasgow
- South West Johnstone, Renfrewshire

The Green Network, and the green infrastructure that helps to deliver the Green Network, must not be an afterthought if sustainable places where people want to live and work are to be delivered. Too often the design process is dominated by road transport considerations at the expense of green infrastructure design elements.

The approach seeks to provide the tools and structures necessary to allow green infrastructure design elements to be weighed alongside the needs of road transportation, based on defensible analysis of existing conditions and opportunities that can be delivered through good design solutions.

Typically, green infrastructure design elements are:

- Water management
- Access networks
- Habitat networks
- Green and open space
- Stewardship over time

Using Integrated Green Infrastructure in planning projects benefits everyone using the development and the space around it.

- For planners: Planning applications that deliver policy: easier assessment of planning applications
- For developers: A clear design brief and provides confidence that proposals meet planning requirements
- For residents: Homes in places where people are proud to live; that encourage active lifestyles; provide havens for wildlife; and manage surface water.

Details of the four Integrated Green Infrastructure plans are available at:

www.gcvgreennetwork.gov.uk/projects/Integrating-Green-Infrastructure/Integrating-Green-Infrastructure-Overview.html

MGSDP approach to flood risk management pleases Scottish Government

In a recent report to the Scottish Parliament on the development of Delivering Sustainable Flood Risk Management under the Flood Risk Management (FRM) Act, the MGSDP was recognised. The report stated that the MGSDP 'continues to embrace a holistic approach to managing surface water, which will reduce flood risk whilst unlocking development potential, improving water quality and allowing residential areas to co-exist with the natural landscape. Based on their experience and previous lessons learnt, the MGSDP has been working with the Scottish Government on the production of guidance on tackling surface water management in a collaborative manner. This guidance will be published in support of the wider sustainable flood risk management guidance.'



Scottish Government drives integrated flood management message

The Scottish Government launched their consultation on 'Delivering Sustainable Flood Risk Management' within the Flood Risk Management (FRM) Act on 18 January 2011. A key section of this consultation was the process of developing 'Integrated Urban Drainage that decreases burdens on sewer systems while also delivering reduced flood risk and an improved water environment'.

Working with key partners, the Scottish Government plans to publish a policy statement on improving the management of urban water environments, and urban drainage, by providing a clear overarching framework. That framework will develop a shared understanding of the roles and responsibilities in tackling surface water flooding problems. This work will link closely with the sustainable flood risk management guidance that is also being developed.

Urban drainage is a complex interaction of piped systems, watercourses, and other features of the urban landscape, like roads and paths, that by design or otherwise perform a drainage function.

It is widely recognised that the Scottish Government, and their agencies, support an integrated approach to urban

drainage that ensures that above and below ground parts of the drainage system work in concert to deliver benefits for flood risk management, the environment and wastewater treatment.

The principles put forward in the consultation to support integrated urban drainage were:

- increase the percentage of new surfaces that are permeable;
- aim to deal with storm water runoff from impermeable surfaces as close to source as possible;
- minimise the amount of drainage going underground as this is often an inflexible solution that cannot deliver wider benefits or be easily adapted to future conditions;
- maximise opportunities to manage surface water before it enters the sewer system;
- design for exceedence by ensuring that the development has flood plains and safe flow paths.

The consultation closed in March 2011 and the results are being reviewed.

MGSDP produces new guidance documents

The MGSDP, through the technical support of the Project Management Office (PMO), has produced three new guidance documents for use by all the Partners.

These guidance documents are intended to improve and streamline the way that the Partners assess and evaluate the cost and benefit of the projects that are being identified through the Development Plan.

The guidance documents are:

- Carbon Accounting Guidelines
- Cost Estimating Guidance
- Climate Change Technical Guidance

All have been produced by industry-leading technical experts from the PMO (the MWH and Halcrow organisations) and provide a robust framework for each partner to utilise existing practices in a way that produces consistent data and enables fair comparison of multiple projects.

Where a Partner does not have access to processes, or elements of the processes, the guidance enables them to fill that gap. It also provides accepted criteria and indices that support the development of projects and costs in the most effective and efficient manner.

The MGSDP believes that these guidance documents are a significant advance to assist in the development of flood management projects and further promotes collaborative working across the MGSDP.

SEPA's Floodline service helps property owners



The frequency of floods has risen dramatically in Scotland over recent years. In fact there are now approximately 100,000 properties at risk from rivers and the sea.

Your property is your responsibility – but help is available. Although the Scottish Environment Protection Agency (SEPA) can't prevent floods from occurring, it can provide you with advance warning about when and where floods from

the rivers and the sea are likely to occur through the Floodline service. Which means that you can take the appropriate action to limit the damage to your home or business.

For more information just call 0845 988 1188 or visit www.floodlinescotland.org.uk/floodupdates, your area even has a dedicated quick dial code so you can go straight to the flood messages relevant for your local area.

Sign up to receive free flood warnings

You can now sign up to receive free messages to your mobile or landline that will notify you when SEPA has issued a flood alert or warning for your area. The messages will direct you to the website or Floodline recorded telephone service for more detailed information on the river or coastal flooding near you. With new user-friendly flood warning symbols and messages that are easier to understand, it will be clear what action you should take to protect your property.

To find out more, visit www.floodlinescotland.org.uk/signup or call 0845 988 1188.

Clyde Gateway wins Scottish Design Award

Clyde Gateway's continuous efforts to transform its neighbourhoods and communities have been acknowledged at the 2011 Scottish Design Awards.

The South Dalmarnock Masterplan, which is Clyde Gateway's vision to take the substantial pieces of vacant and derelict land and create a new neighbourhood incorporating a range of uses including residential, business, industrial, commercial, transport and civic, has been declared the winner of the 2011 Placemaking/Masterplan category.

The Masterplan Design Team was made up of staff from the Glasgow office of the architectural firm Sheppard Robson, working alongside Martin McKay and Alison Brown from Clyde Gateway. As well as setting out suggestions for how

South Dalmarnock might change over the coming years, it also offers suggestions for solving long-standing technical and infrastructure issues including water, drainage and sewerage problems.

Collecting the award at a ceremony held in Glasgow on 19 May, Alison Brown, Clyde Gateway Project Manager for South Dalmarnock, said "This award might have been handed over to the Masterplan Design Team but we could never have won it without the superb input we got from everyone during the consultation process, so it really is one to be shared with people who live and work in the community."

www.clydegateway.com/pages/clyde_gateway_news.php

Visit our website at www.mgsdp.org for more information on our work and previous briefing notes.

For additional information



GLASGOW and
the CLYDE VALLEY
strategic development
planning authority

www.gcvsdpa.gov.uk



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Further update in Autumn/Winter 2011