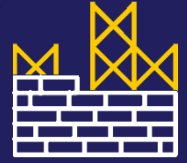




Greener Grangetown, Cardiff

Case Study



Background

Greener Grangetown is an innovative scheme allowing better management of rainwater in the Grangetown area near Cardiff City Centre.

As our natural resources are coming under increasing pressure from climate change, a growing population and the need for energy production, the innovative Greener Grangetown scheme demonstrates a different approach to managing our natural resources. Taking a sustainability led approach to delivery of environmental improvement, considering a natural approach to water management that not only delivers improved infrastructure, but also boosts well-being and wildlife habitats.

Using the latest techniques, this scheme was designed to catch, clean and divert rainwater directly into the River Taff instead of pumping it over 8 miles through the Vale of Glamorgan to the sea; helping to make Grangetown a greener, cleaner place to live.

Delivery

Works delivered as part of this scheme included:

- Site clearance;
- Installing new environmentally friendly drainage;
- Creating and constructing rain gardens;
- Reconfiguration of footways;
- Public realm works;
- Paving works;
- Carriageway reconstruction/resurfacing;
- Road markings;
- Landscaping;
- Traffic/pedestrian management;
- Resident liaison/management.

- New trees, planters, grass channels and kerb drainage.

As a result of the works, the project delivered:

- 42,840m² surface water removed from the combined waste water network
- 1,600m² additional green space
- 495m² new paving
- 135 new trees
- 26 new cycle stands
- 12 bins
- 9 benches



As a first of its kind in Wales, this project was not without its challenges. However, through close collaboration across the partnership delivering this project, consisting of Cardiff Council, DCWW, NRW, Arup and ERH, we were empowered to achieve successful delivery of this prestigious scheme.



Delivered under the South East Wales Civil Engineering and Highways Construction Framework (SEWHF), this project demonstrates our willingness and capability to take on the challenge of constructing innovative

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environmental improvements. It also shows our expertise in the safe and effective management of traffic and the public, working collaboratively with multiple key stakeholders to minimise disruption to key travel routes.

Outcome

In recognition of the innovative SuDS solution and high-quality delivery, this project was awarded the **Engineering Project of the Year in the National Water Industry Awards 2018**, and more recently the **CIRIA Best Large Retrofit SuDS Scheme 2020 Award**.



We were able to explore procurement options to maximise the project sustainability; project successes in this respect included:

- Ordering of granite kerbs for the rain gardens to be manufactured to size, to prevent cutting on site and creation of waste.
- Installing new environmentally friendly drainage;
- Sourcing of lightweight recycled plastic kerbstones with integrated drainage; 6.5kg embodied carbon per unit, compared to 10.5kg for the concrete equivalent.
- Permeable, flexible, recycled tyre paving solution for tree bases, using 180 recycled car tyres.

In addition to the physical work, we also had a public liaison officer on site each day as this was a high-profile, sensitive project in a densely populated area of Cardiff. The local residents were surrounded by the works for a lengthy period of time and needed to be regularly updated, have a place to go to ask questions and understand why we were doing the works in the way we were.

As a result of our effective stakeholder engagement process, despite the challenges of working in a highly populated location, we received several thank you letters from grateful members of the public/residents:

"As a daily cyclist and user of the section of Taff Embankment being worked on for the Greener Grangetown project, I would like to convey my thanks to the contractors involved. I can see this is a very complex project to

manage, particularly due to the various demands for access from residents and the large numbers of daily cyclists passing through.

I want to let you know how much I appreciate the consideration and courtesy shown to me as a daily cycle commuter by the staff working on site, particularly the efforts they have made to give priority to me and other cyclists over site vehicles whenever this has been possible and safe to do so." - Local commuter.

"my neighbours and I feel we should write and commend you and your workforce on the very professional and courteous way you have undertaken the work" - Grangetown residents.

Children from the local Ysgol Hamadryad Welsh primary school were invited by our site team to carry out planting of one of the rain gardens as part of their environmental studies. They learnt about how the plants assisted in breaking down pollutant and improve the water quality going back into the River Taff.



Ian Titherington, Drainage Lead Officer for Cardiff Council provided the following testimonial on completion of the project works: *"superb relationship with the local community in Grangetown, which has paid dividends due to the nature of the project and the challenges of working in a densely populated residential location. Given the technical complexity of the innovative scheme, it is no surprise that there have been challenging issues to overcome. However, **ERH & Centregreat have risen to the challenge, delivered to a high standard and been a pleasure to work with."***

Client: Cardiff Council

Value: £4M

Delivery Period: Nov 2016 – May 2018