

Coldharbour River wall repair ecological enhancement
Isle of dogs - London
Environment Agency

BIG Biodiversity Project of the year: Small Scale Enhancement

Project overview

The river wall at Isle House, 1 Coldharbour, London E14, had been undermined and a temporary solution of concrete sandbags had been installed to prevent further erosion. This temporary solution was removed and toe beam was cast in place with Kyowa bags protecting the foreshore from scour and new fenders installed.

What were the biodiversity conditions on site, prior to the enhancement?

Prior to the enhancement there was a cavity into the wall in the lower intertidal zone along with the concrete bags that provided an area for marine growth. The timber fenders that were to be replaced were partially rotten and provided habitats for marine insects.

What were the reasons behind this project ?

The wall remediation works were designed to improve the intertidal microhabitat through the use of recycled timber fenders predrilled to provide access for marine life. The Kyowa filter units (gabion bags) were also selected as they provide shelter for marine flora and fauna, between the bags and in the voids between the aggregate.



1 Coldharbour Lane wall with temporary repair



Above: 1 Coldharbour lane timber fenders and Kyowa bags installed, predrilled holes visible on the fenders.

What were the biodiversity measures taken?

The learnings taken from the Coldharbour wall repair project will be replicated on the future wall repair projects that will continue to be part of TEAM2100. The Kyowa filter bags and the holes in the fenders have provided new habitats for marine life and surfaces for plants to attach and grow.

The Kyowa bags had previously used on TEAM2100 as part of a similar wall repair and have proved an excellent addition to the environment providing shelter and larger intertidal areas. The bags have a lifespan of 30 years and will provide scour protection during this time. At the end of the lifespan the bags can be removed, the aggregate recycled into new bags and replaced.

The timber that was used for the fenders is recycled green heart from works replacing piers. The oversized timber was cut to size, giving the new appearance, and holes were drilled along the length and on all four sides of the timbers. These holes have been chosen to accommodate for marine invertebrates. The reduced lifespan of the timber fenders, due to the holes, has been considered in the design and as the fenders are only serving an aesthetic purpose.



1 Coldharbour wall repair completed



Close up of holes provided in the greenheart

Further information

The project environmental improvements came about in as part of the larger wall remediation project, as the installation of scour protection and the timber fenders. Environmental inspections, conducted by Jacobs were done at the beginning of the process and at the end of the process to ensure that there was no damaged caused during the repair. The timber fenders were installed and then the holes were drilled into the surface. After the scaffolding was removed the Kyowa bags were installed as the final piece of work.

There has already been marine growth noted on the Kyowa bags after their installation in November of 2017. There is also potential for further enhancements by using recycled aggregates in the Kyowa bags and this has been incorporated into the lessons learnt.

Project Team

- Environment Agency (client)
- Jacobs formerly CH2M (designer)

What was the motivation for carrying out the enhancement?

TEAM2100 as an integrated design team aim to continually improve and enhance the assets of the Thames estuary. By incorporating small and consistent environmental and biodiversity enhancements on our projects we can provide larger benefits for the client in regards to environmental gains.



Close up on the Kyowa bags



Installation of the timber fenders: