SWIG Awards Category	Urban Greening
Project Name	Australia Road SuDS Scheme
Submitting Organisation	London Borough of Hammersmith & Fulham

This project was born out of an initial public consultation in March 2013, where the Council were looking for potential ideas from the community for interventions they could make to enhance the area around the White City Estate. The initial idea to convert this section of Australia Road into a pedestrian space was raised by Randolph Beresford Early Years Centre and then supported by both Team White City and the White City Residents' Association. There was a desire for a safer link between the Early Years Centre and the playground, located on the opposite side of Australia Road, as well as providing a safer community space where they could potentially host events.

In addition to this, the Lead Local Flood Authority had commissioned detailed surface water flood modelling of the Borough which showed significant flooding to occur along this stretch of Australia Road during rainfall events. It was therefore seen as the perfect opportunity to pilot Sustainable Drainage Systems (SuDS) within this neighbourhood enhancement scheme. It was also noted that White City lies within the heavily over capacity Counters Creek Catchment, so any interventions to help slow the rate of surface water flow into the combined sewer system would help ease the capacity issues within the network, thus helping to reduce the potential for flooding to areas downstream.

The Council employed the services of Robert Bray Associates, McCloy Consulting and Project Centre Ltd. whom together developed the scheme from concept through to detailed design, with further consultation with the relevant stakeholders at several points along the way. The remit was to create an "Urban Oasis" in the heart of White City through the incorporation of SuDS.

The final design involved converting the existing road into a pedestrian and cyclist space with limited vehicular access for emergency and maintenance vehicles only, providing a significantly safer link from the Early Years Centre to the playground. A large events space for the community to use was also created beside the school entrance with CCTV introduced to the road and the provision of electricity and water points for managed use during an event. The addition of a shared community space and communal meeting point aims to invoke a sense of neighbourhood pride and community spirit.

At the heart of the design are the various multi-functional SuDS features. The road has been constructed in permeable paving, capturing the rainfall and directing it below the surface to a series of bio-retention basins and raingardens. The existing downpipes from the Early Years Centre and Playground Centre roofs having also been disconnected from the combined sewer and diverted to these raingardens and basins. These areas have been heavily planted to help utilise the rainwater, provide biodiversity benefits and create an enhanced landscape for the community. Over 2,500 plants and 50 trees with a wide variety of species ranging from grasses, bulbs and herbaceous perennials to Himalayan Birch trees are to be planted within these spaces, converting a traditional highway environment into a biophilic oasis for the community to enjoy.

The bio-retention basins and raingardens attenuate the water prior to a controlled discharge to the existing combined sewer. The outlets have been designed to be protected from blockage, which greatly reduces the maintenance requirements. The hydraulic design has endeavoured to reduce flows as much as physically possible. Individual flow controls have been sized to restrict flows to below 1 litre per second, thus achieving runoff rates to the sewer less than greenfield rates up to the 1 in 30yr Annual Recurrence Interval (ARI) and

reducing the overall annual flow volumes to the sewer by over 50%. The approach taken to the hydraulic design goes well beyond the normal remit of compliance and provides much greater benefits to the sewer systems (reducing CSO spills and the effects of urbanised sewer flood) when compared with the normally applied 50% betterment approach. A site specific maintenance plan has been developed to ensure the landscape is cared for well in to the future.

Monitoring equipment is due to be installed to collect data on the effectiveness of the SuDS systems. A full weather station will be located on the roof of the Early Years Centre to collect rainfall, wind and temperature data. Remote devices will be installed in each of the basins to monitor the soil moisture levels and at the controlled discharge points to monitor the flows entering the sewer. All the raw data will be gathered remotely and interpreted into useful performance information which will then be made available to interested parties.

Due to the high level of stakeholder involvement we have been able to engage with and educate the community on sustainability issues. In particular, we aim to create an awareness of the environmental benefits within the Early Years Centre and the other nine schools (two secondary, five primary and two special schools) within one kilometre of the site. This will be achieved through the installation of three education boards describing how the various SuDS features work. In addition to this members of the project team will attend assemblies at the local schools to further educate the local children about the scheme. The positive responses to date have been extremely encouraging from the local community.

The Australia Road Scheme has become a flagship SuDS project. While runoff rates to the combined sewer network have been significantly reduced, we have also witnessed the advantages of sound community involvement. In order to maximise the overall achievements of the scheme, both the environmental and community benefits have been considered equally. The community involvement has maximised the environmental benefits with the agreement to incorporate runoff from both the Early Years Centre's and the Playground Building's roofs into the final design. Through the same process the neighbourhood has gained a more usable space with a much better outlook that is safer, greener and has helped to educate the community in the process. The area will be honorifically named after the late Bridget Joyce, a childcare worker who worked with LBHF children for over 50 years including at the Early Years Centre.

Physical works, undertaken by F M Conways, began in March 2015 and are expected to be completed in mid-October 2015. An opening ceremony has been planned for October and the Annual W12 Festival has already been scheduled to take place in this space from 2016 onwards.

The project was funded through a combination of TfL LIP (Local Implementation Plans) Funding, Lead Local Flood Authority Funding and an additional contribution from the GLA. This project is seen as a pilot scheme with the aim of learning as much as we can about the SuDS systems so that they we can continue to effectively implement similar measures across the borough.

Appendices

1. *Educational Boards*
2. *Before and After Photos*
3. *SWMP Surface Water Modelling*