Norfolk County Council LLFA: Case Study

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<tr>
<th>Site name: Suters Drive and Badgers Brook, Taverham, Norwich</th>
<th>District: Broadland District Council</th>
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<td>Site Description: Retrofit of SuDS to assist flooding problems on traditional sewer drainage network.</td>
<td>Scheme Developer: Anglian Water</td>
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<td>Local Flood Risk: Flooding occurred internally to properties previously. Properties built prior to the updated Environment Agency risk of surface water flooding map published. Roads and open space at risk at 3.33%AEP, properties shown to be at risk at 1% AEP.</td>
<td>Greenfield or Brownfield Development: Brownfield, improvement to the capacity of the drainage scheme from 10%AEP to 3.33%AEP</td>
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<td>Summary of Design Constraints: Existing housing development with piped sewer network in road network. Public engagement was key to explain the reason for the works and potential improvements. Temporary works and disruption to local traffic.</td>
<td>Summary of Surface Water Drainage: SuDS retrofitted into existing landscape, rills/channels to rain gardens/ attenuation basins maintaining overflows back to piped network. Final discharge to pond and watercourse.</td>
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Plans

The new project could take up to 21 million litres of water - more than eight Olympic sized swimming pools - out of the sewers every year, considerably reducing the risk of flooding to nearby homes in Suters Drive, which have been affected in the past.

Jonathan Glerum, Anglian Water’s flood risk manager, said: “SuDS are becoming more common on new housing developments as a more sustainable way of preventing flooding to homes, but what’s special about this scheme is that as well as being the biggest in the east of the country, we’re retrofitting it to protect existing homes. We hope this scheme will demonstrate the potential of SuDS and encourage more schemes right across the country.”

John Fisher, Broadland District Council’s portfolio holder for environmental excellence said: “This project tackles one of our district’s greatest environmental issues — flooding — but is also sustainable, helps wildlife and is one of the cheaper flood prevention measures available.”
WHAT ARE WE PROPOSING?

BADGERS BROOK OPEN SPACE

SWALES
Shallow swales connect basins - carrying water from one to the next

green swale

RAINGARDEN
This raingarden is located on the flat area where play equipment used to be. A small bank would turn it into a basin to hold water and it could be planted with flowering shrubs and trees to make it into an attractive raingarden.

decorative raingarden

Shallow sided basins within the green-space and roundabout store rainwater running off the roads near by. They can be planted with wildflower seed bulbs and trees, making them attractive places to be.

basin planting

BASINS

BASIN IMAGES

Flat open basin

Natural planting

Norfolk County Council
Photos

a) 2018 – raingarden with overflow back to sewer system

b) rill / channel from road to rain garden / attenuation

c) Badgers brook roundabout with dropped kerbs and storage created in the centre, overflow installed back to sewer system

d) 2014 During construction – badgers brook roundabout and one of the shallow attenuation basins. The site flooded during construction and SuDS needed remedial action and additional community engagement to resolve concerns over the performance of the works. The parties, including the LLFA, learnt that any scheme may need construction plans and potential temporary measures during construction to prevent adverse impacts.