Beavers, Biodiversity, and Sustainable Drainage at Rushden Lakes

CASE STUDY

The Rushden Lakes project in Northamptonshire combines innovative urban infrastructure with landmark environmental rejuvenation. Phase One, which first opened to the public in 2017, saw the integration of sustainable drainage solutions (SuDS) and nature-base solutions (NbS). With the reintroduction of long-absent beavers in March 2025, this development sets a high standard for sustainable urban design and wildlife conservation.

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THE PROJECT

Rushden Lakes Retail Development, Northamptonshire

THE BRIEF

Provide a tree pit solution to integrate the surrounding environmental wetlands into a retail development design

THE SOLUTION

ACO StormBrixx HD geocellular crates used as tree pits in the car parking and boulevard design

Innovative infrastructure

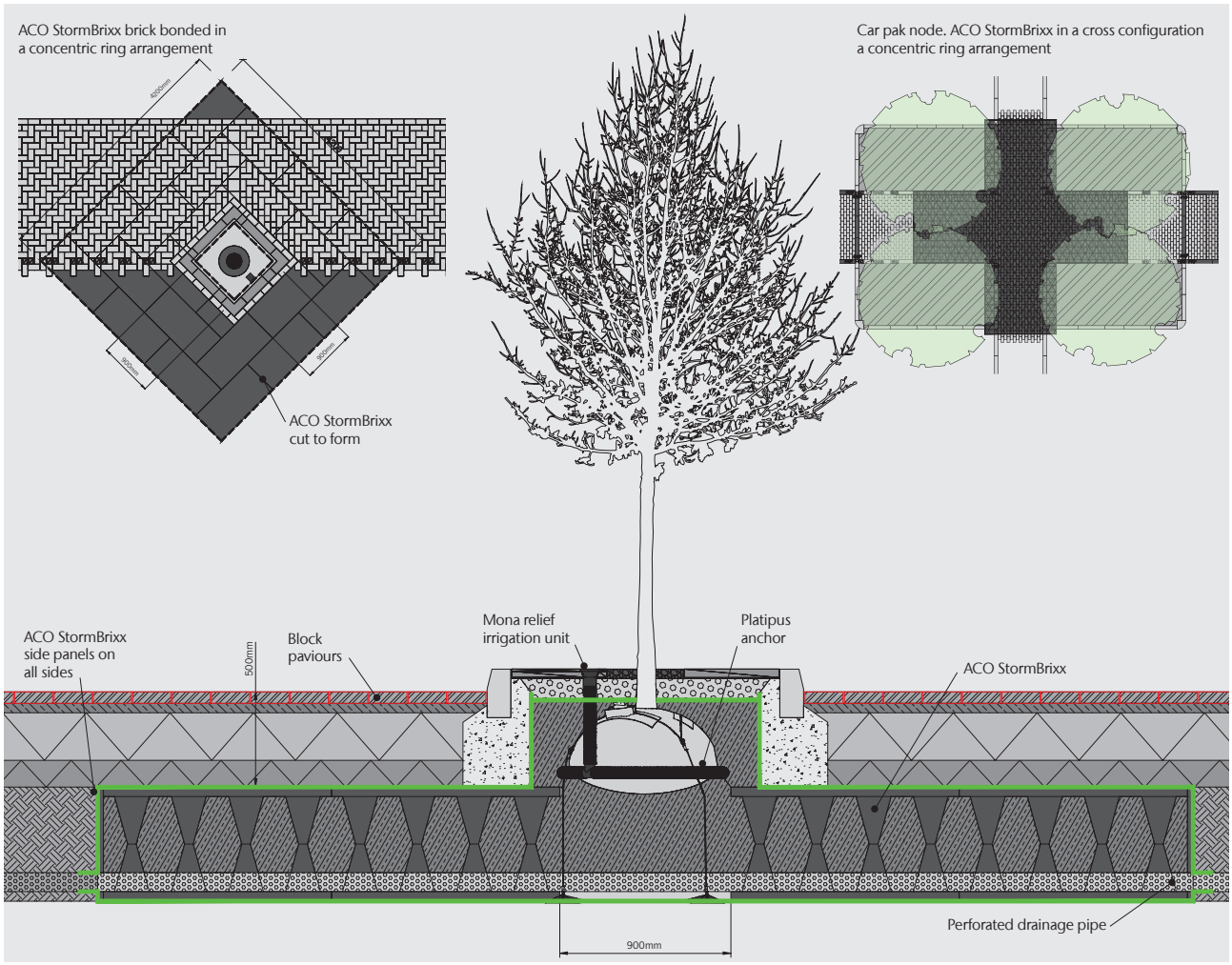
The Rushden Lakes Retail Development, spanning 400,000 sq ft and bordering the Nene Valley Wetlands, was designed with nature at its core. Over 200 trees, from 13 different species, were incorporated into the landscape, with their survival and growth assisted by ACO StormBrixx HD geocellular crates as tree pits. Engineered with 95% porosity, these crates prevent soil compaction and allow unrestricted root expansion even in high-traffic urban environments.

In addition to providing structural support, the StormBrixx system forms an integral part of the project's SuDS, providing attenuation for surface water runoff while keeping the surrounding soil from becoming compacted.

"Our StormBrixx HD system's exceptional geocellular design not only safeguards tree health but also ensures efficient stormwater management in busy areas," said Aaron Kersey, National Sales Manager Stormwater Control.

The project as a whole uses SuDS supported by channel drainage and oil interceptors to effectively and safely manage surface water as it drains into the surrounding wetlands. This area includes four Wildlife Trust nature reserves with sites of special scientific interest. Given the site's proximity to the lakes, flood risk was higher, meaning it was critical to mitigate any pollution risk from surface water run-off from the car park and other hardstanding areas.

Phase Two of the development extended these sustainable principles further. The introduction of high-capacity QMax slot drainage systems alongside integrated ACO KerbDrains enhances surface water management, while additional parking and leisure facilities offer a convenient spot for recreation and socialising, both for humans and wildlife.

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HOUSE OF FRASER

From water to wildlife

The crowning achievement of the project is the successful return of beavers after a 400-year absence. A family of eight beavers was translocated and released at the Nene Wetlands in early 2025. With the protection of the wetlands from contaminated runoff, fewer heavy metals and hydrocarbons, along with debris, could pollute the space intended for the beavers' return.

The carefully carried out reintroduction required the involvement of experts from Beaver Trust and Wildlife Trust, whose four-year planning culminated in the creation of a secure 16-hectare fenced enclosure. Among the new arrivals are Boudica, a female, and Alan, a male named in honour of comedian Alan Carr who grew up in Northampton.

"It was certainly a special moment for all our team and all the people who have supported us along the way," said Matt Johnson, Wildlife Trust Conservation Manager. "Beavers were last seen in Northamptonshire in the 16th Century, and this is the first step of their return to our countryside. I can't wait to see how they will respond to their new home, but also how the environment will respond to them."

As beavers are ecosystem engineers, they are expected to shape their new habitat by constructing dams, creating ponds, and forming canals. These activities will enhance local biodiversity, support water retention, and contribute to flood mitigation and is a key part of the project's integrated approach to urban development and ecological restoration.

Looking ahead

The Rushden Lakes project shows how innovative urban design can integrate seamlessly with nature, creating an environment that is both functional and ecologically supportive. By incorporating advanced drainage solutions such as ACO StormBrixx tree pits and sustainable water management systems, the development not only enhances the site's resilience but also bolsters a habitat where wildlife can thrive.

Through the combination of ACO's stormwater management and tree pit solutions with the landmark reintroduction of beavers to Northamptonshire, Rushden Lakes sets a precedent for urban landscapes that actively contribute to healthy and sustainable animal populations. By matching innovative solutions with the careful reintroduction of historically native species, Rushden Lakes showcases a forward-thinking approach that highlights the possibility for urban landscapes to enhance biodiversity.

For more information about ACO's range of stormwater control options, please visit:
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