

**Baltic Quarter Blue-Green Corridor  
Submitted by JBA Consulting**

**Awards category  
New commercial development (any scale)**



Lead or collaborating organisation(s)	JBA Consulting (Lead Designer) and Gateshead Council (the client and contractor)
Location of SuDS	/// <a href="https://coffee.zoom.us/j/91911111111">coffee.zoom.us</a>

## 1. SuDS overview

SuDS components used	<ul style="list-style-type: none"> <li>• Detention basins</li> <li>• Pond</li> <li>• Swales</li> <li>• Tree pits</li> <li>• Check weirs</li> </ul>
Size of the scheme and its local context	<p>The scheme is a 400m long linear park that has transformed contaminated brownfield land that was previously a disused industrial complex. Now it sits as the lynchpin within an urban site with commercial office space surrounding it, and new commercial development expected, which can be brought forward due to the extra drainage capacity unlocked by the blue-green corridor.</p>
<b>Approximate age of scheme (years)</b>	Completed in 2023
Benefits of the scheme	<ul style="list-style-type: none"> <li>• Will manage flood risk of 1 in 100-year storms with allowances for climate change, and provides an exceedance route for events of greater magnitude.</li> <li>• Designed to cope with predicted drainage needs of future development allocated in local plan.</li> <li>• Creates multifunctional green space that improves air quality, reduces urban heat island effect, creates wildlife habitat and biodiversity, enhances public realm, provides gathering and reflecting space, and connects to local culture and history.</li> <li>• Provides safe walking and cycling routes through the site to encourage active travel.</li> <li>• Presents an example of multifunctional SuDS in an area with mining legacy.</li> </ul>

Briefly describe the scheme	<p>The Baltic Quarter Blue-Green Corridor is a multifunctional high-quality SuDS scheme in an urban environment, discharging into the River Tyne.</p> <p>The project used both nature-based and engineering solutions to provide flood risk and surface water management in a former mining area by retaining water on the surface and avoiding infiltration. The design incorporates flexibility for future development with surplus drainage capacity and spaces that can be adapted to accommodate adjacent future regeneration. Meanwhile, cyclists and pedestrians have a choice of on- or off-road routes through the site.</p> <p>It does this all within a new green space with a boulevard of trees for residents, visitors and office workers. Elements of informal play also consider children’s needs in the public realm.</p> <p>The southern entrance is large-scale with sweeping views, transitioning to a human-scale central zone with low and mid-level planting, finishing with a simple tapered green area in the north. The shapes and forms used connect to the site’s history as a steel and rope works. Smooth intertwining lines of the ‘rope’ (meandering channel, sinuous tree lines, swathes of planting, and sweeping paths) contrast with the rugged ‘blocks of the industry’ (check weirs, stepping stones, collection spaces and benches).</p>
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## 2. SuDS details

No	Question	Answer
1	What difference has this scheme made to the local community or area?	<p>This scheme has transformed a disused and formerly contaminated industrial site. By designing for predicted future attenuation volumes, the scheme has unlocked the potential for the mixed-use leisure, commercial, and residential schemes allocated for the area in the local plan.</p> <p>It also acts as a centrepiece for the wider site to attract developers. The design provides informal green spaces for future users: break-out or lunchtime space for office workers, recreational space for residents, and a pleasant green corridor for pedestrians and cyclists. The design enriches the area with nods to the local history and culture of the site.</p>

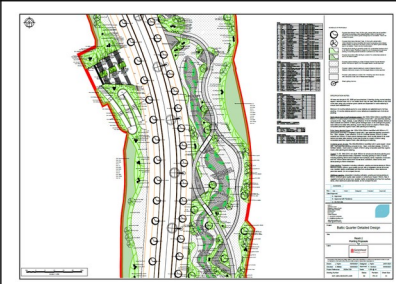
2	What is exceptional about this scheme beyond a standard approach?	This scheme's exceptional aspect lies in its adaptation to the Baltic Quarter's mining history. The northern part of the site lies over an area of shallow mine workings, where boreholes revealed a void within a mined coal seam. Due to contamination risk, infiltration SuDS are precluded. Instead, surface-level SuDS, comprising detention basins, ponds and swales, manage peak flows while mitigating water infiltration risks. This innovative approach, integrating water treatment and biodiversity measures, showcases SuDS viability even in contaminated former mining areas, setting a precedent for sustainable urban development.
3	How much work went into getting this scheme realised?	The project was the result of close collaboration between Gateshead Council (the client and contractor) and JBA's Landscape, Engineering, and Hydrogeology teams. JBA modelled the flood risk using a 1D hydraulic model and then Microdrainage for the SuDS calculations. Close coordination with the Council's Highways Design Team was then required to coordinate the green corridor drainage design with the highway drainage design. Extensive work was also undertaken to assess and design the earthworks on this former contaminated site with historic mining activity which has been capped.
4	Is this scheme part of a masterplan or integrated into other initiatives?	It is allocated as part of the local plan: Newcastle Gateshead Core Strategy (Gateshead Sub Areas & Sites QB3 Quays and Baltic Development Opportunity Sites). The surrounding allocated Baltic Business Quarter will host offices, hotels, sports, education, and retail, with active streets and urban development. The green corridor is integrated within it as an integral element needed to increase drainage capacity required for the other allocated developments.  The project will also contribute to Gateshead Council's aim to plant 100,000 trees by 2030 and increase woodland cover in the borough from 15% to 17% by 2050 (an increase of approx. 250ha).
5	What value does this scheme provide to the local area and beyond?	This scheme offers numerous tangible benefits for the local area, fostering development, job creation, and safe pedestrian/cycling routes. Amidst urbanization, 187 trees, 2308 whips/young trees, 11,000 shrubs, meadow and wetland meadow seeding, and grass seeding in the site provide a rare green space for socializing and wildlife habitat, boasting diverse flora.  Moreover, it sets a benchmark for integrating flood risk management into urban landscapes, showcasing climate resilience. Despite challenges like mining legacies and steep terrain, this project exemplifies best practices in sustainable urban development, transcending its local impact to inspire broader adoption of resilient design principles.

6	<p>What challenges/problems needed to be addressed to realise this scheme?</p>	<p>Apart from addressing the mining legacy (See Q2), challenges included establishing connectivity to the River Tyne. Creating a conveyance route and outfall posed a challenge due to the site's urban nature, addressed through 3D surveys and stakeholder collaboration. Utilizing an existing Combined Sewer Overflow outfall saved time and costs.</p> <p>Implementing Sustainable Drainage Systems (SuDS) in the steep terrain also required innovative design, maximizing channel potential with micro-wetlands and check weirs. Design and modelling of the blue-green network enabled the definition of future attenuation volumes and discharge rates for proposed developments, overcoming challenges in stormwater management.</p>
7	<p>How does the scheme address related issues such as water scarcity, nutrient neutrality, or biodiversity net gain?</p>	<p>The scheme particularly addresses these issues:</p> <ul style="list-style-type: none"> <li>• Flood risk and climate change: The design can convey overland flow paths up to a discharge rate of 320l/s and has been designed for a 1 in 100-year storm with allowances for climate change, futureproofing the planned developments by providing catchment services in the form of runoff management and treatment.</li> <li>• Biodiversity net gain/provision of habitat/air quality: The planting design includes 187 street trees, 11,000 shrubs and herbaceous planting, and 131 species of flora. They provide benefits in terms of air quality, reduction of urban heat island effect and provision of wildlife habitat.</li> </ul>
8	<p>Is learning from the scheme continually captured and communicated? Please give examples.</p>	<p>The JBA Landscape Team visit the site regularly to track its establishment and to observe its use by the public. We share this knowledge and new images and videos of the site internally, and have also communicated with Gateshead Council where there have been elements of maintenance that we have queried.</p> <p>The scheme has also featured as a case study in the North East Community Forest <a href="#">Annual Report</a> to broadcast the many ways that planting trees can create multifunctional benefits.</p>
9	<p>What approaches/measures are taken to ensure the scheme is properly managed and maintained?</p>	<p>Upon completion of the initial establishment maintenance phase, the drainage system and landscaped areas will be managed in-house by Gateshead Council. Due to the mining/contamination issues previously described, it was important that the maintenance and management took this into account. The lining of the SuDS components will be monitored for defects and replaced if necessary, to ensure water does not reach the mine workings and become contaminated. Once the adjacent land is fully developed, an estate service charge will be levied to support the costs of maintenance.</p>

10	Have you collected any feedback on your scheme? What do people say about it? Can you provide any quotes?	<p><i>“Gateshead Council were keen to develop a high quality scheme that could showcase the best that good SuDS and green infrastructure design can bring to a site in terms of amenity, biodiversity and water quality benefits. JBA delivered a design for a linear parkland that successfully combines SuDS with high quality green space, biodiversity and pedestrian and cycle infrastructure. The project can now be used as an exemplar scheme for future water management projects both in Gateshead and further afield, demonstrating that SuDS can be much more than a 'pipe to a pond.'”</i></p> <p>Pete Burrows Gateshead Council LLFA SuDS Officer.</p>
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### 3. Supporting materials

Image (low resolution)	Caption	Image credit
	Aerial Shot	JBA Consulting
	Attenuation Basin	JBA Consulting
	Construction 1	JBA Consulting
	Construction 2	JBA Consulting
	Stepping Stone	JBA Consulting
	SuDs	JBA Consulting



Planting plan

JBA Consulting



Masterplan

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