

World of Water



ep projects

Development Name: World of Water

Location: Romsey, Hampshire

Type of Project: Mixed Use

Applicant: Azure One Limited

BwN Assessor: Catherine McGuire, Arcadian Ecology

Wildlife Trust Area: Hampshire & Isle of Wight

BwN Award: Full (Excellent), subject to post-construction sign off

Key Stakeholders: ep projects, Test Valley Borough Council

The World of Water site is a redevelopment of a former aquarium and pond supplies business. The entire site includes 1.82 hectares of land adjacent to Fishlake Meadows Nature Reserve along the River Test. The Reserve is a designated SINC site and the River Test an SSSI.

The redevelopment of the site aims to return it to a natural and interactive state. It will include a new visitor centre, café and a flexible community space. Interactive features will incorporate bird hides and wetland walks throughout new wetland and meadow habitat. These will serve to link into the existing nature reserve.

This scheme achieved a BwN Full Award (Excellent). It showcases strong alignment with BwN values by demonstrating a respect for the importance of nature reserves to the wider community.

*A **Building with Nature Full Award** externally certifies that a scheme meets the BwN Standards and delivers high-quality green infrastructure, at both pre- and post-construction stages.*

Meeting BwN Objectives

The existing development didn't connect well physically or visually to the surrounding landscape, in effect limiting connectivity to the nature reserve. The developer recognised this and established a key design objective in line with BwN Standards to create a 'positive landscape character.' This included a priority to seamlessly integrate the site with the reserve thereby improving accessibility to the reserve from local communities such as Romsey.

Biodiversity and Wildlife

A significant goal of the developer was the remediation of the ecological value of the site. They aimed to link the ecological wealth found in the reserve to the development by employing 'biophilic design principles.' A key aim was to remove invasive species, promote native species in tree plantings and hedgerows to support flagship desirable species such as kingfishers and otters.

Water

The site has a Flood Zone 3 categorisation. That means it has a high risk of flooding, in part due to many impermeable surfaces throughout the previous site. The developer's aim is to reduce and attenuate surface water runoff using SuDS and other green infrastructure provisions that simultaneously enhance water quality and site-wide biodiversity.



Image 1: Visualisation showing how the new development sits within the wider landscape

Management

The nearby nature reserve is managed by the Hampshire & Isle of Wight Wildlife Trust. The new development has achieved the same degree of high-level management with the implementation of the 25-year Landscape and Ecology Management Plan.

Hampshire & Isle of Wight Wildlife Trust Strategy Outcomes

- The development supports the Nature Recovery Network by enhancing a low ecologically valued site to a much more biodiverse and connected natural resource whilst providing further connections for both people and wildlife to the neighbouring wetland reserve
- Habitat creation within a brownfield site and blended seamlessly within the development to support recovery of priority species such as otters, water voles and pollinators
- The incorporation of full mobility access, educational signs and the visitor centre will help to bring more people onto the side of nature, furthering community understanding of the benefits and necessity of the wild resource

“ Azure embraced the core BwN principles from the onset. Every aspect of the design fulfilled its maximum potential and adoption of the BwN standards. The sensitivity of the nature reserve was treated as an asset and something within which the development should seamlessly integrate with. The GI features within the development are a brilliant example of working with nature and not being constrained by it to provide an engaging visitor experience for families of all ages and the people who will work on the new site. It is intended to be an example of 'what good looks like', on a complex site, benefitting the environment, people and local economy. ”

Martin De Retuerto, Director of Conservation Projects & Services, Hampshire & Isle of Wight Wildlife Trust

CORE Standards

- Standard 1** Optimises Multifunctionality and Connectivity
- Standard 2** Positively responds to the Climate Emergency
- Standard 3** Maximises Environmental Net Gains
- Standard 4** Champions a Context Driven Approach
- Standard 5** Creates Distinctive Places
- Standard 6** Secures Effective Place-keeping

The new development has retained and enhanced existing habitats such as meadows and still-water assets. Existing hedgerows and trees are sympathetically incorporated into the design to function as natural screening for included buildings. The retained natural features promote the **aim of connectivity** to the wider landscape. They also highlight the site's multifunctionality by enabling the inclusion of green infrastructure features. These include:

- Vegetated green roofs and walls
- Permeable surfaces
- Dark corridors
- Multi-use species habitats
- Notable inclusion of existing fruit trees in a Kitchen Garden for the onsite café

The buildings are raised to alleviate flood risks while enhancing the views of the reserve. The tertiary benefit of this design is the encouragement of shade-tolerant species under the buildings to thrive. Plant species are chosen based on species found in the reserve, where even the seeds are sourced to encourage local provenance vigor.



Image 3: The area is popular for walking and nature play

The **25-Year Landscape and Ecology Management Plan** will be reviewed every 5 years to ensure the continued maintenance of the included green infrastructure resources. Conditions such as a 30-year monitoring plan and long-term SuDS maintenance affected the decision to grant permission for the development.



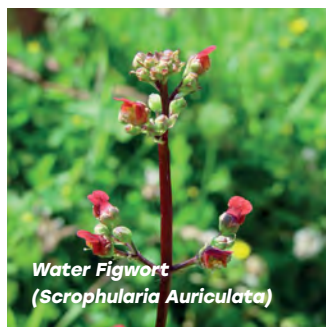
Greater Pond Sedge
(*Carex Riparia*)



Compact Rush
(*Juncus Conglomeratus*)



Water Mint
(*Mentha Aquatica*)



Water Figwort
(*Scrophularia Auriculata*)

Image 2: Examples of contextual wetland species



Figure 1: Plan of GI links to external habitat

WELLBEING Standards

- Standard 7** Brings Nature Closer to People
- Standard 8** Supports Equitable and Inclusive Places

The developer conducted numerous **community and special needs groups consultations** when considering the development’s design. Outcomes included separate pedestrian accesses away from vehicles to promote more sustainable transport and enhance accessibility. The addition of seating ensures those with mobility constraints can still find maximum enjoyment of the site.

Beyond these accessibility provisions, the primary route through the development is made up of a series of paths, ramps and walkways all with an eye for biophilic design. These reflect the **natural topography** of the site whilst still providing a safe form of access across all the site’s features.



Image 4: Access path to the Fishlake Meadows Nature Reserve



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Figure 2: Visualisation of entrance to visitor centre and cafe through new wetland feature

A large viewing platform serves as a key access point and enhancement of visual amenity due to its angle across the wetlands and high accessibility with a built-in lift. There are also 8 accessible parking spaces on the site.

Sensory planting along the footpaths and a new bird hide mimicking the reserve’s reed beds encourages interaction with green infrastructure provisions across the site. The **‘Chalk Stream’ Visitor Centre** will be the UK’s first, serving to improve public knowledge of natural resources and cement education and engagement into the future of the site.

WATER Standards

Standard 9 Delivers Climate Resilient Water Management

Standard 10 Brings Water Closer to People

The strict SuDS hierarchy on the site is meant to reduce the stress on the River Test by diverting water from the river towards engineered GI features. This infrastructure is multifunctional since it improves biodiversity, reduces flood risk on site, and ensures the River Test catchment receives enhanced pollution protection.



Image 5: The project provides opportunities to enhance existing water bodies beyond the site boundary

The **SuDS hierarchy** involves the water moving across permeable and impermeable paving to GI retention features such as rain gardens and green roofs. These form an interconnected series of storage areas throughout the site, allowing the water to then drain into built swales and the existing lake. Each part of this infrastructure incorporates vegetation schemes to both assist in retention, reduce pollution, and promote the biodiversity of marginal species.



Image 6: Current impermeable parking provisions, providing little in the way of flood mitigation or retention. This is to be replaced by a variety of permeable surface treatments

Water collected from green and normal roofs will be used in the buildings instead of grey water, such as in flushing toilets. This reduces the site's reliance on mains water, specifically reducing the abstraction from the surrounding chalk streams. Altogether, the SuDS scheme **bolsters the connection** of the site to the reserve's and river's interconnected ecosystems.

WILDLIFE Standards

- Standard 11** Delivers Wildlife Enhancement
- Standard 12** Underpins Nature's Recovery

A key objective of the developer and BwN Assessor was the betterment of the ecological value of the site to the same level and beyond of the adjacent nature reserve. The design accomplishes this by including targeted pollinator strips, bat and bird boxes, otter holts and an artificial sandbank meant to attract sand martins and kingfishers.



Image 7: The site's approach to planting will complement the meadow and wetland planting in the wider ecological network, principally the habitat around the Fishlake Meadows Nature Reserve

Further ecological betterment was promoted through the inclusion of ecological networks. Some of these were existing and enhanced, while others were built into the design of the site. One example of these ecological networks are hedgerows, with their overall enhancement and planting functioning to improve site connectivity and increase foraging opportunities. These networks will hopefully benefit bat species, with the potential connection to the nearby **Mottisfont Bats SAC**.



Image 8: Hampshire & Isle of Wight Wildlife Trust have been instrumental in bringing forward this project, as a key stakeholder and guardian of the beautiful Fishlake Meadows Nature Reserve adjacent to the development site

Examples of longer corridors throughout the site are interconnected swales, which act as stepping stones for marginal species. The building design also functions to enhance ecological features by including insect hotels and bat roosts integrated using sympathetic building techniques as well as boxes on trees.

Policy Applications

Numerous features within the development support the Test Valley Borough Council's Green Infrastructure Strategy. The site conserves and enhances green links throughout the town into the reserve and tackles the issue of limited public access to the reserve via Romsey.

The development also applies to policies within the Adopted Local Plan (2011-2029), especially Policy E2: Protect, Conserve and Enhance the Landscape Characteristic of the Borough, Policy E5: Biodiversity and Policy E6: Green Infrastructure.



Image 9: View of Fishlake Meadows Nature Reserve

Summary

The World of Water redevelopment scheme shows great alignment with the BwN Standards. It demonstrates how these can be used to enhance both species and habitat, climate resilience, water management and the overall wellbeing and engagement for the community affected by a development .

BwN sees an opportunity for an integrated Water Strategy on the site due to the sheer presence of the blue resource. It would serve to link the management into relevant legislation and policies with clear thought given to climate-based management and mitigation.

“ Every development should be a step towards a more sustainable future. The finalisation of the design and planning for the development landed at a time when we all find ourselves dealing with the consequences of COVID-19; it has impacted many aspects of life for all of us. Never have the benefits of the natural world on human beings and the wider environment been more at the fore, promoting its positive impact psychologically, physiologically, and restoratively. BwN Standards provided the framework for our team to develop a design philosophy which will deliver high quality green infrastructure to ensure that nature remains at the heart of the development. ”

Mike Tivey at Azure One Ltd

Useful Links

Building with Nature: www.buildingwithnature.org.uk

Applicant: www.epgroup.com

BwN Assessor: www.arcadian.consulting

About the scheme: www.hiwwt.org.uk/world-water-fishlake-meadows-nature-reserve

Wildlife Trust BwN case studies: www.buildingwithnature.org.uk/wt-bwn-digital-case-studies



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