

# Water Management Plan

## Managing water, drainage and flood risk

Dyffryn Gardens, Vale of Glamorgan

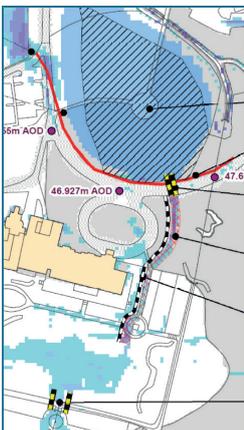


### Client

National Trust

### Services Provided

- Investigated water sources, uses and bills to optimise use and save money
- Investigated drainage systems to update records and improve maintenance
- Arranged survey of watercourse and culvert to assess condition
- Assessed flood events and flood risk and how to manage and reduce flood risk
- Produced scoping report and costed action plan to improve systems as part of a Water Management Plan



### Scheme Details

Waterco investigated this typical diverse estate with:

- three metered water connections and one unmetered from Welsh Water
- two private boreholes – one in use, outside boundary with open reservoirs and one not in use, within boundary
- three disused rainwater tanks
- over 800m of buried supply pipes
- water used for visitor café and toilets and horticultural watering
- algal problems in sensitive water features

A water strategy was established to supply the following:

- mains water for potable use and all toilets in short-term
- UV treated rainwater for horticultural use
- borehole water for horticultural use and water features
- plan to use rainwater for some toilets in future

The work was split into prioritised phases, supported by layout plans and budgets. Waterco liaised with contractors to ensure the work, including water leak detection and repair and drainage repairs, was carried out to fit in with other planned work and to avoid disruption to the visiting public.

A flood model was created and checked using flood event information. Solutions sympathetic to the property and registered landscape were discussed with the client and modelled to show the reduction in flood risk.

### Outcomes

The client now has a clear understanding of the existing systems and the strategy to achieve efficiency and resilience in managing the water and drainage systems and flood risk to the property. This is supported by coloured layout plans and documented action plans with budgets.

Some improvements were installed within the first year, including repairing a water leak, installing isolation valves and water saving devices, re-commissioning rainwater tanks and monitoring water use. Mains water bills were reduced and will be reduced further as more stages of work are completed.

The first stage of sustainable flood management measures was incorporated into the current landscaping project on the site. Further improvements will involve off site work with the co-operation of local landowners.