

Extending sand filtration system lifespans

We've completed the installation of a new floor and sandbar set during an ongoing project to increase the lifespan of a slow sand filter.

In summary

- The project forms part of a national programme to extend the life of 32 slow sand filter beds
- A new modular base and raised sandbar system increase filtration depth and reduce maintenance
- The refurbishment supports improved operational resilience in water treatment infrastructure

The need

The existing slow sand filter had reached the end of its operational life. The concrete base limited maintenance options and contributed to a shortened skim cycle. Access was also becoming difficult.

As part of a wider national contract to refurbish 32 filter beds, we were appointed to upgrade the bed and extend its lifespan.

The solution

To improve the maintainability and lifespan of the filter bed, we removed the existing concrete floor and installed 67,000 porous concrete blocks. Compared to traditional poured concrete, the modular design offers faster installation, reduced embodied carbon, and the ability to complete localised patch repairs when needed.

The refurbishment also included high-pressure jetting to clean the filter walls and underfloor drainage, concrete repairs to the outer rim, and the installation of a new access ramp to support safer operation.

Pre and post-work CCTV surveys confirmed that debris had been thoroughly removed before installation began.

The benefits

- Modular block floor enables targeted future repairs and reduces material waste
- Increased sand depth extends skim cycles and reduces manual maintenance
- Upgrades support safer, more efficient operation of the filter bed
- Reduced embodied carbon through offsite manufacture and modular design
- Improved filtration performance through thorough cleaning and structural restoration

67,000

modular porous blocks laid

600

millimetre increase in sandbar height

