

Find out about

- The reasons for the upgrade
- The benefits of the upgrade
- What else we considered to meet the need

Why we need the upgrade

We need to upgrade the Deephams Sewage Works to significantly improve the quality of the treated wastewater that flows into the Salmon's Brook, a tributary of the River Lee.

The need for this improvement comes from three European Directives: the Urban Waste Water Treatment Directive, the Freshwater Fish Directive and the Water Framework Directive.

The new quality standard for treated wastewater has been set by the Environment Agency and will be one of the most stringent in the country. The new standard means that we need to develop an improved sewage treatment process for the Deephams Sewage Works. The improvements in the quality of treated wastewater will enhance the quality of the water in the Salmon's Brook and a number of watercourses further downstream of the works, including the Pymmes Brook, Lee Navigation and the River Lee.

Despite this improvement, more will need to be done to reduce pollution entering local rivers from elsewhere and we are working with the Environment Agency and local authorities to further improve river water quality in the area.

As well as improving river water quality, we also need to increase the amount of sewage the works is able to treat so that it can cope with predicted population growth in the area. Deephams Sewage Works currently treats the sewage from about 885,000 people, and the upgraded sewage works will need to serve a future population of 941,000.

This predicted growth is estimated from figures set out in the London Plan and the Development Plans of individual London boroughs and districts in the area. The proposed upgrade will allow the sewage works to cope with the additional sewage produced by this increase in the number of homes and businesses within the area it serves, as it will be designed to cope with population growth to at least 2031, and potentially beyond.

The third aspect of the need for the upgrade is to improve treatment facilities at the existing Deephams Sewage Works that are becoming old and worn out. Although improvements have been made to the sewage works since it was constructed, the treatment process is largely unchanged since it was first built in the 1950s and 1960s. The upgrade will be designed and built to modern standards and will be more energy-efficient and easier to manage and maintain. It will also be designed to take account of climate change, so that it can cope with the effects of the heavier winter rainfall and warmer summer temperatures that are forecast in the future.

Alternatives to the upgrade

We considered a wide range of alternatives when choosing the best option for achieving the required improvements in the quality of the treated wastewater that flows into the Salmon's Brook from Deephams Sewage Works.

These included:

- Transferring the sewage from Deephams Sewage Works or from part of the local sewer pipe network to another existing or new sewage works further away for treatment.
- Reducing the amount of sewage arriving at Deephams Sewage Works by helping rainwater to drain into the ground rather than straight into the sewers, and encouraging our customers to use water more wisely through increasing metering in the area.
- Building sewage treatment facilities on a new site and considering the use of all potential sewage treatment technologies at different scales. This also included splitting the sewage treatment facilities between the existing sewage works and a new site.
- Upgrading the existing sewage works within the current site boundary.

The conclusion of this work was that the most appropriate options for delivering the necessary improvements in the quality of the treated wastewater would be either through upgrading the treatment facilities on the existing Deephams Sewage Works site, or through building a new sewage works on a new site elsewhere.

