

## Project Profile - Utilities



### PROJECT

**Riverside Resource Recovery (RRR)  
Energy from Waste Facility, Belvedere  
(Waste Storage Bunker)**

### SUMMARY

Repairs to slip formed concrete in the waste storage bunker

### PRODUCTS

**Monomix**

### CLIENT

Von Roll Inova

### CONTRACTOR

Costain

### BACKGROUND ►

The Riverside Resource Recovery (RRR) Energy from Waste facility was constructed at Belvedere in the London Borough of Bexley. It began operation in 2011 and is one of the UK's most efficient energy recovery plants, processing waste from households and businesses in central London, as well as proving an important strategic waste management facility for the capital. The majority of the waste arrives at the plant by water, transported on the River Thames by a fleet of tugs and barges. All loads are discharged into the waste storage bunker.

Costain were awarded a £120m contract to provide design and civil engineering works for the facility by Swiss based Von Roll Inova, the world leaders in EFW technology. Work included the slip forming of the waste storage bunker when 4,000m<sup>3</sup> of concrete was placed 24 hours a day, 7 days a week for three weeks using two of the largest concrete pumps in the UK. When aggregate became caught in the forms, this resulted in damage to all four bunker walls.

### THE SOLUTION ►

With repairs over 1m in height and up to a depth of 100mm, Costain required a structural grade mortar to provide impact resistance from the waste and mechanical grabs which were being used inside the waste storage bunker. **Monomix**, a low density, high strength, shrinkage compensated, waterproof cementitious mortar, was selected on the basis of its durability, ease of use and its ability to fill voids without the need for a primer. It is easily trowellable and can be applied up to 80mm in a single application. With a cementitious composition based on ordinary Portland cement, it is highly compatible with the parent concrete and enhances the durability of new construction to its original design life.

Non-toxic when cured, **Monomix** is supplied as a single component system ready for on-site mixing and use, requiring only the addition of clean water. Its dense matrix offers low permeability to water and its high bond strength exceeds the tensile strength of concrete. Flexcrete products were also specified for application to the link bridge at the RRR Energy from Waste facility.

**Monomix** is classed as a Class R3 structural mortar in compliance with the demands of BS EN 1504-3, the pan European standard for concrete repair. It is also backed by British Board of Agrément (BBA) approval.



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