

Best Practice Bulletin #1

£6 million saved on the Nottingham Left Bank Scheme

The Nottingham Left Bank Flood Alleviation Scheme will reduce flood risk for in excess of 16,000 dwellings when it is completed in Summer 2012. This flag ship scheme for the Midlands Region valued at £51m extends over a length of 27km, along the River Trent. It stretches from the M1 motorway in the West to the suburb of Colwick to the East of Nottingham.

From the initial stages, the project team resolved to drive down the costs of the scheme. As a result they developed a structured value engineering process which is making real substantial savings. All members of the extended team, including Environment Agency operations staff, contribute to the process.

One of the major successes of the VE process at Nottingham was the use of Trenchmix to construct a cut-off rather than expensive steel sheet piling.

This Trenchmix process utilises a modified drainage-trenching machine to carryout the mixing of cementitious material with the naturally occurring soils in a vertical plane beneath ground. The resultant mix once cured, creates the low permeability barrier required to form a seepage cut-off. This was the first use of this cut-off method on a flood alleviation scheme in this country. NCPMS Project Manager John Hindle said: "The value engineering process uses the team's skills and abilities to get the best solutions to the many challenges faced on the Nottingham scheme"

The 'Structured Value Engineering' process also encourages the team members to operate as an integrated team. This has resulted in many benefits and delivered year-on-year savings to the contract. For example, the team has been able to hold regular reviews to capture lessons learned and transfer the knowledge to subsequent sections of the project.

They have also encouraged the supply chain to explain what the team can do for them, so they can work efficiently, rather than being prescriptive. The team have been able to establish common systems and resources that can be shared to minimise man-marking. Furthermore, continuous improvement initiatives have been brought in throughout the project to eliminate waste.

In summary, effective team working and the associated value engineering has been key to the hugely successful outcome of the Nottingham Left Bank scheme.



The SVE Process

An initial site walk over and inspection is carried out to gain a common understanding of the locality including the opportunities and restrictions.

Back at the project office the team re-assemble to analyse the outline design and record the constraints

All potential solutions are brainstormed and recorded

An initial cut is made of the potential solutions. The ideas that are felt to have little or no chance of being viable are dropped at this time.

Actions are assigned to individual team members to investigate the potential viable options.

Subsequent VE sessions review the proposals, rejecting those which the team decide are not worthy of carrying forward plus refining the ideas which they consider have merit.