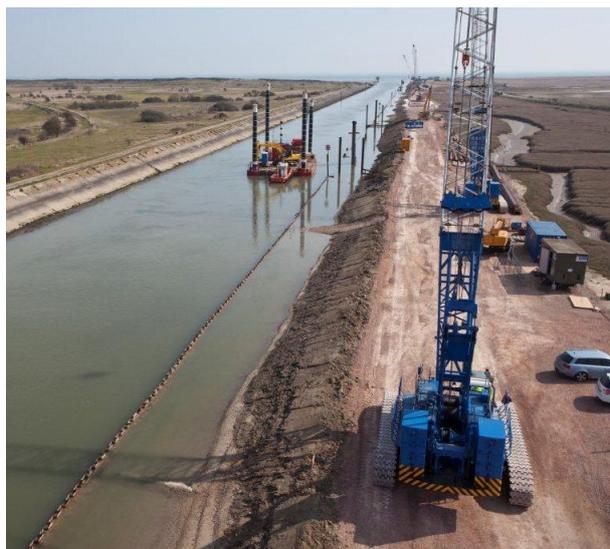


Trial project: Rye Harbour	New delivery model / procurement route: Cost Led Procurement
Cost savings achieved: Achieved cost savings of 6% on the out-turn cost, worth £600,000	
Other key benefits achieved: Streamlined the up-front procurement processes, continuous development and improvement of the Environment Agency's client capability, drove innovation through the adoption of ECI and collaborative working principles	

Trial report sequence:	Kick off meeting	Brief / Team Engagement	Decision to Build	Build and Occupy
Cost saving basis:	Outline saving aspiration	Challenging cost target	Award cost	Outturn cost

Trial project details	
Project title	Rye Harbour Western Training Wall
Client department	Waterways / Environment Agency
Project value	£9.6 million (pre-saving)
Form of project	Flood defence – replacement of failing structure /steel sheet pile retaining wall providing navigable harbour entrance channel
Main contractor	Jackson Civil Engineering (JCE)
Lead designer	Halcrow EC Harris – ECC Project Manager Arcadis – cost consultant Arcelor Mittal – steel sheet pile supplier Team Van Oord in partnership with Jackson's Civil Engineering
Key suppliers	Commercial Marine and Piling (subcontractor) ncpms Project Manager



Executive summary:

The Rye Harbour Western Training Wall project involved the replacement of a failing structure / steel sheet pile retaining wall as part of the Environment Agency's flood defence programme. The Environment Agency adopted the Cost Led Procurement route on the Rye Harbour project. This enabled them to generate savings of 6%, and furthermore, it also enabled them to go from Business case to Completion in fourteen months, essentially cutting the programme time in half. Due to the funding requirements on this project, these savings in cost and time were essential to the successful delivery of this project.

Project summary

The Rye Harbour Western Training Wall was originally built in the 1920s. Throughout its life, extensive repair works have been carried out to the 1.5 kilometre wall. However, in 2011 a 'routine maintenance' investigation discovered that the wall had deteriorated and was at significant risk of failing. As the wall is an integral part of the harbour's navigation channel, this would have had serious impacts for the local economy, with potential losses of up to £10 million. Furthermore, the wall is also important for local wildlife, as it protects a large area of saltmarsh and mudflat habitat that is used by large populations of migratory and breeding birds.

Following successful procurement, a local firm Jackson Civil Engineering (JCE) began work on the project in late January 2012, and it was completed to the revised schedule in November 2012. In addition to the reinstatement of the wall, a number of modifications were also made to enable the Harbour of Rye thrive into the future, including improved emergency escape ladders and the replacement of several navigation beacons.

Project time line

- Brief and team engagement - June 2011
Halcrow report issued
- Decision to Build - 18 October 2011
(Form A approval by EA Chairman)
- Build and Occupy – January 2012 –
November 2012

Key Features

- Achieved considerable cost savings
- Collaboration and integration of the team from an early stage (ECI)
- Development of client capability
- Driving innovation
- Significant time savings – project completed in fourteen months

Client objectives and vision

Availability of funds for this project meant that the Environment Agency only had 4 months for design, consenting and procurement. Due to the complexity of the site being a working harbour, subject to a number of protection orders (SSSI, SAC, SPA, Nature Reserve), they also had to

overcome issues around Habitat Regulations Assessment and compliance with the Water Framework Directive.

The key driver for selecting the Cost Led Procurement route was the potential to procure and deliver the project within a constrained timeframe. On previous projects the Environment Agency would have adopted a mini-bid process, but this can be lengthy and time-consuming. Due to budget restraints, the project had to be delivered within the current fiscal year, so there were huge time pressures on the project. In actuality, the Environment Agency had fourteen months from Business case to Completion, a process that would usually take around two and a half years. One of the biggest benefits of Cost Led Procurement in this respect was the ability for the Environment Agency to streamline the up-front processes involved in the procurement of the project, enabling them to move forward very quickly.

New procurement techniques and processes

The client used the NEC Contract on this project, utilising a master template they have set up as part of their existing framework. This Contract has been selected due to its focus on partnering, as part of the Environment Agency's drive for integration and collaborative working.

The Cost Led Procurement route facilitates integration and collaborative working on a project from a very early stage. On Rye Harbour, this helped to unlock and drive forward huge benefits due to the involvement of the contractor and their supply chain, who brought extensive knowledge and experience to the project.

Early Contractor Involvement (ECI) was established during the development of the bid. Due to the tight timeframe, and some of the complexities of the project (including a number of protection orders on the site), the project team collaborated extensively (client, consultants, main contractor, Tier 2 and Tier 3) to come up with solutions to some of the specific problems and challenges.

Early on in the process, they established a 'One team, One Goal' ethos to unite the different stakeholders and supply chain partners. To facilitate this process, they ran a workshop for the Tier 2 and Tier 3 partners, setting out the project objectives, and inviting them to take an active role in contributing ideas and innovations on the project. This was a great success, and

was essential in getting the project up and running quickly and effectively, and also releasing innovation down the supply chain. Additionally, a virtual office was set up so that everyone had access to the most relevant and up-to-date information available. Some of the supply chain partners also co-located (piling contractor, designer), ensuring that decisions could be made much more quickly.

The team also set Team Performance Measures (TPMs) on the project as this helps to encourage a team approach.

On a more general level, the Cost Led Procurement route fits with the Environment Agency's work philosophy going forward, and is a natural evolution to their way of working. As a client, they are now better informed and committed to this approach in the future. They are also in a position where they know what their products (should) cost. For the Rye Harbour project, the client team worked closely together to define clear objectives for the project, selecting the procurement route and defining deliverables, timescales and costs. With regards to setting costs on the project, the client team developed a detailed project scope, based on the Employers Requirements. The Rye Harbour team along with their Cost Consultant, Arcadis, then developed an outturn cost for the project. These costs were benchmarked against the Environment Agency's internal project cost tool (made up of previous projects that have been delivered) and they also benchmarked them against other external projects to ensure a reasonable cost. The project bid was then developed and issued to contractors on the existing Environment Agency framework. Contractors were asked to bid, based on the following criteria

- Demonstrate that they can deliver for the cost
- Outline key risks and how they can be mitigated
- Detail what efficiencies they can deliver based on the cost
- How these efficiencies can be top sliced from the cost

Following the bidding process, they appointed Jackson Civil Engineering (JCE), who were selected based on their understanding of Cost Led Procurement, their knowledge of the local area (East Sussex) and their ability to beat the target cost through innovative collaboration across the supply chain.

Cost targets and savings

The main targets for this project were around time and cost. With regards to time, due to the funding window, the project had to be delivered within the current fiscal year. This target was achieved, and the project went from Business case to Completion in fourteen months. Cost savings of 6% were achieved on the out-turn cost, worth £600,000.

Team Performance Measures (TPMs) were measured monthly throughout the project. Information was collected and fed back to the project team at regular team meetings

Facts and Figures

- Considerate Constructors score – 36 out of 40
- Detailed design and construction completed inside 9 months – compared with a norm of closer to 2 years
- Reduced up-front programme led to huge cost savings
- Stronger integration by the teams – due to the timeframe they had to work closer together to achieve the programme. The whole team embraced ECI and collaborative working

Percentage saving: 6%

Overall saving: £600,000

Specific savings:

- Saved £117k through negotiations with Natural England for continued working through bird breeding season
- 6% saving on out-turn cost – mainly up-front cost
- Original cost offered £9.6m – out-turn construction and project cost £9m

Additional benefits

In selecting the Cost Led Procurement route, the Environment Agency hoped to achieve a range of benefits in relation to the project targets they had set. These targets were related primarily to the realisation of savings in cost and time, to enable them to achieve the budget and timescales for this project. As detailed in this case study, these benefits were successfully achieved, and in addition to this, there were a number of other benefits that were uncovered, including:



- Streamlining the up-front procurement process
- Continuous development and improvement of the Environment Agency's client capability
- Driving innovation through the adoption of ECI and collaborative working principles

Because the client had set out clear costs on the project, this gave the supply chain partners more confidence to put forward innovations within the set cost. As the project involved working on a 'live' harbour, the project team worked extensively with the Tier 2 and Tier 3 partners during design development to utilise their expertise in developing a solution. This led to a number of value engineering solutions, as outlined below.

Another essential component to the success of this project was the time and resource that the project partners invested in communicating and collaborating with the different stakeholders to resolve issues that arose. The team liaised extensively with Natural England to develop solutions that would mitigate some of the impacts of necessary works. In many cases this also had benefits for the project in terms of reducing timescales and savings costs, as outlined below

- Some precious intertidal plants from salt marsh were relocated and transplanted, avoiding loss of vegetation
- Natural England accepted habitat they had created at Rye Harbour Farm as mitigation for the mudflats lost when they had to drive approximately 1000m of piling.
- Close working with marine ecology teams meant they prevented any mudflat washed in the Rother being seen as wasted and damaging the environment. This saved a lot of money in waste disposal
- Extensive negotiations with Natural England enabled them to continue working through the bird breeding season. This was achieved through the utilisation of a vibro-piling innovation, which reduced the impact of noise on the site so that the birds were not disturbed. This was a massive innovation, which avoided huge de-mobilisation and re-mobilisation costs of £117k. The programme was also reduced by a number of weeks. This solution was

developed by Jackson Civil Engineering and Team van Oord (Tier 2)

- To mobilise plant around the site, a raised track was constructed along the line of an existing stone track. This helped to reduce both short and long-term impacts to the site

Although the Environment Agency are not trialling any other measures on this project, they are (or will be) adopting Integrated Project Insurance (IPI), Project Bank Accounts (PBAs) and BIM on other projects. There is a synergy with all of the routes in regards to behaviours, and they want to drive this as they move forward.

Overall assessment

The assessment of the Trial Project Support Group is that the Rye Harbour project has achieved considerable cost savings through the adoption of the Cost Led Procurement route, evidenced by the 6% saving achieved against the projects original cost offered.

Due to the tight timeframe available for this project, a key driver for the selection of this route was the potential it offered to reduce the delivery schedule. The Environment Agency were able to streamline the up-front processes, enabling them to move forward very quickly, and the project programme was cut in half.

Through ECI and collaborative working across the project team and supply chain, they were able to realise significant savings on the project's programme and budget. An example was the use of vibro-piling, brought to the project by the Tier 2 specialist contractor.

Key lessons

- Allow more time to achieve agreement on cost
- Develop robust benchmark cost data base (Project Cost Tool)

Miscellaneous

Authors:

- This case study has been prepared by Deborah Hynes of Constructing Excellence

Key Contributors include:

- Rob Taylor, Environment Agency

Background: Trial Projects programme

The Government Construction Strategy aims to change the relationship between clients and the entire supply chain within the industry. The trial projects perform a central role in delivering the Strategy's sustainable 15-20% reduction in costs and are currently testing 3 new procurement models (Cost Led Procurement; Integrated Project Insurance; Two Stage Open Book) that were proposed by industry and developed by a joint task group. Case study reports are therefore an output of monitoring the progress and outcomes of the trial projects. They are produced at four stages: Kick-off Meeting; Brief / Team Engagement; Decision to Build; Build and Occupy. Other case study reports can be found at:

<https://www.gov.uk/government/publications/government-construction-strategy-trial-projects>

Project contacts

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How the reported 6% savings were achieved

Strategic context		Client	Collaborative	Supply chain
Aggregation of demand				
Significant committed spend				
Standardised procurement / streamlined approval processes	Yes	Standard EA framework process		
Lean programming	Yes	Substantially reduced programme through innovation		
Client cost data base	Yes	Unit cost data base used to set target cost		
Performance management				
Common new delivery model characteristics deployed		Client	Collaborative	Supply chain
Challenging cost target / open book	Yes		Entire team bought into the philosophy	
Affordable standardised output / outcome requirement				
Early contractor involvement	Yes		Tier 1 contractor and Tier 2 subcontractors	
Lower tier engagement: fully integrated supply chain	Yes			Tier 2 introduced very early
Lower tier engagement: innovation encouraged / achieved	Yes			CMP and TVO innovation
Standard form of contract with minimum amendments	Yes	NEC ECC		
Effectively led change in team behaviours and practices	Yes		Key stakeholders committed to success of the project	
Cost Led Procurement characteristics deployed		Client	Collaborative	Supply chain
Product repetition and framework continuous improvement initiatives facilitate downwards cost glidepath	Yes	Through EA framework arrangements		
Mini tender undertaken with maximum 2-3 framework suppliers	Yes		Standard EA framework arrangements	
Approval to construct on basis of demonstrable ability of team to achieved targeted costs and progress against project objectives	Yes		Basis on which team selected	
Other cross cutting initiatives deployed		Client	Collaborative	Supply chain
Building Information Modelling				
Infrastructure Procurement Routemap				
Government Soft Landings				
Project Bank Accounts				