SEYMOUR CIVILS USED CLIP TO HELP IMPROVE EFFICIENCY, SAVE TIME AND GIVE ADDED VALUE TO ITS CUSTOMERS

THE CLIENT: NORTHUMBRIAN WATER

THE CONTRACTOR: SEYMOUR (CIVIL ENGINEERING CONTRACTORS) LTD

THE PROJECT: SHIREMOOR FLOOD ALLEVIATION SCHEME

Chris Short, Managing Director of Seymour Civils, explains how CLIP helped the company to increase the speed and efficiency of its pipe laying operation, using skills that could be widely applied on other projects.

BACKGROUND TO THE PROJECT
Seymour (Civil Engineering Contractors) Ltd is a privately owned company (specialist engineering company working as part of Renew Holdings Plc), formed in 1978. We undertake civil engineering schemes covering all aspects of land reclamation, port, harbour and sea defences, urban renewal, environmental improvements, main drainage and development infrastructure.

The CLIP activity was carried out on the Shiremoor flood alleviation scheme in Newcastle-upon-Tyne – specifically, on the upgrading of a kilometre-long sewer pipeline running beneath a road network on a Newcastle housing estate. The objective of the scheme was to prevent residential properties being flooded during periods of heavy rain which had previously been an issue.

WHAT ATTRACTION US TO THE CLIP PROGRAMME
We pride ourselves on our competitiveness and the quality of service we give our customers, and were therefore keen to take advantage of CLIP’s potential for increasing efficiency and cost savings.

WHAT OUR AIMS AND EXPECTATIONS WERE
We expected to be able to enhance the skills of the team during the Shiremoor project, and increase our pipe laying production rates in the roads, as it traditionally has more problems than fieldwork and has a greater impact on residents and the client. Our wider aims were to gain a better understanding of the benefits of lean thinking, identify and reinforce good practice, become a leading example of the use of CLIP within the field of civil engineering and further heighten our competitiveness as a result of its application.

HOW THE CLIP PROCESS WORKED FOR US
As well as key members of Seymour Civils, the CLIP team included client and consultant representatives and a CLIP engineer who acted as facilitator. Under the guidance of the facilitator we employed a number of lean improvement tools to highlight activities that were not adding value to our customers, identify waste and take actions to make improvements. These tools included:

Process Modelling – we produced a full model of the entire pipe laying process. The lean improvement approach recognises that only by understanding the whole process can issues causing waste be identified and eliminated. The team challenged the process and highlighted issues such as the availability of plant, labour and materials, and communications within the company, as potential areas to focus on.

Pre-Diagnostic Workshops – during our initial CLIP workshops we defined the focus of the activities and our expectations for them. This included organising the collection, collation and interpretation of data on:

- The delivery of similar recent projects – planned and actual programme start and end dates, and planned and actual production rates.
- The quality of similar recent projects – road defect notices, not-right-first-time data, public complaint numbers, supplier performance assessments, post project review sheets, KPIs and financial reports.

In addition we produced a simple form to act as a daily all-in-one data collection sheet that all site personnel involved in the project would contribute to. This provided accurate, current data on planned and actual programme production rates, etc, and further information on operatives, materials and machinery. This helped the team to understand the focus for this intervention.

Diagnostic Workshops – the data collection activities which included workplace observation of a typical 4 man pipe laying team, paved the way for analysis sessions during which the team highlighted and prioritised areas of concern. The data was analysed in three stages:

1. An investigation of pipe laying activities to identify those that added value to the customer, those that did not add value and those that involved wasted time. This found that 40% of pipe laying activities were non-added value or waste.

2. An analysis of the 40% of non-added value and waste activities. This showed that material availability was the main cause of non-productivity.

3. A further investigation which showed that 70% of non-productive time was spent waiting for bedding and stone, with 30% of that time spent waiting for pipes.

In subsequent discussions the CLIP team concluded that the non-productive time was primarily an issue of internal logistics – rather than problems with external suppliers – and that improving communications within the project team would bring significant improvements. In reaching this conclusion the team demonstrated true continuous improvement by challenging our current ways of working. We showed that the belief – too often prevalent in the industry – that most things are not within our control and there is nothing we can do about it, is false.
5C GOoD WoRKPlaCE ORgANISaTIoN

Another issue highlighted by the team for focussing on, was the amount of time spent obtaining the right tools and equipment for the job, and then ensuring that they were fit for purpose. This was identified as an area of operations where there was wasted time that should be eliminated.

To address this issue the CLIP facilitator introduced us to a core lean tool – 5C workplace organisation. This technique aims to ensure a safe, best-working environment that supports sustainable, quality and cost-effective delivery.

The 5Cs are:
1. Clear out
2. Configure
3. Clean and check
4. Conformity
5. Custom and practice.

Hows WE BENEFITED FROM THIS INITIATIVE

The CLIP activity gave us the tools for a more focused and detailed approach to the key activities on the Shiremoor project, which allowed for greater efficiency and reduced waste. For example, the 5C lean improvement tool was used to develop and apply end-of-shift standards that have made the storage and retrieval of tools and materials from the site storage cabins more efficient and less time consuming.

The introduction of defined walkways and standardised storage areas for tools and equipment, for example, has helped with managing stock levels, identifying missing tools and equipment, improving accessibility, reducing damage during storage and handling, and eliminating trip hazards. The team found this tool very useful and subsequently used it to improve the organisation of the site compound and the pipe laying teams vans, with positive results.

AN INTRODUCTION TO CLIP

The Construction Lean Improvement Programme, or CLIP for short, is a new approach that aims to boost performance and profitability. Over the last five years CLIP has been adapting lean tools and techniques for use in the construction industry. CLIP has worked successfully with more than 150 construction companies across the construction supply chain, with most achieving productivity improvements of up to 50% in key processes.

CLIP works by focusing companies on improving the quality, cost, efficiency and delivery of a product or service, to achieve higher levels of customer satisfaction. It provides the knowledge and practical skills needed to take the highly theoretical topic of lean construction, and turn it into a practical tool that they can implement effectively. The heart of each company’s CLIP programme consists of a tailored improvement activity built up of our core Masterclass modules. The programme is designed so that a company can pick and choose the range of tools and expertise available in the modules that it needs.

In this case study we feature the use of ‘the Lean Processes Masterclass’. This looks at ways of improving quality, cost and delivery by looking in detail at key processes during a 3-9 month programme of intensive improvement activities. Plans are then put in place to roll out improvements through the company.

KEY LEARNING POINTS

- Establish a model of the whole project process so that areas of potential waste can be identified
- Develop a simple means of collecting current data on the project from all of those involved, so that problems and opportunities for improved efficiency can be readily identified
- Be willing to challenging the current ways of working and change long-established practices.

KEY SAVING

The filming of the improved pipe laying process clearly demonstrated that the Improved communications within the company saved a significant amount of time wasted through having to wait for the arrival of materials and equipment at the project site. This in turn ensured that the client and the residents provided positive feedback on the way this work was completed with minimum disruption.