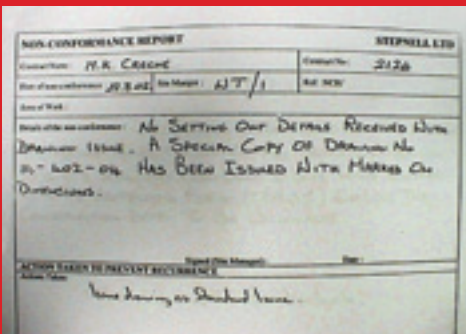


CLIP

A civil engineering and building contractor used CLIP to improve their knowledge base and internal processes, to add value and bring cost savings to their client's buildings



A non-conformance report was used to capture any problems which occurred on site

“Don't be afraid to look outside the industry for answers, but recognise that ideas must meet the needs of the construction industry.”

Jim Smith of Stepnell Ltd

THE PROJECT

New Childcare Facilities at Swindon and Milton Keynes

CLIENT:

NHS Trust and Tender Loving Childcare Ltd

CONTRACTOR:

Stepnell Ltd

Jim Smith of Stepnell tells how the company used CLIP to develop their internal processes and to produce a best practice document, which they now use to add more value to their clients' buildings.

BACKGROUND TO THE PROJECT

Stepnell is a regional civil engineering and building contractor, delivering buildings for a range of clients. We operate in a number of specialist markets, which are generally design and build schemes.

We are a family owned business, so we can be flexible and change our processes more easily.

What attracted us CLIP

We heard about CLIP through one of our directors, Mark Wakeford. He had attended a course on supply chain management, run by the National Federation of Builders. After some discussions, we were invited to join the programme. The company has been involved with partnering activities before, so we recognised that CLIP could be of real benefit.

What our aims and expectations were

As many of our projects are similar, we recognised that CLIP could bring benefits to the way we partner. It would also help us to streamline our construc-



tion processes. We expect to be able to use the lessons learned from the CLIP process in future projects.

We had a contract to design and build a new childcare facility in Milton Keynes. As the start had been delayed, we decided to use CLIP on another contract in Swindon as a benchmark to try to improve our processes. We have designed and built several childcare facilities in the past, and had opted for timber frame structures, as these could be completed within 21 weeks.

■ **We set ourselves a broad range of aims to achieve, which included:**

- Finding out if our partnerships with subcontractors are economic
- Gaining a better understanding of how efficiently we build
- Improving our understanding of subcontractors' costs
- Making the project run more smoothly, with better co-ordination with and between subcontractors
- Improving health and safety standards
- Developing a simple system of work on future projects
- Working together for mutual financial benefit
- Reducing build times and guaranteeing the quality of work.

How the CLIP process worked for us

Mark started by discussing the best route for the CLIP project to follow. We chose the childcare facilities as we carry out repeat work and it would be easy to measure improvements.

The CLIP team visited the Swindon facility to identify the key issues to concentrate on during the project. With help from two CLIP engineers, we identified a number of areas that had contributed towards the successful management of the Swindon project.

We looked at how well the site was organised in general. We looked more closely at issues like the way the timber frame was erected. Our site inspection revealed that the site was run efficiently, with no real sign of the seven types of waste. The documentation for the project was also good, but we decided to be very critical of ourselves to drive us forward. We quickly realised that to identify the areas that produced the most waste, we needed to look at the whole programme as well as individual activities.

When we began work at Milton Keynes, we decided to measure performance in the three key areas: quality, cost and delivery. We felt that these indicators

would best measure the success of the project. We used the Plan-Do-Check-Act (PDCA) cycle to encourage continuous improvement. This involves encouraging staff and subcontractors to challenge fixed ideas, be pro-active and constantly seek to improve.

We have developed relationships with subcontractors who we have used before. Unfortunately, not all subcontractors used on the Swindon project were available. The project used a JCT 98 design and build contract, but this did not limit the CLIP process. We have a partnering arrangement with our clients that focuses on allowing us to continually improve our service.

We decided to monitor the project's process with non-conformance reports, to capture data on any problems that occurred on site. Everyone was involved and was honest about the problems on site.

During the Milton Keynes project we identified 149 non-conformances, and we are changing the way we work to address them. Many were linked to the way that information is transferred around the project. We now understand how vital it is to produce information early on in a project and to ensure that the rest of the team know what their roles are.

We recognise that we produce bespoke facilities to meet our customers' needs. In this case it was Ofsted. These include fixing signs at a lower level and using lower case lettering so the children can read them. We also colour code door handles to point out to the children which doors they can use on their own. We keep this information in-house and it is available to each new project team. This means that we do not have to keep re-inventing the wheel.

How we benefited from this initiative

When we first started designing and constructing childcare facilities, we had a lot to learn about the specific needs of our customers and end users. Through CLIP we have developed this information into semi-standard documentation that is cross-referenced. We are standardising all of our drawings, but they remain job specific.

We now understand how to make the building work better which gives the client better value. By re-visiting other facilities and partnering with the client early on, we have become even more cost-effective in the market place.

When we see prospective clients, our extra expertise allows us to negotiate the work better. We can help the whole team focus on the long-term use of the building, rather than just the initial contract. For example, we can advise clients within five minutes, the minimum size the childcare facility needs to be for the number of children and their age ranges. To be able to quote an accurate figure to within 2%, shows them we know how to design and build their building.

This filters down through the whole supply chain. On the latest project in Portsmouth, our mechanical subcontractor found that the flow rate from the plant room was unnecessarily high.

‘Make sure that you let the rest of the supply chain know that there is a benefit to using CLIP.’

Jim Smith of Stepnell Ltd

The improved design saved us money. The repeat business means we can keep improving because each time we learn more about this type of building and its use.

How we plan to use the skills and lessons learned

We are developing the lessons learned, adding them to our new best practice document. This will contain single specification sheets on recommended suppliers, previous quotations and design details. The document is made up from individual sheets. Information can be added one piece at a time and it can be plugged into other areas of our business. We are also introducing non-conformance reporting into other repeat building programmes.

Our view is that when faced with a problem, ask 'why' five times to find the cause. Don't be afraid to look outside the industry for answers, and make sure that the rest of the supply chain knows there is a benefit to using CLIP. If you can show early on that your actions are making improvements, then people will take notice and contribute to the process.

It is often easy to resolve problems. The trick is to close the loop so that it does not happen again. If we started again, we would give the non-conformance reporting more attention, because these highlighted problems are often overcome on site but never recorded.

We will continue to review the best practice document and refine it so that it includes the best information available. This way we can continue to

improve on the way we partner with our subcontractors. When we started, we felt that our service was good and extended beyond just the building contract. The CLIP process has helped us find ways of improving our construction process so that we can give an even better service.

LEARNING POINTS

- We decided to monitor the project's process with non-conformance reports, to capture data on any problems that occurred on site. Everyone was involved and was honest about the problems on site.
- As many of our projects are similar, we recognised that CLIP could bring benefits to the way we partner. It would also help us to streamline our construction processes.
- It is often easy to resolve the problem, but the trick is to close the loop and make sure it does not happen again.
- We are developing the lessons learned, adding them to our new best practice document.
- The CLIP process has helped us find ways of improving our construction process so that we can give an even better service.
- If you can demonstrate early on, that your actions will result in improvements, then people will take notice and contribute to the process.
- We used the Plan-Do-Check-Act (PDCA) cycle to encourage continuous improvement. This involves encouraging staff to challenge fixed ideas, be pro-active and constantly seek to improve the process.

JARGON BUSTING BOX

■ **7Ws – look for seven wastes that can never be added value:**

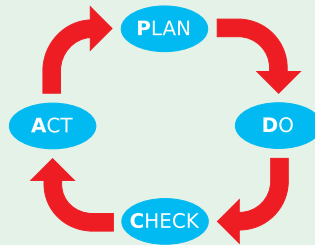
- Motion
- Transport
- Waiting
- Overproduction
- Defects
- Unnecessary inventory
- Inappropriate work or processing.

■ **5Cs – check these to lay the foundations for continuous improvement:**

- **Clear out** – separate the essential from the non-essential
- **Configure** – a place for everything, and everything in its place
- **Clean & check** – assess the current condition of the environment
- **Conformity** – ensure standard easily maintained
- **Custom & Practice** – ensure everyone follows the rules.

■ **THE PLAN-DO-CHECK-ACT (PDCA) CYCLE –**

a way of thinking which encourages continuous improvement



■ **THE CLIP – ‘standard structured approach’ – which is made up of four main stages:**

- **Pre-diagnostic** – setting the aims and training the team in lean tools and techniques
- **Diagnostic** – practically applying the tools to analyse the situation
- **Improvement activity** – looking at the data for opportunities to improve processes
- **Follow up** – identify barriers to success and set improvement actions in place.

■ **VISUAL CONTROL –**

a major part of the CLIP process is to use visual tools to display data, highlight improvements and record ideas. These include:

- **Key Performance Indicators** – are the measure of performance of activities that are critical to the success of an organisation
- **Pareto Chart** – a comparative bar chart that shows the number of defects for each chosen area of work, and the cumulative total of defects over the whole project
- **Fishbone Diagrams** – are used to identify the possible causes of problems. Start by defining the problem to be investigated and write it down. Then draw lines (bones) to represent each cause that runs into it. Finally you can brainstorm what is actually the cause of the problem
- **Priority Matrix** – a quadrant chart used to prioritise which improvement areas to focus on first. For example, you can place activities that will have a high impact at a low cost in one quadrant and focus on these first.

GETTING HELP

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