Practice:
Safety Visually Methodology

In 2013 Scott Brownrigg's Technical Consulting 'Safety Visually' Methodology won the Association for Project Safety (APS) CDM Innovation Award. Judges applauded its innovative approach to improving construction health and safety.

The methodology, which identifies significant risks at design stages in a visual way and communicates risk jargon-free to stakeholders, has been designed by Paul Bussey, Head of Technical Consulting.

Here Paul explains the methodology and its application across projects including the Southampton Solent University scheme currently being undertaken by the practice.

IDENTIFYING HAZARDS & RISKS

The concept of identifying risk visually is commonplace on roads, buildings, stations, maps, and even construction sites, so why not on construction drawings and associated documents.

INDUSTRY CONTEXT

The current upheaval within the Construction Industry regarding the appropriate interpretation and implementation of the 2007 CDM Regulations and particularly their non-compliance with the 1994 TMCS European Directive is a cause for considerable debate and impending change. We are on the verge of a new set of CDM Regulations in 2015 which will radically change their method of delivery bringing the architect into the forefront as the 'Principal Designer (Health and Safety)' on all projects.

It is therefore important that the RIBA and architects in general are ready to take on this new duty and responsibility, and meet industry expectations by embracing the ethical issues of project safety.

The Safety Visually principles are already being used in parts of the industry as an alternative method of identifying hazards and associated risks, and to minimise unacceptable risks. Possible risk control measures are passed onto contractors to manage during the construction phase, using a minimum amount of narrative documentation. However, this is to a fairly limited extent, and does not reflect the need to recognise 'acceptable or tolerable risks' within projects or by the construction industry. Neither does it help designers to go only 'so far as is reasonably practicable' (SFARP) to mitigate these significant issues as a collaborative team. The visual analysis process allows these often difficult-to-agree concepts to be discussed collectively and recorded in a manner that everyone can easily understand, including operatives and foreign workers. The process should help in bringing together a widely divergent part of the industry; creating more cohesive team-working expectations, better health and safety outcomes and facilitating the construction of better and more innovative and creative designs, which previously may have been challenged by over onerous health and safety expectations.

THE AIM

Scott Brownrigg and its clients identified the need to find a way of analysing and addressing all relevant health and safety risks on their projects in a design-based proportionate and practicable way. This needed to be done without having to produce huge volumes of unnecessary and often impenetrable written paperwork on obvious generic risk management issues, yet needed to ensure the continued capacity for design excellence.

METHOD

By means of facilitating collaborative working, Safety Visually has evolved as an easy to comprehend, developing design and constructability storyboard. This helps all project participants to engage in a blame-free, open and transparent dialogue regarding significant CDM issues throughout project preparation stages in design team meetings. The developing Visual Design Stage Options Matrix document points the tendering contractors towards the transient or hidden constructability issues that would not necessarily be easy to glean from the architectural drawings or from the written pre-construction information. It provides a financially level playing field for all tenderers and creates a benchmark of CDM expectations for the construction phase. Contractors can also develop their equivalent project execution stage information, identifying their preferred construction and risk management methods in a similarly visual way as feedback to the client and design team, which can also be used by the workforce who arguably need it most.

Simply put, the Safety Visually Methodology identifies significant risks at design stages in a visual way; in communicating risk to all stakeholders in a jargon-free and clear way it facilitates open discussion of design risk resolution options, allows access to more detailed information (if required), communicates risk reduction methods to others and also creates feedback to the industry.

PRACTICAL APPLICATION

The Safety Visually process is being used on a wide variety of projects and is continually being refined with feedback from internal and external sources. On Southampton Solent University, the process has identified a number of significant risks relating to the existing site, proposed building design and the client's safety expectations of the completed building, particularly relating to future maintenance. This information has been recorded in the CDM Options Analysis Matrix for wide discussion by the construction team, client team and other stakeholders, with recommended solutions and options considered. As the project progresses and as an increasing level of detail evolves, these options are rationalised into one safe but aesthetically appropriate solution for the project. This document works in conjunction with the identification of the significant issues on the project surveys, site plans, architectural drawings and visualisations, and forms a progressively developed 'safety specification' of significant issues. It is important not to identify risks that are purely related to trade contractor and main contractor construction issues, those that are within the capability and training of experienced contractors.

In parallel to its application across a variety of projects, case studies are being produced of lessons learnt and good practice, these are disseminated across the practice as well as to the Designers Initiative on Health and Safety (DIOHAS) and to members of the WREN Insurance Association. These are available on request to practitioners, academics and students.

CONCLUSION

This methodology creates a potential pivotal change to the management of risk and the integration of safety systems into architectural projects. It resonates particularly well with the key design and construction stakeholders, whilst at the same time meeting statutory and operational expectations ●

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Southampton Solent University CGI; CDM Options Analysis Matrix, Southampton Solent University; Design Hazard Analysis, North Hertfordshire College, Hitchin campus; Project case study example