

Team Guidance – Haskell’s- “Designing for safety” programme

The Problem / Challenge

Traditionally architects were encouraged to stay away from construction safety issues due to **potential liability claims**. These embedded attitudes need to change.

The risks

This claim conscious attitude **inhibits good integration** of design and construction safety and potentially causes accidents instead of avoiding them.

The solution

Haskell Design Build (US) are responsible for design and construction and their motto is “**one company , one responsibility**”. They have corporate liability coverage for all their architects and construction professionals. They use collaborative design-build delivery including a **safety alert system using only 8 types of warning symbols** on drawings to flag potential hazards.

The benefits

Safety symbols are placed **where the hazard is on a drawing**, ie. not in other risk analysis documents or in the margins where they are easily missed.

Key Points

Symbols are explained in the margins and in contract documents. Subcontractors are advised that this does not relieve them of **their own safety responsibilities**.

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Capturing your vision in an exceptional facility solution is our passion.

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Designer Guidance –Standard Safety Symbols for Design Drawings

The Problem / Challenge

Providing **graphic significant risk data at the point of use on drawings** for designers and contractors with an explanatory key if necessary depending upon complexity.

The risks

Designers and supervising/pricing contractors **missing the significant risk issues whilst developing designs or cost plans** and procurement

The solution

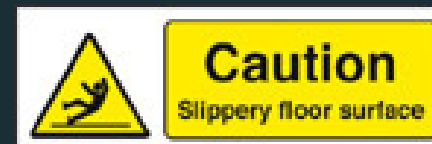
Use of an **optimal number of standard industry wide symbols** with explanatory key if required

The benefits

Risks are pinpointed on the actual drawn plans rather than lost in the margins or other documents. This prevents the likelihood of risks being missed at key design stages by the entire design and client team and during workshop sessions

Key Points

Discretion of designer and CDM-C needed to decide the significance, amount and complexity of risk information presented



Designer Guidance –WSP Engineers Symbols for Design Drawings

Significant hazards that are unusual, difficult to manage and cannot be designed out eg. **Fragile roof lights, holes through floors, etc.**

Compulsory actions to encourage the contractor to carry out specific tasks in a particular way eg. **Structural erection or demolition sequences**

Prohibited Actions- Having identified significant existing hazards and risks the contractor may need to be informed of particular actions to be avoided eg. **Use of access roads prohibited at certain times on school sites.**

Significant Information – to inform the contractor or user of issues that have been mitigated but of which they need to be aware eg. **Maintenance and inspection access to difficult parts of the building once scaffolding removed.**

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We use this symbol to give warning of significant hazards or information which is unusual

Identifying hazards that cannot be mitigated



We use this symbol when we need the contractor to take a particular action

Identifying compulsory actions to avoid risks



We use this symbol when we want you to avoid something or refrain from a particular action

Identifying actions that should be prohibited



We use this symbol when we want to convey some relevant information

Identifying significant safety information to pass on

Designer Guidance – WSP Engineers Symbols and text on Drawings

AT THE WITH-

We use this symbol to give warning of significant hazards or information which is unusual

Fig 3

CAR PARK LEVELS HAVE WEIGHT RESTRICTIONS. ANY CHANGE TO PLANNED LOADS TO BE CHECKED WITH THE STRUCTURAL ENGINEER. APPLIES TO ALL CAR PARKING LEVELS.

Fig 4

CABLES SERVED IN THE GROUND ARE UNKNOWN. SAFETY INFORMATION IS AVAILABLE BUT MAY NOT BE ACCURATE.

Fig 4. On this industrial project, cables were known to pass below the foundations of this support tower

Identifying hazards that cannot be mitigated

Designer Guidance – WSP Engineers Symbols and text on Drawings

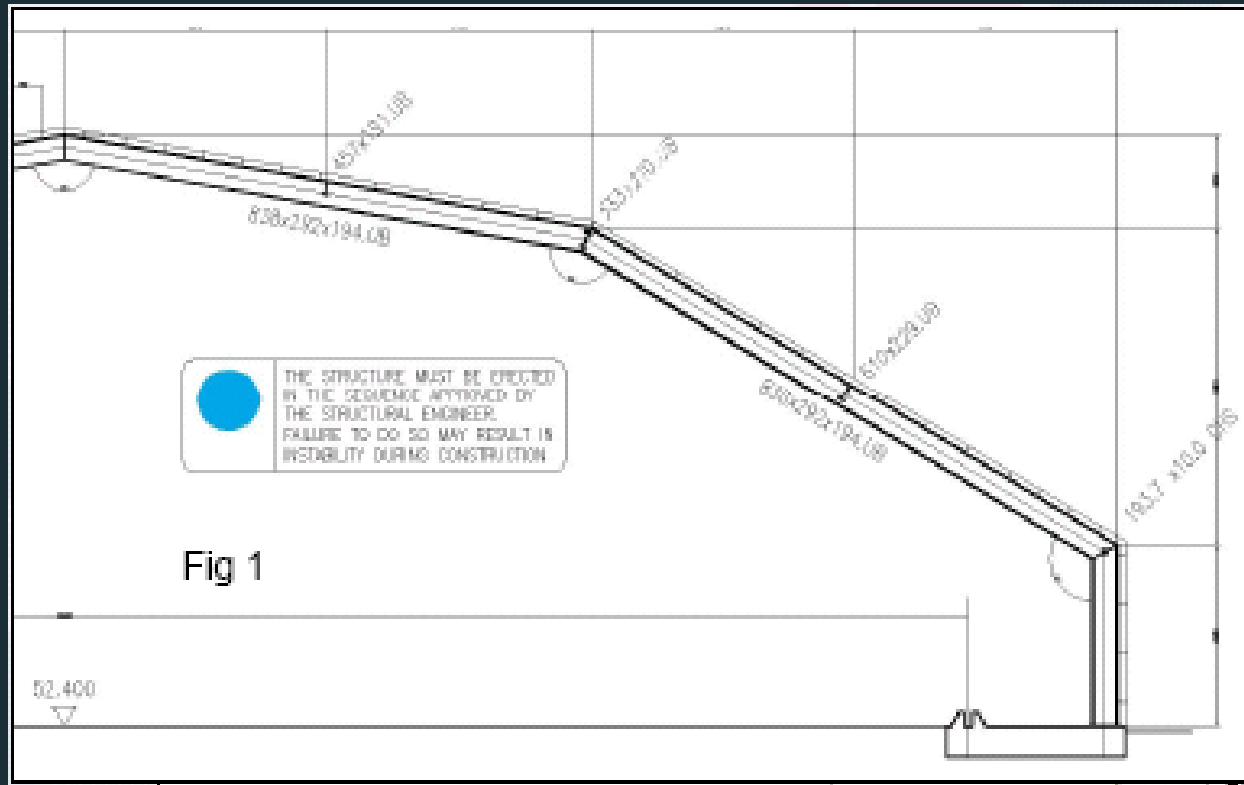

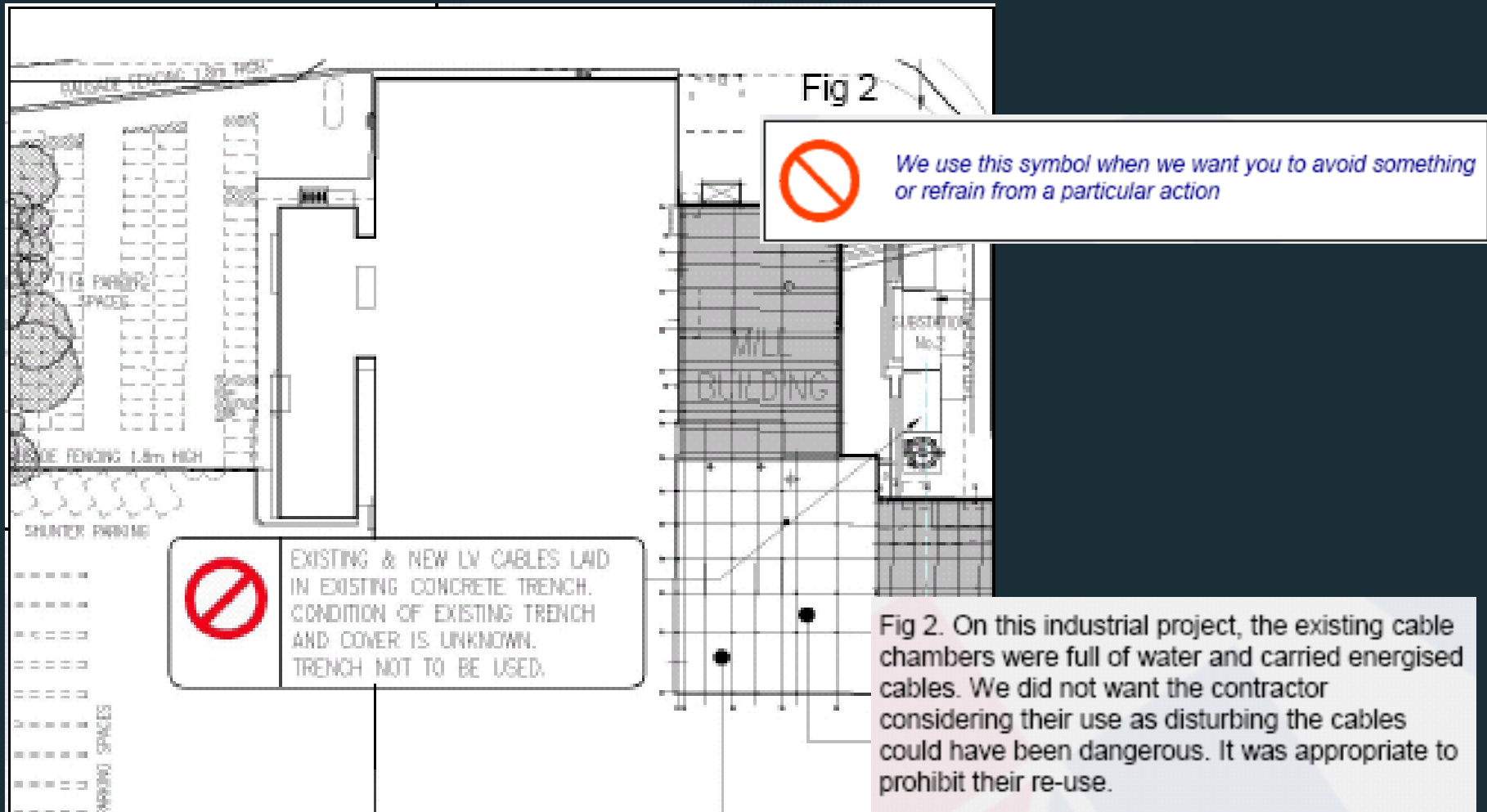


Fig 1. An unusual building requires the steelwork to be erected in a particular sequence. Otherwise there is the risk that the structure may be unstable during its construction.

 We use this symbol when we need the contractor to take a particular action

Identifying compulsory actions to avoid risks

Designer Guidance – WSP Engineers Symbols and text on Drawings



Identifying actions that should be prohibited

Designer Guidance – WSP Engineers Symbols and text on Drawings

i We use this symbol when we want to convey some relevant information

i (DURING) CONSTRUCTION, THE CLIENT'S EQUIPMENT SUPPLIER WILL NEED TO INSPECT THE STEELWORK AS IT IS ERECTED. SAFE ACCESS WILL NEED TO BE PROVIDED AT ALL AFFECTED LEVELS

i NEW LIGHTING TO BE INSTALLED ABOVE EXISTING PROCESS PLANT. THIS SHALL BE CARRIED OUT DURING SHUT DOWN PERIODS ONLY.

i MAINTENANCE OF AIRCRAFT WARNING LIGHTS TO BE VIA SMALL CONSIDERATION TO BE GIVEN TO LED LIGHTING OPTION REDUCING ACCESS REQUIREMENTS

Fig 3

Fig 4

Fig 4. On this tall building, the maintenance risk associated with servicing the aircraft warning lights has been addressed and the remaining relevant information given via the drawing

Identifying significant safety information to pass on