SCIRT Rebuilding Infrastructure

LEARNING LEGACY

Lessons learned from one of New Zealand's most challenging civil engineering projects: rebuilding the earthquake damaged pipes, roads, bridges and retaining walls in the city of Christchurch 2011 - 2016.

Critical Risk 6 Health and Safety Toolbox – confined spaces

Story: Health and Safety

Theme: Programme Management

A document which outlines how to work safely in confined spaces, created to discuss with site staff at on-site "toolbox talks".

This document has been provided as an example of a tool that might be useful for other organisations undertaking complex disaster recovery or infrastructure rebuild programmes.

For more information about this document, visit www.scirtlearninglegacy.org.nz

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Health and Safety Toolbox 6

Critical risk– **Confined Spaces**

Confined Spaces are our **number 6 critical risk .** A confined space is an enclosed or partially enclosed space not intended or designed for human occupancy, and where there is a risk or more of the following:

⇒ An oxygen concentration outside the safe oxygen range

⇒ A concentration of airborne contaminant that may cause impairment, loss of consciousness or asphyxiation

⇒ A concentration of flammable airborne contaminant that may cause injury from fire or explosion

⇒ Engulfment in a stored free-flowing solid or a rising level of liquid that may cause suffocation or drowning

Hazards

⇒ Below ground confined spaces are a natural receptacle for all gases that are heavier than air. Gases of various kinds can seep through the ground or infiltrate the space when other work is taking place in the vicinity

⇒ Relying on your nose (the sniff test) is unsafe. A gas detector that has current calibration must be used before entry and during time in confined space

⇒ Respiratory protection should always be used in contaminated areas

Working safely

⇒ Never enter a confined space unless you have appropriate training and equipment

⇒ Always make sure you understand and follow the conditions and controls on the confined space entry permit including the approved emergency retrieval plan

⇒ Always sign on/ tag in when entering a confined space

⇒ Always wear the required PPE when entering a confined space

⇒ Never enter a confined space unless there is a spotter and rescue person on site and they are aware that you are doing so

⇒ Never enter a confined space unless there is an agreed communication method

⇒ No Smoking is permitted in the vicinity of the confined space due to potential explosive gases being present

Rescue

- It has been estimated that performing a task inside a confined space is 150 times more hazardous that doing that same job outside a confined space.
- For every person who dies in a confined space as a result of a work-place accident more fatalities occur in the rescue attempt.
- A **Rescue Plan** that meets the standard required in the Code of Practice must be prepared. This should include how to contact emergency services.
- Emergency drills covering the type of rescue that may be required should be held.

Rescue Plan

- A Rescue Plan is required for all confined space entry activities
- The Supervisor and Safety personnel are to prepare the Rescue Plan
- Arrangements should be made with local emergency services to determine whether they can undertake the confined space rescue (if called upon)

- The Supervisor is to communicate the Rescue Plan to the crew prior to commencing the confined space activity
- Adequate confined space entry rescue and communication equipment must be available at all times prior to entering the confined space (tri pods, inertia reels, harnesses, full fac respirators, radios, mobile phones and line of sight).
- Employees trained in confined space entry rescue are to be on site and available whenever confined space entry operations are being undertaken
- Observers must have the means to alert the Supervisor and/or emergency services if a rescue is required