

Safety and health alert

06/06 Retaining wall collapses onto employee

Incident

An employee sustained serious injuries while working in a trench when a 1400mm high retaining wall constructed of 350mm x 350mm x 1000mm reconstituted limestone blocks each weighing approximately 230kg collapsed, pinning him against the side of the trench. The employee was installing an underground service duct and was required to hand-dig in the trench to expose existing services.

The trench was excavated directly adjacent to the face of the retaining wall at a depth of between 700mm and 800mm and a length of between 8 and 9 metres. The trench extended to a depth of approximately 350mm to 450mm below the foundation of the retaining wall. Neither the trench nor the retaining wall were stabilised prior to excavation work commencing.

An engineer's inspection of the retaining wall after the incident established that the retaining wall was not constructed in accordance with the design specifications. There was an absence of slurry and geo-fabric, both important for binding the blocks in the wall to each other, locking the facing blocks and the backing blocks together to act as one solid mass.

A risk assessment carried out by the employer of the injured person identified the hazards associated with excavating adjacent to the retaining wall, however the control measures implemented were inadequate and the wall collapsed.

Factors to consider

- A risk assessment carried out identified hazards associated with excavating adjacent to the retaining wall.
- Control measures to address risk assessment findings were inadequate.
- The trench was excavated directly adjacent to the retaining wall.
- The retaining wall was not stabilised or removed prior to excavation work commencing
- The trench was not stabilised during excavation.
- The retaining wall was not constructed in accordance with the design specifications.
- Employees were required to work in the excavation adjacent to the retaining wall.

Recommendations

1. A risk assessment is carried out that identifies hazards associated with excavation work, in particular where structures are present.



2. Where any excavation is likely to adversely affect the stability of any building or structure, practicable measures are implemented that will prevent buildings, structures and excavations from collapsing. Examples are sheet piling, shoring, bracing, guying or other appropriate means.
3. Items of plant, excavated materials or other loads are not placed near the excavated area where there is a risk that the sides of the excavation may collapse, or the plant, material or other load may fall into the excavated area.
4. Provide such information, instruction, training and supervision to employees to enable them to perform their work in such a manner that they are not exposed to hazards.
5. Refer to the WorkSafe Code of Practice "Excavation: 2005" for practical guidance.

Further information

- Code of Practice "Excavation: 2005"
- *Occupational Safety and Health Act 1984*
- Occupational Safety and Health Regulations 1996

Further information can be obtained from WorkSafe's website at www.worksafe.wa.gov.au or by contacting Customer Services on 1300 307 877 or email safety@docep.wa.gov.au