



DRAINAGE and DUCTS – Statutory Undertakers Temporary Works – Excavation Collapse

0500.001

Issues

- *Temporary excavation supports were not installed as designed*
- *Lack of inspection by a competent person prior to access/use*
- *Lack of understanding/consideration of the potential impact that poor weather conditions could have on an open excavation*



Mitigation

Design

- Designer to review STATS information
- Could a GPR Survey suffice?
- Implement design clash reviews (3D BIM clash reviews) to avoid STATS
- Ensure Pre-Construction is specific and contains accurate information on ground conditions

Construction

- Temporary works shall be installed / constructed in accordance with the agreed design and inspected on completion (and prior to use).
- Inspection by a competent person shall be completed and recorded at the start of each shift, and after any event that may have affected strength or stability, such as heavy rain or following prolonged dry periods or change in traffic management.
- Review check sheet for excavation inspections covers the requirements of Temporary Works

Case Study

HEi044 – Temporary Works – Excavation Collapse

On 7th March 2018 an open excavation for a trial hole to identify existing gas services collapsed with a contributing factor being very wet ground conditions. The excavation utilised steel shuttering to support the excavation, however the installation was incomplete and not in accordance with the temporary works design. No pre-access inspections had been carried out. Fortunately, no one was present in the excavation at time of collapse.

Link

[HEi044 Temporary Works – Excavation Collapse](#)

Actual Incident

Excavation to expose the services had been completed and steel shuttering sheets were partially installed around the trial hole. However:

- the installation was incomplete
- the temporary works were not in accordance with the TW design
- no pre-access inspections by ‘a competent person’ had been carried out
- there was a lack of appreciation of the impact of the poor weather conditions



Examples of Significant Risks

Activity / Incident	Risk	Persons Affected	Likelihood / Severity
Construction	Collapse of Excavation	Persons carrying out excavation	L: Medium S: High
Access for Inspection / maintenance	Collapse of Excavation	Persons repairing / maintaining the temporary works or identifying services	L: Medium S: High



Please submit any feedback, examples of similar issues, or best practice to:
Chair of the PDWG Whole Life Design Task Group Andrew.Finch@Jacobs.com

LEAN

Material Reduction

Alternative Materials

Reduced Plant

Alternative Plant

Reduced Labour

Reduced Land

Reduced Transportation

Improved end user benefits

Reduced Activity Duration

Reduced Defects

Reduced Reportable Accidents