

Excavation and Trenching Standard

1.0 PURPOSE

This standard supports the Hazard Controls Policy and specifies the appropriate controls for excavation and trenching.

2.0 DEFINITIONS

2.1 Excavation

Excavation is any dug-out area of ground other than a trench, tunnel or excavated shaft.

2.2 Service

Service, for the purpose of the standard, means buried structures, pipelines or cables.

2.3 Trench

A trench is an elongated dug-out area of land whose depth exceeds its width at the bottom

2.4 Prescribed Area

The strip of land measured 30 meters perpendicular on each side from the centreline of a pipe.

3.0 METHOD/PRACTICE

An excavation and trenching plan begins with the identification and assessment of hazards/aspects and providing appropriate controls.

3.1 Identify Excavation and Trenching Hazards

- All excavation and trenching hazards shall be identified through a documented hazard/aspect and risk assessment. This includes:
 - Locating all buried services
 - Identifying affected structures
 - Identifying overhead power lines
 - Identifying cave-in or slide potential
 - Identifying soil type
 - Identifying confined spaces

3.2 Control Methods

- Where practicable, excavation and trenching hazards shall be removed. Where hazards cannot be removed, controls shall be used to reduce risk.
 - Engineering design controls are the preferred controls where practical. These include:
 - Excavating or trenching so that the slope of the walls is adequate for soil type.
 - Scaling loose material from the side of the excavation or trench.
 - Locating equipment, spoil piles, rocks and construction materials at least one metre from the edge.
 - Sloping spoil pile to no more than 45 degree angle.
 - Using temporary protective structures designed by a professional engineer.
 - Administrative Controls include:
 - Marking all buried services.
 - For soil disturbances within 600 mm (2ft) of buried services, exposing by hand or other approved method.
 - Operating or locating powered mobile equipment or vehicles so they do not affect the stability of the walls of the excavation or trench.

- For a trench that is more than 1.2 metres (4ft) deep, stationing a competent person on the surface to alert the worker about the development of any potentially unsafe conditions and to provide assistance in an emergency.
- Ensuring that a ladder, stairway or ramp is within 8 metres (26ft) of an employee working in the trench.
- Ensuring adequate barriers are in place prior to leaving any excavation unattended.
- Applying additional hazard control standards as identified in the hazard identification and risk assessment. Appropriate personal protective equipment shall be used where hazard/aspect and risk assessment identify the requirement and where engineering and administration controls do not effectively reduce them.
 - It is preferable to establish layers of protection by combining the three control types.
- Considerations when excavating or trenching near pipelines
 - Anytime excavation and trenching is required within the Prescribed Area of 30 meters of a pipeline, the National Energy Board Pipeline Damage Prevention Regulations must be followed.

4.0 REFERENCES

- Saskatchewan
 - The Occupational Health and Safety Regulations, 1996
- SaskPower
 - Hazard Controls Policy
 - Safety Rulebook
- Third Party Standards
 - Safety in Excavations and Trenches, Saskatchewan Occupational Health and Safety Publications
 - National Energy Board Act
 - National Energy Board Pipeline Damage Prevention Regulations – Authorizations
 - National Energy Board Pipeline Damage Prevention Regulations – Obligations of Pipeline Companies