British Columbia Municipal Safety Association

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# JULY *Safety Talk*

# Topic: Excavation Safety

Working around or in excavations is one of the most hazardous tasks faced by public works staff.

WorkSafeBC Regulations are very clear on this hazard: any excavation over 4' deep must be sloped, benched or appropriately shored, to prevent collapse.

If the excavation is 20' or more in depth, it must be certified by a professional engineer as safe to enter, and the protection for the worker inside the excavation must be in accordance with the instructions from the engineer. There are several other instances noted in WorkSafeBC Occupational Health and Safety Regulation (OHSR) 20.78; make sure you review the Regulation for the excavation you are considering.

There are many hazards in and around excavations. A pre-meeting must take place with all workers present at the site, to consider the following hazards:

- Traffic/work zone set up
- Underground or overhead utilities
- Working around mobile equipment
- Noise, heat, cold
- Excavation collapse
- Fall protection issues from outside excavation
- Safe access/egress to the excavation

An in-field risk assessment must be conducted, at the start of the project and continually throughout the length of the project.

Once traffic control has been established, workers need to assess and control the other hazards.

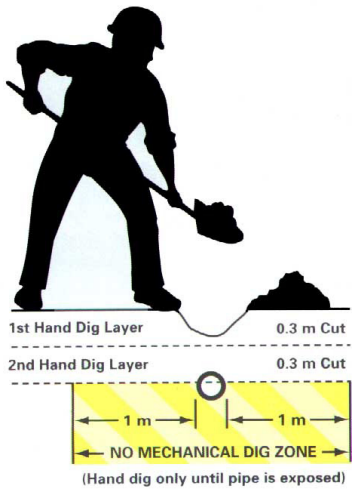
Overhead hazards must be assessed. If moving equipment under overhead powerlines, check Table 19-1B of OHSR for the minimum clearance required (6.5' for over 750 V to 75 kV). If working under overhead powerlines, the minimum distance from Table 19-1A is 10'. This is measured from the greatest potential reach of the equipment.

For underground hazards, Call Before you Dig: BC One-Call: 1-800-474-6886, or *6886 from Telus or Rogers Mobility systems. It can take one or more weeks to get this information so don't wait until the start date of the project.

BC OneCall
Call Before You Dig

Prior to commencing any excavation work, a qualified person must locate and mark underground hazards. These markings must not be done more than 14 days prior to excavating.

Mechanical digging is not permitted within the "no mechanical dig zone boundary limit" until the pipe or hazard is exposed by hand digging or hydro-excavating at a sufficient number of locations to determine the exact positions of buried infrastructure.




Once the utility or service is adequately exposed, mechanical digging is permitted to within 1 foot of the utility.

Several factors need to be assessed when determining the best method of shoring, sloping or benching the walls and ends of the trench:

- Size of the excavation
- Soil type
- Amount of water in the soil/excavation
- Whether the soil has been previously disturbed
- Proximity to improvement or structure
- Presence of vibration or hydrostatic pressure
- Where the worker will be, inside the excavation (end shoring may be required)
- Type and amount of underground infrastructure inside the trench
- The work to be done in the trench
- If it needs to be engineer certified

Shoring and trench shield systems come in a wide variety of sizes and configurations. The materials used to construct them can vary, depending on the systems' intended use.

Sloping and/or benching may be a workable solution, depending on what is around the excavation; many municipalities are unable to open an excavation as wide as this could require.