CHECKLIST | TRENCHING SAFETY

Presented by Hylant

Date: **Review conducted by:**

In accordance with OSHA 29 CFR 1926 Subpart P, workplace safety and health programs must be in place to address the variety of hazards workers face while in excavation sites. The following checklist is designed to provide best practices to prevent trenching injuries and fatalities for trenches less than 20 feet deep.

PRE-PLANNING	COMPLETED	NOT COMPLETED	N/A
Contact utilities to locate all underground lines prior to digging.	☐	☐	☐
Evaluate soil conditions (see chart below).	☐	☐	☐
Based on soil type, determine maximum allowable slope for excavations less than 20 feet based on angle to the horizontal (see chart below).	☐	☐	☐
Select appropriate protective systems.	☐	☐	☐
Determine proximity to the structures that could affect the choice of protective system.	☐	☐	☐
Test for low oxygen, hazardous fumes and toxic gases, especially when gasoline engine driven equipment is running, or the dirt has been contaminated by leaking lines or storage tanks.	☐	☐	☐
Ensure adequate ventilation or respiratory protection, if necessary.	☐	☐	☐
Provide a warning system for mobile equipment, if necessary.	☐	☐	☐
Plan for vehicle traffic control, if necessary.	☐	☐	☐
Train all workers to recognize existing or potential hazards and how to protect themselves from cave-ins.	☐	☐	☐

SOIL TYPE	HEIGHT/DEPTH RATIO	SLOPE ANGLE
Stable Rock (granite or sandstone)	Vertical	90°
Type A (clay)	¾:1	53°
Type B (gravel, silt)	1:1	45°
Type C (sand)	1 ½:1	34°
Type A (short-term); for a max. excavation depth of 12 feet	½:1	63°

PROTECTIVE SYSTEMS	COMPLETED	NOT COMPLETED	N/A
Always use a protective system, such as sloping, shoring or shielding, for trenches 5 feet deep or greater. • Benching to protect workers from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near vertical surfaces between levels. Benching cannot be done in Type C soil. • Slope to protect workers by cutting back the trench wall at an angle inclined away from the excavation that is not steeper than a height/depth ratio of 1 1/2:1, according to the sloping requirements for the type of soil. • Shore to protect workers by installing supports to prevent soil movement for trenches that do not exceed 20 feet in depth. • Shield to protect workers by using trench boxes or other types of supports to prevent soil cave-ins.	☐	☐	☐
Instruct employees to never enter an unprotected trench.	☐	☐	☐

ACCESS & EGRESS	COMPLETED	NOT COMPLETED	N/A
If trench is 4 feet deep or more, provide stairways, ladders, ramps or other safe means of egress.	☐	☐	☐
Ensure structural ramps used solely for access or egress are designed by a competent person.	☐	☐	☐
Provide ladders or steps within 25 lateral feet of workers.	☐	☐	☐
When two or more components form a ramp or runway, they must be connected to prevent displacement, and be of uniform thickness.	☐	☐	☐
Cleats or other means of connecting runway components must be attached in a way that would not cause tripping.	☐	☐	☐
Structural ramps used in place of steps must have a non-slip surface.	☐	☐	☐
Use earthen ramps as a means of egress only if a worker can walk them in an upright position, and only if they have been evaluated by a competent person.	☐	☐	☐
Keep excavations open the minimum amount of time needed to complete operations.	☐	☐	☐

Inspection Procedures

Inspections should be conducted by a competent person who has training in soil analysis, use of protective systems, is knowledgeable about the OSHA requirements and has authority to immediately eliminate hazards.

Inspect trenches daily for evidence of possible cave-ins, hazardous atmospheres, failure of protective systems or other unsafe conditions.

INSPECTION PROCEDURES	COMPLETED	NOT COMPLETED	N/A
Inspect the trench before construction begins.	☐	☐	☐
Inspect the trench daily before each shift.	☐	☐	☐
Inspect the trench as needed throughout the shift.	☐	☐	☐
Inspect the trench after any hazard-increasing event such as a rainstorm, vibrations or excessive surcharge loads.	☐	☐	☐

Considerations for Excavated Materials

Excavated materials are hazardous if they are set too close to the edge of a trench. The weight of the spoils can cause a cave-in, or spoils and equipment can roll back on top of workers, causing serious injuries or death. Provide protection by taking one or more of the following measures:

SPOIL PROCEDURES	COMPLETED	NOT COMPLETED	N/A
Set spoils and equipment at least 2 feet back from the excavation.	☐	☐	☐
Use retaining devices, such as a trench box that will extend above the top of the trench, to prevent equipment and spoils from falling back into the excavation.	☐	☐	☐
Where the site does not permit a two-foot setback, temporarily haul spoils to another location.	☐	☐	☐

Source: OSHA

For more risk management guidance, contact us today.