

# TRENCHING AND EXCAVATION ONSITE INSPECTION CHECKLIST



Site Location: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Competent Person: \_\_\_\_\_

Type of Work:  Sewer  Geothermal  Other

Reason for Work: \_\_\_\_\_

Soil Classification: **TYPE C** Excavation Depth: \_\_\_\_\_ ft. \_\_\_\_\_ in. Excavation Width: \_\_\_\_\_ ft. \_\_\_\_\_ in.

**Complete a new checklist at the beginning of each shift. Continuously evaluate the dig site and update this checklist as conditions change.**

## SITE ASSESSMENT

**All soil will always be considered Type C.**

Utilities have been marked/verified? YES  N/A

A traffic control plan has been implemented? YES  N/A

Employees and public are protected from trenching operations? YES  N/A

Is water accumulating in the trench? YES  NO

If yes, describe how water is to be removed: \_\_\_\_\_

Hazardous atmospheres exist, or could it be reasonably expected to exist? YES  NO

***If contaminated atmospheres are suspected...***

Test instruments have been calibrated and bump tested? YES  N/A

Air monitors are worn continuously to insure the atmosphere remains safe? YES  N/A

Hazardous atmosphere is present?  
*If so, comply with the City's Permit Required Confined Space procedures prior to continuing work.* YES  NO

## PROTECTIVE SYSTEMS (Check All That Apply)

In all trenches 5 feet or deeper each employee shall be protected from cave-ins using one or more of the following systems:

Shield System or Shoring System

Sloping  $1 \over 1-1/2$

Site Specific Engineering  
*If the trench is deeper than 20 feet, the protective system must be designed by a registered professional engineer. Plans must be kept onsite.*

## SHIELD/SHORING SYSTEM (Select All That Apply)

Protective System(s) Used:

- |  |   |
|--|---|
| <input type="checkbox"/> Hydraulic Shoring Shields (6x4)                           | <input type="checkbox"/> Aluminum Stackable Shoring (8x8) |
| <input type="checkbox"/> Hydraulic Shoring Shields (8x6)                           | <input type="checkbox"/> Aluminum Stackable Shoring (6x8) |
| <input type="checkbox"/> Modular Aluminum Panel Sys.<br>L: _____ W: _____ H: _____ | <input type="checkbox"/> Aluminum Speed Shoring (4x14)    |
|  | <input type="checkbox"/> Other (Describe below)           |

NOTES: \_\_\_\_\_

## SHIELD/SHORING SYSTEM

Shoring equipment been inspected for damage? YES  N/A

The excavation extends below the bottom of the support system no more than 2 feet? YES  N/A

What is the distance between the side of the trench and each side of the trench box?  
*The distance between the sides of the support system and trench walls cannot exceed a combined total of 12 inches.*

Side A = \_\_\_\_\_ in  
Side B = \_\_\_\_\_ in  
(A+B must be less than 12")

Where there is exposure on the open end of the support system, protective steel end plates are used to prevent cave-ins? YES  N/A

## GENERAL PRECAUTIONS

All City employees are wearing the required PPE?  Safety Glasses  
 Hard Hats  
 High Vis Vests

Trenches 4 feet or deeper have means of access/egress? (Ladders must be located within 25 feet of all workers.) YES

Ladders extend 36" above top of protective system or top of the trench? YES

Spoil piles and other materials are kept a minimum of 2 feet from the edge of the trench? YES

Surcharge loads increasing the potential for sidewall failure have been limited? (Equipment, tools, vehicles, etc.) YES

Surface encumbrances have been removed or supported? (Utilities, foundations, light poles, transformer vaults, walkways, roads, etc.) YES

Walkways and bridges over excavations 4' or more in depth are equipped with standard guardrails and toeboards? YES  N/A

Employees are kept out from under suspended loads? YES

Employees are prohibited from working on the faces of sloped excavations above other employees? YES

Will overnight protection be required? YES  NO

If yes, describe how the trench will be protected: \_\_\_\_\_

## COMMENTS

X \_\_\_\_\_  
Competent Person Signature

\_\_\_\_\_ Date

# TRENCH SAFETY REFERENCE GUIDE

- Trenches 5 feet deep or greater require a protective system. If less than 5 feet deep, a competent person may determine that a protective system is not required.
- Trenches 20 feet deep or greater require that the protective system be designed by a registered professional engineer.

## Competent Person

- A competent person is an individual who is capable of identifying existing and predictable hazards or working conditions that are hazardous to workers, soil types and protective systems required, and who is authorized to take prompt corrective measures to eliminate these hazards and conditions.
- Before any worker entry a competent person must inspect trenches daily and as conditions change to ensure elimination of excavation hazards.

## Access and Egress

- OSHA requires safe access and egress to all excavations, including ladders, steps, ramps, or other safe means of exit for employees working in trench excavations 4 feet or deeper. These devices must be located within 25 feet of all workers.

## General Trenching and Excavation Rules

- Keep heavy equipment away from trench edges.
- Identify other sources that might affect trench stability.
- Keep excavated soil (spoils) and other materials at least 2 feet from trench edges.
- Know where underground utilities are located before digging.
- Test for atmospheric hazards such as low oxygen, hazardous fumes and toxic gases when > 4 feet deep.
- Inspect trenches at the start of each shift.
- Inspect trenches following a rainstorm or other water intrusion.
- Do not work under suspended or raised loads and materials.
- Inspect trenches after any occurrence that could have changed conditions in the trench.
- Ensure that personnel wear high visibility or other suitable clothing when exposed to vehicular traffic.

## Protective Systems

There are different types of protective systems:

**SHIELDING** – Protects workers by using trench boxes or other types of supports to prevent soil cave-ins.

- If a trench box or other support system is used there can be no more than 2 feet or less below the bottom of the members of a support system.

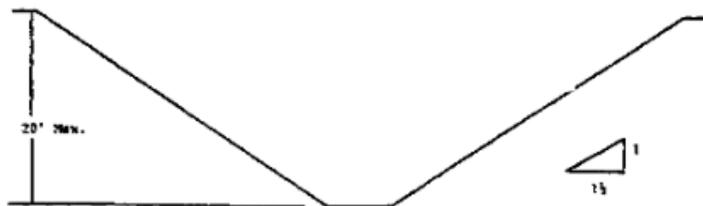
- There can be no more than a 12-inch gap total on each side of a trench box. In other words, if there is a 4-inch gap on one side there can be an 8-inch gap on the other side for a total of 12-inches.

**SHORING** – Requires installing aluminum hydraulic or other types of supports to prevent soil movement and cave-ins.

**SLOPING** – Involves cutting back the trench wall at an angle inclined away from the excavation.

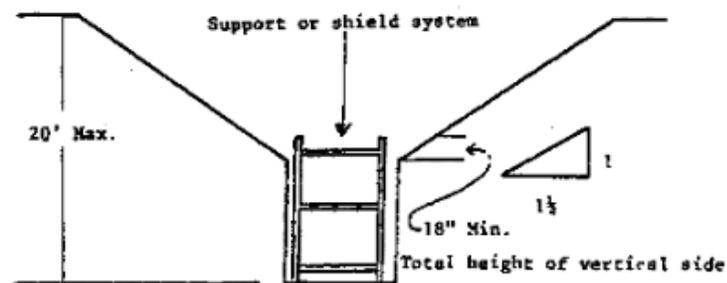
## Excavations Made in Type C Soil

- All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of 1-1/2:1.



SIMPLE SLOPE

- All excavations 20 feet or less in depth which have vertically sided lower portions shall be shielded or supported to a height at least 18 inches above the top of the vertical side. All such excavations shall have a maximum allowable slope of 1-1/2:1.



**BENCHING** – Is a method of protecting 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.**

