Trenching/Excavation Inspection Check List

			Good	Problem	NA
Competent Person					
1	Is a Competent Person identified?				
2	Is the Competent Person trained (specific training in soil analysis and the use of protective systems)?				
3	If the depth is >20 ft, did a PE design the protective system?				
4	Does the Competent Person have the authority to remove workers from the excavation or make other necessary corrections *immediately*?				
5	Does the Competent Person conduct daily inspections, periodically during the shift, and in response to changing conditions?				
6	Does the Competent Person conduct inspections after rain or other events?				
7	Is water removal equipment monitored by the competent person?				
Ladders/Egress					
8	Are ladders in place if the trench is >4 ft?				
9	Are all workers within 25 ft of a means of access and exit?				
10	Do ladders extend 3 ft above the edge of the excavation?				
Protective Systems					
11	Is the trench > 5 ft and requires a protective system?				
12	Is a protective system in place, based on soil type, depth, and loads?				
13	Are all repairs approved by competent person/PE?				
14	Are protective systems installed without exposing workers to hazards associated with cave-in, collapse, or being struck by materials or equipment?				
15	Are support systems in place to ensure stability of nearby structures?				
16	Does backfilling progress with removal of support?				
17	Are shields installed to prevent lateral movement?				
18	Is trench box not more than 2 ft from bottom, and designed for such use?				
Atmospheric Hazards					
19	Is atmosphere tested?				
20	Is emergency equipment available should hazardous atmosphere exist?				
21	Are workers trained for hazardous atmosphere?				
PPE					
22	Do all workers have hard hats?				
23	Are all works exposed to traffic hazards in bright vest?				
Other					
24	Are workers protected from falling items?				
25	Do barriers protect all openings, trenches, pits, excavations?				
26	Is spoil more than 2 ft from edge?				

27	Are workers protected from loose gravel?				
28	Are workers prohibited from working above other, unprotected employees?				
29	Are workers protected from suspended loads?				
30	Are all utility lines well marked? Have utility hazards been adequately addressed?				

OSHA Technical Manual on Excavations: http://www.osha.gov/dts/osta/otm/otm_v/otm_v_2.html

TABLE V:2-1. ALLOWABLE SLOPES.

Soil type	Height/Depth ratio	Slope angle
Stable Rock	Vertical	90°
Type A	¾:1	53°
Type B	1:1	45°
Type C	1½:1	34°
Type A (short-term)	½:1	63°
(For a maximum excavation depth of 12 ft)		

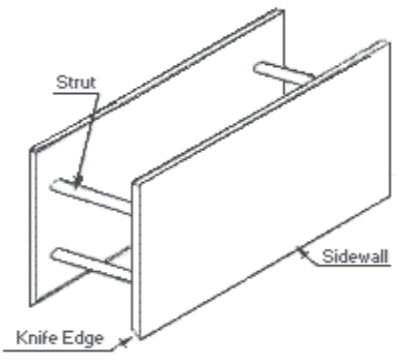
Soil: 110-140 lbs/ft^3

A→ clay, no thumb indent
B→ thumb <nail width
C→ sand, thumb easily in

INSPECTIONS. Inspections shall be made by a competent person and should be documented. The following guide specifies the frequency and conditions requiring inspections:

- Daily and before the start of each shift;
- As dictated by the work being done in the trench;
- After every rainstorm;
- After other events that could increase hazards, e.g. snowstorm, windstorm, thaw, earthquake, etc.;
- When fissures, tension cracks, sloughing, undercutting, water seepage, bulging at the bottom, or other similar conditions occur;
- When there is a change in the size, location, or placement of the spoil pile; and
- When there is any indication of change or movement in adjacent structures.

TRENCH BOXES



- The excavated area between the outside of the trench box and the face of the trench should be as small as possible.
- The space between the trench boxes and the excavation side are backfilled to prevent lateral movement of the box.
- Shields may not be subjected to loads exceeding those which the system was designed to withstand.
- The box should extend at least 18 in (0.45 m) above the surrounding area if there is sloping toward excavation. This can be accomplished by providing a benched area adjacent to the box.
- Earth excavation to a depth of 2 ft (0.61 m) below the shield is permitted, but only if the shield is designed to resist the forces calculated for the full depth of the trench and conditions are acceptable.

Notes: