COUNTY of DUPAGE

SOILS ANALYSIS CHECKLIST

This checklist must be completed when soil analysis is made to determine the soil type(s) present in the excavation. A separate analysis must be performed on each layer of soil in the excavation walls. A separate analysis must also be performed if the excavation (trench) is stretched over a distance where soil type may change.

Site location:_____
Date: _____ Time: _____ AM PM

Competent Person: _____

Where was the soil sample taken from: _____

Excavation: Depth: _____ Width: _____ Length: _____

Visual Test

Particle type: Fine grain (cohesive) _____ Course grained (sand/gravel) _____

Water conditions: Wet: ___ Dry: ___ Surface water present: ___ Submerged: _

Previously disturbed soils? __ Yes __ No

Underground utilities? __ Yes __ No
If yes, what type? _____

Layered soils? __ Yes __ No Layered soil dipping into excavation? __ Yes __ No

Excavation subjected to vibrations? __ Yes __ No
If yes, from what? _____

Crack-like openings or spalling observed? __ Yes __ No

Conditions that may create a hazardous atmosphere? __ Yes __ No
If yes, identify the condition and the source: _____

Surface encumbrances? __ Yes __ No
If yes, what type: _____

Work to be performed near public vehicular traffic? __ Yes __ No

Possible confined space exposure? __ Yes __ No

(Soils Analysis Checklist Continued)

Manual Test

Plasticity: ___ Cohesive ___ Non-cohesive

Dry strength: ___ Granular (crumbles easily) ___ Cohesive (Broken with difficulty)

Note: The following unconfined compressive strength test should be performed on undisturbed soils.

Thumb test used to estimate unconfined compressive strength of cohesive soils: ___ Yes; ___ No

___ Type A - Soil indented by thumb with very great effort.

___ Type B - Soil indented by the thumb with some effort.

___ Type C - Soil easily penetrated several inches by the thumb with little or no effort. If soil is submerged, seeping water, subjected to surface water, runoff, exposed wetting.

Penetrometer or Shearvane used to estimate unconfined compressive strength of cohesive soils:

Test performed: ___ Yes; ___ No

Device used: _____

___ Type A - Soil with unconfined compressive strength of 1.5 tsf or grater.

___ Type B - Soil with unconfined compressive strength of 0.5 tsf to 1.5 tsf.

___ Type C - Soil with unconfined compressive strength of 1.5 tsf or less. If soil is submerged, seeping water, subjected to surface water, runoff, exposed wetting.

Wet Shaking Test: Used to determine the percentage of granular and cohesive materials. loam.

Compare results to soil textural classification chart to determine soil type.

___ Type A - clay, silty clay, sandy clay, clay loam.

___ Type B - angular gravel (similar to crushed rock) silt, silt loam, sandy loam, silty clay loam and sandy clay loam.

___ Type C - granular soil including gravel, sand, and loamy sand.

____ % granular ____ % cohesive ____ % silt

Note: Type A - no soil is type "A" if soil is fissured; subject to vibrations; previously disturbed; layered dipping into the excavation on a slope of 4H: 1V.

(Soils Analysis Checklist Continued)

Soil Classification

Type A ___ Type B ___ Type C

Selection of Protective System (Appendix D)

Protective System:

___ Sloping (appendix B) Specify angle

___ Timber shoring (appendix C)

___ Aluminum hydraulic shoring (appendix D)

___ Other; Specify/describe: _____

Note: Although OSHA will accept the above test in most cases, some states will not. Check your state requirements for excavations/trenching.