Trenching & Excavations

RAMP Risk Assessment Management & Prevention

General Requirements

- Excavations and trenches 5 feet in depth or greater must be protected from cave-in by sloping, shoring, shielding, or must be designed by a registered professional engineer. If the potential for a cave-in (as determined by the competent person) exists in areas less than 5 feet in depth, such protection must also be provided.
- Excavations or trenches 20 feet in depth or greater must have the protective system designed by a registered professional engineer.
- All protective systems must have the capacity to resist, without failure, all loads that are intended or reasonably could be expected to be applied to the protective systems.
- Trench boxes should not have more than 2 feet of earth excavated below the box.
- If sloping soil above the top of trench boxes, must start 18" below the top of the box (at a minimum).

  See diagram within this document regarding the previous two bullet points.
- Ladders or other means of entering/exiting trench boxes must be located within the shielding system itself.
- Utilities must be located and marked by calling for utility locates (811) prior to digging.
- A competent person who has training, knowledge, and authority to identify hazards and take immediate corrective action must inspect excavations before the start of work and as necessary throughout the shift.

- In all excavations or trenches 5 feet in depth or greater the soil must be classified and tested in accordance with OSHA standards unless treated as Type C. At least one manual and one visual test must be conducted and documented if classified as other than Type C.
- Ladder or other safe means of access/egress must be provided when over 4 ft. deep.
- Ladder or other safe means of access/egress must be located within 25 feet of all workers (lateral travel distance).
- The competent person must conduct daily inspections of all excavations & trenches.
- They must also be conducted throughout the workday and after every rainstorm or hazard- increasing occurrence.
- All employees entering excavations must be trained in the hazards and protective methods required.
- Employees must never be allowed to work in excavations where water is accumulating.
- All spoil piles must be kept back a minimum of 2 feet from the edge of the excavation.
- Where the possibility of a hazardous atmosphere exists, the air must be tested and corrective actions taken if a hazardous atmosphere is detected.
- The competent person must inspect excavations prior to employees entering the excavation for excavations and trenches 5 feet in depth or greater.

Type “A” Soil

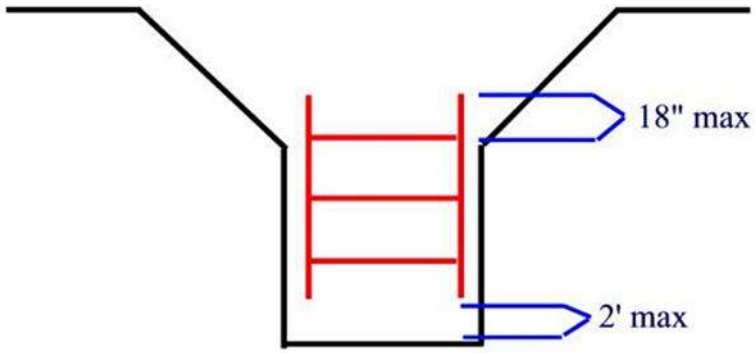
- Cohesive soil with an unconfined compressive strength of 1.5 tons per square foot (tsf) or greater.
    - Typically clay, silty clay, or cemented soils.

Type “B” Soil

- Cohesive soil with an unconfined compressive strength greater than 0.5 tsf but less than 1.5 tsf.
    - Typically silt, silt loam, or sandy loam. Also previously disturbed soil except those that would otherwise be classified as Type “C” soil.

Type “C” Soil

- Cohesive soil with an unconfined compressive strength of 0.5 tsf or less.
    - Typically granular soils such as gravel, sand & loamy sand. Also soil that water is seeping from, submerged soil, and unstable submerged rock.



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