932 Excavation Policy

Revised: 8/1/2018

.1 Policy Statement

The provisions of this policy establish minimum safety standards for working in excavations and are in compliance with OSHA Construction Standard, Subpart P Excavations, and 1926.650-653.

.2 Definitions

.21 Excavation – Any man-made cut, cavity, trench or depression in the earth's surface formed by earth removal.

.22 Competent Person – An individual on location who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has the authorization to take prompt corrective action measures to eliminate them.

.23 Hazardous Atmosphere – An atmosphere which by reason of being explosive, flammable, poisonous, corrosive, oxidizing, irritating, oxygen deficient, toxic or otherwise harmful which may cause death, illness, or injury.

.24 Type B soil – Cohesive soil with an unconfined compressive strength greater than .5 tons per square foot. This includes previously disturbed soil that would not otherwise be classified as Type C soil, unstable dry rock, and granular cohesionless soil.

.25 Type C soil – Cohesive soils with unconfined compressive strength less than .5 tons per square foot. This also includes granular soils such as gravel, sand, loamy sand, submerged rock or soil where water is freely seeping, and unstable submerged rock.

.3 Responsibilities

.31 Directors

Directors are responsible for ensuring department management supports and enforce this policy.

.32 Department Managers

Department Managers shall be responsible for:

.321 Supporting this policy

.322 Ensuring field supervisors support and enforce this policy

.323 Providing any equipment necessary for employees to follow comply with this policy

.324 Maintaining a record of excavation inspection forms for auditing purposes

.325 Ensuring initial training on this policy is completed prior to entry into an excavation

.326 Ensuring refresher training on this policy is completed at least annually

.33 Field Supervisors

Field Supervisors shall be responsible for:

.331 Supporting and enforcing this policy

.332 Daily inspection of job sites requiring excavations

.333 Reviewing Excavation Inspection Forms (TUL #4723)

.334 Ensuring the care and maintenance of equipment

.335 Providing employee training on this policy and its components prior to working in excavations and at least annually thereafter

.336 Ensuring employees acting as Competent Persons receive training as described in this policy

.34 Competent Person

The Competent Person on location shall be responsible for:

.341 Identifying, predicting, evaluating, and correcting hazards associated with excavations

.342 Ensuring protective systems are utilized properly

.343 Completing the Excavation Inspection Form (TUL#4723)

.344 Ensuring a clear hand-off of responsibility to another properly trained individual on-site if unable to continue acting as the Competent Person

.345 Ensuring OKIE locates are performed prior to digging

.35 Safety and Health Staff

Safety and Health Staff shall be responsible for:

.351 Maintaining and supporting this policy

.352 Performing annual review of Excavation Inspection forms

.353 Assisting as requested to ensure employee safety during excavations

.4 Training

.41 All supervisors responsible for excavation operations shall be provided with adequate training to qualify them as a Competent Person.

.42 Competent Person training shall consist of OSHA compliance training approved by the Senior Safety Coordinator. After an employee's initial excavation training, refresher training at the Competent Person level shall occur every two years or more often as needed. In-service sessions shall occur annually within each workgroup.

.43 Those employees that are not considered Competent Persons shall receive refresher training on this policy and the elements within annually

.5 General Protection Requirements

.51 Underground Installations

.511 OKIE locates shall be contacted and locates shall be requested to determine the approximate location of all underground facilities in the area prior to starting any excavation.

.512 It shall be the Competent Person's responsibility to verify that the dig site has been properly marked or that there are no underground installations in the area.

.513 Backhoes, trenchers and other mechanically or hydraulically operated digging machines shall not be used within two feet on either side of a locate marker until the marked underground installation has been exposed by hand excavating. The machine operator should never assume all utilities have been located**.**

.514 Any deviations or findings not consistent with the locates shall be reported immediately to exempt supervision, noted on the service order or planning sheet, and OKIE notified of the inconsistency

.515 While the excavation is open, underground installations shall be protected, supported or removed as necessary to safeguard employees**.**

.516 Employees working in an excavation while digging operations are occurring should be restricted to spotting operations. Those employees shall be protected from hazards associated with falling debris and cave-ins.

.517 If a utility line has been struck it shall be the Competent Person's responsibility to report the incident by following established incident reporting procedures per Policy 961

.52 Means of Access and Egress

.521 A stairway, OSHA approved ladder, ramp or other safe means of egress shall be located in trench excavations that are 4 feet deep or more.

.522 There shall be an adequate number of means of egress to handle the occupancy working in the excavation

.523 Means of egress shall be installed inside protective systems and such that no more than 25 feet of lateral travel is needed for access.

.524 Ladders shall extend from the bottom of the excavation to at least 36 inches above the exit point and shall be secured in place.

.525 Ladders shall always be placed in a position which leads to a safe landing point.

.53 Protection From Water Accumulation

.531 No employee shall work in excavations where water has accumulated or is accumulating unless the hazards associated with the accumulation have been controlled or prevented.

.532 Any excavation which enters into the water table or disrupts the natural drainage of surface water such as streams shall require that an appropriate water drainage system is installed and kept in continuous operation until the project is complete.

.533 Prior to entry into an excavation with standing water at the bottom or an excavation which falls below the water table, a competent person shall be responsible for carefully inspecting

the excavation and verifying that all safety precautions have been taken.

.54 Traffic Control

Traffic control for excavations in streets or roadways shall be appropriate to afford maximum protection of the work site and a smooth flow of traffic. (See Policy 924 “Temporary Traffic Control”)

.55 Protection From Falling Loads

.551 The employee shall be protected from vehicles and equipment falling or rolling into the excavation by ensuring such equipment is located a minimum of 2 feet from the edge of the excavation

.552 Spoils pile shall not be closer than 2 feet from the edge of an excavation and shall be considered Type C soil and have a ratio of 1½ feet horizontal to 1 foot vertical in slope.

.553 The employee shall not be permitted underneath loads handled by lifting or digging equipment

.554 Employees shall stand at a safe distance from any vehicle being loaded or unloaded to avoid being struck by spillage or falling material.

.56 Stability of Adjacent Structures and Surface Encumbrances

.561 Where the stability of adjoining buildings, walls or other structures is endangered by excavation operations, support systems such as shoring, bracing, or underpinning shall be provided.

.562 Sidewalks, pavements and appurtenant structures (trees, poles,) shall not be undermined unless a support system or another method of protection is provided to protect employees from the possible collapse of such structures. Removal of these structures is ideal when possible to mitigate the hazard

.6 Hazardous Atmospheres

Excavations where oxygen deficiency or hazardous atmospheres could reasonably be expected to exist, the atmosphere in the excavation shall be tested before entering and continuously monitored while employees are in the excavation.

Confined Space Policy 931 shall be followed in all cases where hazardous atmospheres exist.

.7 The Excavation

No employee or other persons shall be permitted or directed into an unprotected excavation.

Excavation less than 4 feet in depth shall be treated as a potential hazard and considered for sloping and other protective measures. The employees work position, i.e. stooping, bending, kneeling below the plane or ground level in such an excavation shall be considered a potential hazard.

.71 Soil

.711 Unless the proper soil testing is performed, the soil classification in all excavations shall be Type C soil.

.712 Soil testing will not be required for Type C soil, but the competent person on the job site shall be familiar with OSHA approved soil classification test. (See Appendix 932B)

.713 When sloping is used to protect excavations in Type C soil, the slope shall be a minimum of 1 ½ feet horizontal to 1 foot vertical.

.714 When sloping is used to protect excavations in Type B soil, the slope shall be a minimum of 1 foot horizontal to 1 foot vertical.

.72 Trench Walls

.721 Equipment operators shall attempt to slope all excavations over 4 feet deep to an angle of 1 ½ feet horizontal to 1 foot vertical in compliance with Type C soil unless restrictions on site prevent sloping.

.722 Benching or stair stepping shall <u>not</u> be allowed in Type C soil.

.723 Where sloping is not practical, other appropriate excavation protection methods such as trench boxes, trench shields or shoring must be used.

.724 The equipment operator shall attempt to cut the walls of the excavation in a manner which facilitates installation of the protective device.

.73 Trench Boxes/Trench Shoring

.731 Trench boxes and trench shields shall be installed in a manner to restrict lateral movement in the event of a cave- in.

.732 Boxes and shields shall extend at least 12 inches above the top of the excavation walls unless they are used in conjunction with a sloped wall in which case they shall extend at least 18 inches above the toe of the slope.

.733 Employees shall not work in or pass through unprotected areas beyond the ends of the trench box or shield.

.734 Any excavation over 20 feet in depth or any timber shoring job which deviates from section 1926.650 of the OSHA Construction Standard will require that shoring is designed and certified by a Registered Professional Engineer.

.735 Manufacturer's tabulated data shall be made readily available for reference.

.8 Inspections

.81 "Excavation Inspection Form" TUL #4723 (See Appendix 932A) shall be completed by the Competent Person prior to first entry into the excavated area.

.82 Inspections using "Excavation Inspection Form" TUL #4723 shall be made after every rainstorm or other hazard increasing occurrences.

.83 The Competent Person shall also inspect the excavated area after any breaks from work in the excavation (i.e., lunch, left the site, waiting on materials). When a crew is being relieved, the new Competent Person shall complete the Excavation Inspection form before entering excavation.

.9 Retention

.91 Excavation Inspection forms shall be kept for a period of one year to allow for auditing purposes.

.92 Exceptions to this policy shall only be allowed when approved by the Senior Safety Coordinator. Such exceptions shall be documented with signatures and dated on the Excavation Inspection Form**.**