TRENCHING AND EXCAVATION SAFETY

Dowdy Corporation

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TAB 1: TRENCHING AND EXCAVATIONS

Dowdy Corporation

1.1 INTRODUCTION & BACKGROUND

Cave-ins are perhaps the most feared trenching hazard. But other potentially fatal hazards exist, including asphyxiation due to lack of oxygen in a confined space, inhalation of toxic fumes, drowning, etc. Electrocution or explosions can occur when workers contact underground utilities.

OSHA requires that workers in trenches and excavations be protected, and that safety and health programs address the variety of hazards they face. The following hazards cause the most trenching and excavation injuries:

- No protective system
- Failure to inspect trench and protective systems
- Unsafe spoil pile placement
- Unsafe access/egress

All excavations are hazardous because they are inherently unstable. If they are restricted spaces they present the additional risks of oxygen depletion, toxic fumes, and water accumulation. If protective systems or equipment is not used while working in trenches or excavations, there is a danger of suffocation, inhalation of toxic materials, fire, drowning, or being crushed by a cave-in.

Dowdy has developed this Trenching & Excavation program in order to outline the requirements and practices regarding the safe entry and exposure to trenches and excavations. It has been developed to comply with the Occupational Safety and Health Administration's (OSHA) Excavation standard (29 CFR 1926, Subpart P). This program will be maintained in Warehouse, Jobsite Trailers, Project Supervisor's Company Vehicle and is available for review upon request.

1.2 RESPONSIBILITY

PROGRAM ADMINISTRATOR – THE GENERAL MANAGER

- Ensure this program is adhered to by all employees
- Review and approve any changes or revisions to this plan
- Enforce safety policies and procedures
- Conduct continual observational safety checks of work operations
- Determine who the competent person is for the job
- Assign flaggers to the appropriate locations
- Ensure that all necessary protective systems are used

COMPETENT PERSON

- Conduct pre-job planning in order to:
    - evaluate soil conditions & appropriate protective systems
    - construct protective systems in accordance with OSHA requirements
    - contact utility company to identify underground lines
    - plan for traffic
    - test for atmospheric conditions
- Provide safe access into and out of the excavation.
- Provide appropriate protections if water accumulation is a problem.
- Inspect the site daily at the start of each shift, following a rainstorm, or after any other hazard-increasing event.
- Has training in soil analysis.
- Has training in the use of protective systems.
- Is knowledgeable about the OSHA requirements.
- Has authority to immediately eliminate hazards.
- Ensure that protection against potential falling loads is in place.

MANAGEMENT

- Provide adequate resources for employee training and materials, including protective systems

EMPLOYEES

- Bring any unsafe/hazardous convictions or acts to management's attention in order to prevent injury to either themselves or any other employees

1.3 PRE-JOB PLANNING

Pre-job planning is vital to accident-free trenching; safety cannot be improvised as work progresses. Before the job begins, a competent person will address the following areas

- Evaluate soil conditions and select appropriate protective systems.
- Contact utilities (gas, electric) to locate underground lines by calling Sunshine 811.
- Construct protective systems in accordance with the standard requirements.
- Plan for traffic control if necessary, and determine proximity to structures that could affect choice of protective system.
- Test for low oxygen, hazardous fumes and toxic gases, especially when gasoline engine-driven equipment is running, or leaking lines or storage tanks has contaminated the dirt. Insure adequate ventilation or respiratory protection if necessary.
- Provide safe access into and out of the excavation.
- Provide appropriate protections if water accumulation is a problem.
- Inspect the site daily at the start of each shift, following a rainstorm, or after any other hazard-increasing event.

- Provide protection against potential falling loads and ensure that employees are not working under loads of digging equipment where loads may fall.
- Keep excavations open the minimum amount of time needed to complete operations.

1.4 SOIL CLASSIFICATION

Each soil and rock deposit at an excavation site must be classified by your competent person as stable rock, Type A, Type B, or Type C soil. Examples of the different soil types are:

- **Stable Rock** – Natural solid mineral material that can be excavated with vertical sides and will remain intact while exposed.
- **Type A** – Examples include clay, silty clay, sand clay, clay loam, and sometimes silty clay loam and sandy clay loam.
- **Type B** – Examples include silt, silt loam, sandy loam and sometime silty clay loam and sandy clay loam.
- **Type C** – Examples include granular soils like gravel, sand, loamy sand, submerged soil, and soil from which water is freely seeping, and submerged rock that is not stable.

Soil classification is not necessary if the excavation will be sloped to an angle of one and one-half horizontal to one vertical. Appendix A to the excavation rules describes a method of classifying soil and rock deposits based on site and environmental conditions, and on the structure and composition of the earth depos-its. The appendix contains definitions, sets forth requirements, and describes acceptable visual and manual tests for use in classifying soils.

The appendix can be used to design a method of protection for employees from cave-ins when: (1) sloping or benching, (2) timber shoring, or (3) aluminum hydraulic shoring, is used. The soil classification must be made based on the results of at least one visual and one man-ual analysis. The visual and manual analysis must be designed and conducted to provide sufficient quantitative and qualitative information as may be necessary to identify properly the properties, factors, and conditions affecting the classification. In a layered system, the system must be classified by its weakest layer. However, each layer may be classified individually where a more stable layer lies under a less stable layer. If, after classifying a deposit, the properties, factors, or conditions affecting its classification change in any way, the changes must be evaluated by your competent person and the deposit reclassified as necessary.

1.5 UNDERGROUND UTILITIES

When utility companies or owners cannot respond to a request to locate underground utility installations within 24 hours (unless a longer period is required by state or local law), or cannot establish the exact location of these installations, the employer may proceed, provided the employer does so with caution, and provided detection equipment or other acceptable means to locate utility installations are used.

1.6 Inspections of Trench and Protective Systems

Inspections of trenches and protective systems must be conducted in order to identify any evidence of possible cave-ins, hazardous atmospheres, failure of protective systems, or other unsafe conditions. Inspections will be conducted by a competent person at the following intervals, at minimum:

- before construction begins,
- daily before each shift,
- as needed throughout the shift, and
- following rainstorms or other hazard-increasing events (such as a vehicle or other equipment approaching the edge of an excavation).

Attachment B provides a non-mandatory checklist that can be used for daily inspections of trenches.

1.7 Soil Placement

Excavated materials (spoils) at your site are hazardous if they are set too close to the edge of a trench/excavation. The weight of the spoils can cause a cave-in, or spoils and equipment can roll back on top of workers, causing serious injuries or death.

Provide protection by one or more of the following:

- Set spoils and equipment at least 2 feet back from the excavation.
- Use retaining devices, such as a trench box, that will extend above the top of the trench to prevent equipment and spoils from falling back into the excavation.
- Where the site does not permit a 2-foot set back, spoils may need to be temporarily hauled to another location

1.8 Access and Egress

In some circumstances, when conditions in a trench or excavation become hazardous, survival may depend on a quick exit. To avoid fall injuries during normal entry and exit of a trench or excavation, ladders, stairways, ramps, or other safe means of egress will be provided in all trenches that are 4 or more feet deep.

The following guidelines will be followed for the selection and placement of safe means of egress:

- Position within 25 lateral feet of all workers.
- Structural ramps that are used solely for access or egress from excavations must be designed by a competent person.
- When two or more components form a ramp or runway, they must be connected to prevent displacement, and be of uniform thickness.
- Cleats or other means of connecting runway components must be attached in a way that would not cause tripping (e.g., to the bottom of the structure).
- Structural ramps used in place of steps must have a non-slip surface.
- Use earthen ramps as a means of egress only if a worker can walk them in an upright position, and only if a competent person has evaluated them.

Where employees or equipment are required or permitted to cross over excavations, walkways will be provided. Guardrails which comply with 1926.502(b) shall be provided where walkways are 6 feet (1.8 m) or more above lower levels.

1.9 PROTECTION FROM VEHICULAR TRAFFIC

Dowdy is dedicated to the protection of its employees from work zone injuries, illnesses, and accidents. Employees are at risk of fatal and serious nonfatal injury when working in the vicinity of passing motorists, construction vehicles, and equipment.

Historically, efforts to reduce vehicle-related worker injuries in this industry have focused on improving traffic control devices and work zone configurations to minimize confusion of motorists passing through the work zone and to limit collisions involving motorists. The premise has been that by minimizing traffic collisions in work zones, worker injuries are minimized.

During daytime work, all employees who are exposed to vehicular traffic at the jobsite are required to wear a vest, shirt, or jacket that is orange, yellow, strong yellow green or fluorescent versions of these colors. For nighttime work, similar outside garments shall be retro-reflective. The retro-reflective material shall be orange, yellow, white, silver, strong yellow-green, or a fluorescent version of one of these colors and shall be visible at a minimum distance of 1,000 feet. The retro-reflective clothing shall be designed to identify clearly the wearer as a person and be visible through the full range of body motions.

1.10 FLAGGERS

The primary function of traffic control procedures is to move vehicles and pedestrians safely and expeditiously through or around temporary traffic control zones while protecting on- site workers and equipment.

QUALIFICATIONS FOR FLAGGERS

Because flaggers are responsible for public safety and make the greatest number of public contacts of all highway workers, they should have the following minimum qualifications:

- Sense of responsibility for the safety of the public and workers
- Training in safe traffic control practices
- Average intelligence
- Good physical condition, including sight and hearing
- Mental alertness and the ability to react in an emergency
- Courteous but firm manner
- Neat appearance

High-Visibility Clothing

For daytime work, the flagger's vest, shirt, or jacket shall be orange, yellow, strong yellow green or fluorescent versions of these colors. For nighttime work, similar outside garments shall be retro-reflective. The retro-reflective material shall be orange, yellow, white, silver, strong yellow-green, or a fluorescent

version of one of these colors and shall be visible at a minimum distance of 1,000 feet. The retro-reflective clothing shall be designed to identify clearly the wearer as a person and be visible through the full range of body motions.

Uniformed law enforcement officers may be used as flaggers in some locations, such as an urban intersection, where enforcement of traffic movements is important. Uniformed law enforcement officers may also be used on freeways where traffic is channeled around work sites and it is necessary to assure that advisory and regulatory speeds are being enforced. For nighttime work and in low-visibility situations, a retro-reflective garment as described above should be worn.

Hand-Signaling Devices

Hand-signaling devices, such as STOP/SLOW paddles, lights, and red flags are used to control traffic through temporary traffic control zones. The STOP/SLOW paddle, which gives drivers more positive guidance than red flags, should be the primary hand-signaling device. The standard STOP/SLOW sign paddle shall be 18 inches square with letters at least 6 inches high. A rigid handle should be provided. This combination sign should be fabricated from light semi-rigid material, and shall have an octagonal shape. The background of the STOP face shall be red with white letters and border. To improve conspicuity, the STOP/SLOW paddles may be supplemented by one or two symmetrically positioned alternately flashing white high-intensity lamps on each side. The background of the SLOW face shall be orange with black letters and border. When used at night, the STOP/SLOW paddle shall be retro-reflectorized in the same manner as signs.

Flag use should be limited to emergency situations and at low-speed and/or low-volume locations which can best be controlled by a single flagger. Flags used for signaling shall be a minimum of 24 inches square, made of a good grade of red material, and securely fastened to a staff about 3 feet long. The free edge should be weighted so the flag will hang vertically, even in heavy winds. When used at night, flags shall be retro-reflective red.

Hand-Signaling Procedures

STOP/SLOW paddle and flag use are illustrated in the figure on the next page. The following methods of signaling with STOP/SLOW paddles should be used:

- To Stop Traffic-The flagger shall face traffic and extend the STOP sign paddle in a stationary position with the arm extended horizontally away from the body. The free arm should be raised with the palm toward approaching traffic.
- To Direct Stopped Traffic to Proceed-The flagger shall face traffic with the SLOW paddle held in a stationary position with the arm extended horizontally away from the body. The flagger should motion with the free hand for traffic to proceed.
- To Alert or Slow Traffic-The flagger shall face traffic with the SLOW sign paddle held in a stationary position with the arm extended horizontally away from the body. The flagger may motion up and down with the free hand, palm down, indicating that the vehicle should slow down.

The following methods of signaling with a flag should be used:

- To Stop Traffic-The flagger shall face traffic and extend the flag staff horizontally across the traffic lane in a stationary position, so that the full area of the flag is visible hanging below the staff. The free arm should be raised with the palm toward approaching traffic.
- To Direct Stopped Traffic to Proceed. The flagger shall face traffic with the flag and arm lowered from view of the driver. With the free hand, the flagger should motion traffic to proceed. Flags shall not be used to signal traffic to proceed.
- To Alert or Slow Traffic. The flagger shall face traffic and slowly wave the flag in a sweeping motion of the extended arm from shoulder level to straight down, without raising the arm above a horizontal position.

Flagger Stations

Flagger stations shall be located far enough ahead of the work space so that approaching traffic has sufficient distance to stop before entering the work space. Table VI-1 in the Manual on Universal Traffic Control Devices (Guidelines for Length of Longitudinal Buffer Space), may be used for locating flagger stations in advance of the work space. This distance is related to approach speeds, friction factors, and pavement and tire conditions. These distances may be increased for downgrades.

The flagger should stand either on the shoulder adjacent to the traffic being controlled or in the barricaded lane. At a "spot" obstruction, a position may have to be taken on the shoulder opposite the barricaded section to operate effectively. A flagger should stand only in the lane being used by moving traffic after traffic has stopped, and the flagger needs to be visible to other traffic or to communicate with drivers. Because of the various roadway geometrics, flaggers should be clearly visible to approaching traffic at all times. For this reason, the flagger should stand alone.

Other workers should not be permitted to congregate around the flagger station. The flagger should be stationed far enough ahead of the work force to warn them (for example with horns, whistles etc.) of approaching danger, such as vehicles out of control.

Flagger stations should be visible far enough ahead to permit all vehicles to stop. Table VI-1 in the Manual on Universal Traffic Control Devices (Guidelines for Length of Longitudinal Buffer Space), may be used in selecting the location of flaggers. This distance is related to approach speeds, friction factors, and pavement and tire conditions, these distances may be increased for downgrades. These distances are calculated in a manner similar to those calculated in the first paragraph of 6E-6. Flagger stations should be preceded by proper advance warning signs. Under certain geometric and traffic situations, more than one flagger station may be required for each direction of traffic. At night, flagger stations should be illuminated.

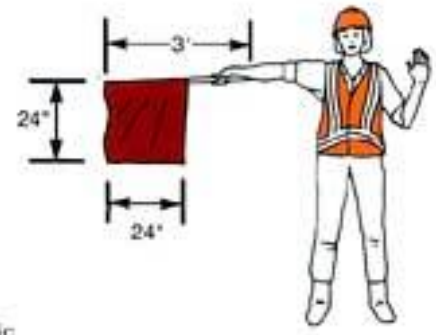
At two-way, unusually low-volume and/or unusually low- speed short lane closings where adequate sight distance is available for the safe handling of traffic, the use of one flagger may be sufficient.

PREFERRED METHOD

EMERGENCY USE ONLY

Paddle

Flag



To Stop Traffic

Traffic Proceed

To Alert and
Slow Traffic

1.11 COMPETENT PERSON

Certain activities or safety procedures at a construction site require design, inspection or supervision by a competent person. The OSHA Construction Standard defines a competent person as someone 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 authorization to take prompt corrective measures to eliminate them.

Trenching and excavation work is dependent on these specialized employees because of its highly technical nature, as well as its inherent hazards, require a greater level of training and experience than a normal worker would possess.

The items below specify the trenching and excavation activities where a competent person is necessary.

PROTECTIVE SYSTEMS OR EQUIPMENT

- Monitoring water removal equipment and operations
- Inspecting excavations subject to runoff from heavy rains to determine need for diversion ditches, dikes, or other suitable protection
- Determining cave-in potential to assess need for shoring or other protective system
- Examining damaged material or equipment used for protective systems to determine its suitability for continued use
- Classifying soil and rock deposits, by both visual analysis and by testing, to determine appropriate protection; re-classifying, if necessary, based on changing conditions [1926 Subpart P Appendix A].
- Determining the appropriate slope of an excavation to prevent collapse due to surcharge loads from stored material or equipment, operating equipment, adjacent structures, or traffic, and assuring that such slope is achieved

INSPECTING TRENCH AND PROTECTIVE SYSTEMS

- Authorizing immediate removal of employees from the hazardous area where evidence of possible cave-in, failure of protective systems, hazardous atmospheres, or other hazardous conditions exists

UNSAFE ACCESS/EGRESS

- Designing structural ramps that are used solely by employees as a means of access or egress. Structural ramps used for access or egress of equipment must be designed by a competent person qualified in structural design

1.12 COMMON TERMS USED IN TRENCHING AND EXCAVATION

Bell-bottom pier hole: A type of shaft or footing excavation, the bottom of which is made larger than the cross section above to form a belled shape.

Benching (Benching system): A method of protecting employees 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.

Cave-in: The separation of a mass of soil or rock material from the side of an excavation, or the loss of soil from under a trench shield or support system, and its sudden movement into the excavation, either by falling or sliding, in sufficient quantity so that it could entrap, bury, or otherwise injure and immobilize a person.

Cross braces: The horizontal members of a shoring system installed perpendicular to the sides of the excavation, the ends of which bear against either uprights or wales.

Excavation: Any man-made cut, cavity, trench, or depression in an earth surface, formed by earth removal.

Faces: The vertical or inclined earth surfaces formed as a result of excavation work.

Failure: The breakage, displacement, or permanent deformation of a structural member or connection so as to reduce its structural integrity and its supportive capabilities.

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

Protective system: A method of protecting employees from cave-ins, from material that could fall or roll from an excavation face or into an excavation, or from the collapse of adjacent structures. Protective systems include support systems, sloping and benching systems, shield systems, and other systems that provide the necessary protection.

Ramp: An inclined walking or working surface that is used to gain access to one point from another, and is constructed from earth or from structural materials such as steel or wood.

Registered Professional Engineer: A person who is registered as a professional engineer in the state where the work is to be performed. However, a professional engineer, registered in any state is deemed to be a "registered professional engineer" within the meaning of this standard when approving designs for "manufactured protective systems" or "tabulated data" to be used in interstate commerce.

Sheeting: The members of a shoring system that retain the earth in position and in turn are supported by other members of the shoring system.

Shield (Shield system): A structure that is able to withstand the forces imposed on it by a cave-in and thereby protect employees within the structure. Shields can be permanent structures or can be designed to be portable and moved along as work progresses. Additionally, shields can be either pre-manufactured or job-built in accordance with 1926.652(c)(3) or (c)(4). Shields used in trenches are usually referred to as "trench boxes" or "trench shields."

Shoring (Shoring system): A structure such as a metal hydraulic, mechanical, or timber shoring system that supports the sides of an excavation and which is designed to prevent cave-ins.

Sides: See Faces.

Sloping (Sloping system): A method of protecting employees from cave-ins by excavating to form sides of an excavation that are inclined away from the excavation so as to prevent cave-ins. The angle of incline required to prevent a cave-in varies with differences in such factors as the soil type, environmental conditions of exposure, and application of surcharge loads.

Spoil: The dirt, rocks, and other materials removed from an excavation and either temporarily or permanently put aside.

Stable rock: Natural solid mineral material that can be excavated with vertical sides and will remain intact while exposed. Unstable rock is considered to be stable when the rock material on the side or sides of the excavation is secured against caving-in or movement by rock bolts or by another protective system that has been designed by a registered professional engineer.

Structural ramp: A ramp built of steel or wood, usually used for vehicle access. Ramps made of soil or rock are not considered structural ramps.

Support system: A structure such as underpinning, bracing, or shoring, that provides support to an adjacent structure, underground installation, or the sides of an excavation.

Tabulated data: Tables and charts approved by a registered professional engineer and used to design and construct a protective system.

Trench (Trench excavation): A narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than 15 feet (4.6 m).

Trench box: See Shield.

Trench shield: See Shield.

Uprights: The vertical members of a trench shoring system placed in contact with the earth and usually positioned so that individual members do not contact each other.

Wales: Horizontal members of a shoring system placed parallel to the excavation face whose sides bear against the vertical members of the shoring system or earth.

ATTACHMENT A: OSHA TECHNICAL MANUAL – EXCAVATIONS

ATTACHMENT B: OSHA STANDARD FOR EXCAVATIONS

Excavations – 29 CFR 1926 Subpart P

Scope, Application, and Definitions Applicable to This Subpart	https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.650
Specific Excavation Requirements	https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.651
Requirements for Protective Systems	https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.652
Subpart P App A – Soil Classification	https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926SubpartPAppA
Subpart P App B – Sloping and Benching	https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926SubpartPAppB
Subpart P App C – Timber Shoring for Trenches	https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926SubpartPAppC
Subpart P App D – Aluminum Hydraulic Shoring for Trenches	https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926SubpartPAppD
Subpart P App E – Alternatives to Timber Shoring	https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926SubpartPAppE
Subpart P App F – Selection of Protective Systems	https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926SubpartPAppF

ATTACHMENT C: TRENCH INSPECTION & ENTRY AUTHORIZATION FORM

TRENCH INSPECTION AND ENTRY AUTHORIZATION FORM

LOCATION:	**DATE:**
TIME OF INSPECTION(S):	
WEATHER CONDITIONS:	**APPROX. TEMP.:**
CREW LEADER:	**Project Supervisor:**

DIMENSIONS:	**DEPTH =**		
	TOP =	W	L
	BOTTOM =	W	L

SOIL TYPE:	**TESTED:**
❑ Solid rock (most stable)	❑ Yes
❑ Average soil	❑ No
❑ Fill material	
❑ Loose sand	

Yes No	**HAZARDOUS CONDITIONS**
❑ ❑	..... Saturated soil / standing or seeping water
❑ ❑	..... Cracked or fissured wall(s)
❑ ❑	..... Bulging wall(s)
❑ ❑	..... Floor heaving
❑ ❑	..... Frozen soil
❑ ❑	..... Super-imposed loads
❑ ❑	..... Vibration
❑ ❑	..... Depth greater than 10’

PROTECTION METHODS:
(Walls MUST be vertical—NO voids)
SHORING
❑ Timber
❑ Pneumatic
❑ Hydraulic
❑ Screw Jacks
❑ Trench Shield
UNEVEN, IRREGULAR WALLS
❑ Trench Box
Sloping: **q 1:1 (45°)** **q 1 ½:1 (34°)**

PLACEMENT OF SPOILS & EQUIPMENT	
❑ ❑	..... Spoils at least 2 feet from edge of trench
❑ ❑	..... Equipment at least 2 feet from edge
❑ ❑	..... Backhoe at end of trench
❑ ❑	..... Compressor, etc. at remote location
LADDER LOCATION	
❑ ❑	..... Located in protected area
❑ ❑	..... Within 25 feet of safe travel
❑ ❑	..... Secured
❑ ❑	..... Extends 36 inches above the landing
❑ ❑	..... Leads to safe landing

Yes No	**ENVIRONMENTAL CONDITIONS:**	**OTHER:**
❑ ❑	Gas detector used?	❑ ❑ Shoring equip. & materials inspected prior to use?
❑ ❑	Confined space permit issued?	❑ ❑ Is trench SAFE to enter?

COMMENTS:

Work Order #

NOTE

All unsafe conditions must be corrected prior to trench entry. If any hazardous conditions are observed, the trench must be immediately evacuated and no one allowed to re-enter until corrective action has been taken.

TO BE FILLED OUT BY TRAINED SUPERVISORY PERONNEL
Excavation Entry Authorized By:

Project Supervisor

ATTACHMENT D: NEW HIRE TRAINING DOCUMENTATION

OSHA's Employee Responsibilities

- Read the OSHA Poster at the workplace.
- Comply with all applicable OSHA standards.
- Follow all lawful employer safety and health rules and regulations and wear or use prescribed protective equipment while working.
- Report hazardous conditions to the supervisor.
- Report any work-related injury or illness to the employer, and seek treatment promptly.
- Exercise rights under the Act in a responsible manner.

New Hire Training Summary:

The following items must be reviewed with employees upon initial assignment:

- Review company- and job-specific hazards directly relating to the employee's job
- The requirements of the OSHA trenching & excavation standards
- The hazards that could be present during trenching and excavation
- Methods and observations that may be used to detect the presence hazards
- Possible solutions for preventing hazards during trenching and excavation
- How employees can obtain and use information on trenching and excavation hazards
- Upon completing the review of the above information, have new employees sign the new hire training log on the following page.

Upon completing the review of the above information, have new employees sign the new hire training log on the following page.

NEW HIRE TRAINING LOG: TRENCHING & EXCAVATION

I have read the information contained in this document and understand the health and safety policies and procedures contained herein. I have been advised of my OSHA required employee responsibilities and hereby pledge to abide by them. I also understand that it is my responsibility to work safely and to notify my supervisor regarding any questions I have or unsafe working conditions that I observe.

Print Name	**Signature**	**Date**