

Yakima County Fire District 12– Standard Operating Guidelines
SOG 4-2 – Trench Collapse Operations

1. General

1.1 Purpose. The purpose of this Standard Operating Guideline is to provide an outline for conducting operations at the scene of a trench collapse.

1.2 Scope. This Standard Operating Guideline shall apply to all members of Yakima County Fire District 12

1.3 Enforcement. Enforcement of this standard operating guideline is the responsibility of the District's officers. Any person deviating from the provisions of this guideline may be required, at the discretion of the officer in charge, to submit in writing, within five (5) calendar days, an explanation for such deviation to the requesting officer who will forward the explanation up the chain of command for further review.

2. Definitions

2.1 Excavation. An excavation is defined as an opening in the ground in which the depth is less than the width.

2.2 Trench. A trench is defined as an excavation in which the depth is greater than the width of the excavation.

3. Incident Response

3.1 The standard response to any trench collapse incident shall be an Engine, Rescue and a command officer.

3.2 Upon the confirmation of a collapsed trench in which a person is trapped, or is believed to be trapped, the alarm shall be upgraded to a residential structure fire assignment and the Special Rescue Team shall be requested to respond to a Level Two staging area.

4. Initial Arriving Company or Officer

4.1 The initial actions of the first arriving company are essential to an effective rescue effort. The first arriving company or officer to a collapsed trench incident shall:

4.1.1 Position not closer than 250 feet from the incident and walk into the incident site. All other responding units shall report to the Level Two staging area.

4.1.2 Establish a Level Two staging area at least 500 feet from the incident and assign a Staging Officer.

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4.1.3 Perform an outer circle check utilizing two persons from the first in engine.

- Eliminate all sources of vibration for 500 feet by stopping all traffic and shutting off all construction equipment.
- Identify witnesses to the incident.
- Identify the site foreman and gather information on the operations taking place prior to the collapse, as well as known hazards.
- Establish a hot zone perimeter of at least 100 feet from the incident.

4.1.4 Perform an inner circle check utilizing at least two persons:

- Approach the site from the ends of the trench.
- Identify the victim location and number of victims.
- Establish the victim(s) conditions if possible.
- Remove all non-trapped persons from the trench (use police to assist as necessary).
- Notify any affected utilities.

4.1.5 Use personnel from staging or on-site construction workers to begin clearing spoil piles and other debris for ground pad placement and other resources.

5. Incident Zones

5.1 Cold Zone. The boundary for the cold zone shall be at least 500 feet from the rescue site. The cold zone may contain Staging, Staging Officer, Rehabilitation Group, Media area, and an area for victim's families.

5.2 Warm Zone. The boundary for the warm zone shall be from 100 feet to 500 feet from the incident. The warm zone may contain the Resources/Equipment Area, and the Command Post.

5.3 Hot Zone. The hot zone boundary shall be 100 feet from the incident and may contain the Rescue Group Officer, Operations Officer, Safety Officer, EMS for patient care, and necessary rescuers.

6. General Safety

6.1 The minimum personal protective equipment requirements shall be the following for trench collapse rescues: Hard Hat, Safety Glasses, Short Sleeve Shirt, Long Pants, Steel-toed Boots. Keep in mind that structural firefighting

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protective clothing is not intended or designed for trench rescues and may contribute to heat stress.

6.2 Personnel shall not approach within 4 feet of the trench without ground pads in place.

6.3 Any trench over four feet deep shall be shored.

6.4 All trenches shall be monitored for hazardous atmospheres prior to entry. Additional monitoring may be done as deemed necessary during the operation.

6.5 The trench shall be ventilated as necessary and as determined by the results of the air monitoring. Care should be taken not to dry the trench walls to the point they become subject to additional collapse.

6.6 The maximum number of personnel on any single ground pad is two.

6.7 The spoil pile shall be kept at least two feet from the edge of the trench.

6.8 All machinery with hydraulics shall be stabilized prior to entering the trench.

7.0 Mode of Operation

7.1 Rescue Mode. The rescue mode shall be used in all operations where the victim is believed to be alive, or is known to be alive. Safety shall be maintained. If it is unknown if a victim is alive, personnel shall operate in the rescue mode until time, conditions, or other elements make the chance for survival of the victim minimal.

7.2 Recovery Mode. The recovery mode shall be used when the victim(s) have obviously expired or after a period of time during the rescue operation where time, conditions, and other factors have reduced the chance for the victim's survival to minimal. Safety remains the primary consideration. The trench may be excavated further for bench operations, heavy machinery recovery, or for better weather. Time is not a factor while operating in this mode.