

# SPOKANE COUNTY FIRE DISTRICT 8

## Standard Operating Procedures

**130.03.01**  
**SPECIAL OPERATIONS,**  
**TRENCH RESCUE**



Adopted: 12/20/16  
Reviewed: 11/09/22  
Revised: 11/09/22

Approved:

A handwritten signature in black ink, appearing to read "Jan J. Paul".

**Purpose:** To provide trench rescue guidelines within the capabilities of District personnel's training and equipment. Spokane County Fire District 8 is awareness level only.

**References:** WAC 296-809  
NFPA 1670

### **Procedure:**

1. This procedure will provide the initial responding crews the basis of approaching and securing the unstable area of a trench collapse or cave in.
2. Incident Action Plan Considerations.
  - a) When responding to a report of a potential trench rescue, personnel should consider immediately initiating a Technical Rescue Team response via Dispatch.
  - b) Respond to the scene and park apparatus at least 100 feet away.
  - c) Determine what happened. Do not go near trench.
  - d) Determine if anyone other than those in the trench are injured and handle accordingly.
  - e) Assess for hazards: traffic, spectators, downed wires, disrupted or exposed utilities, flammable liquids/gases and flowing water.
  - f) Determine how many persons are buried, their location, and how long they have been buried.
  - g) Determine if the operation is a rescue or a body recovery.
  - h) Call for additional resources: Call Dispatch for a trench rescue response.
    - i. Ambulance.
    - ii. Law Enforcement-for traffic and crowd control.
3. Points To Remember.
  - a) A trench is a narrow excavation made below the surface of the ground where the depth is greater than the width, but the width is not greater than 15 feet.
  - b) Cave-ins happen almost instantaneously with little or no warning, which explains why trench failure usually results in injury or death.
  - c) The effects and results of victim engulfment will depend on the degree and depth of burial.
  - d) Since one cubic foot of soil weighs approximately one hundred pounds, a victim buried under just two feet of soil will have seven-hundred to one-thousand pounds concentrated on the chest and back prohibiting lung and chest expansion necessary for breathing.
  - e) It's unlikely a victim will survive more than three to four minutes with cause of death being suffocation and compression injury.

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- f) Not all trench incidents are cave-ins.
  - g) There can be injured workers in a trench that has not caved in.
  - h) Rescuers must still use caution any time they need to enter a trench that is over four (4) feet in depth.
  - i) A cubic yard of soil weighs 3,375 pounds or 1.5 tons.
  - j) Two feet of soil on a victim's back/chest can be in excess of 1,000 pounds, making it impossible to expand the chest.
  - k) If a trench collapses or caves in, there is a 500% chance it will cave in again.
4. Hazard Control.
- a) Stop or re-route traffic 300 feet in all directions.
  - b) Vehicles not needed at the immediate scene park at least 100 feet away.
  - c) Try to eliminate sources of vibrations.
  - d) Have all equipment in the area turned off except dewatering equipment (i.e. sump pump) and any equipment giving protection to the victims.
  - e) Have the utilities company turn off electricity, natural gas, or water.