

## **Preventing Caught-In or Caught-Between Hazards – Across the Full Building Lifecycle**

**Objective:** To highlight caught-in or caught-between hazards that can occur at any stage of a construction project, from initial site work through building completion and into ongoing maintenance and to reinforce OSHA-compliant controls under 29 CFR 1926 Subpart P (Excavations), Subpart O (Motor Vehicles & Mechanized Equipment), Subpart Q (Concrete & Masonry), and related General Duty Clause requirements.

**Introduction:** Caught-in or caught-between incidents rank among the **Fatal Four** hazards in construction, contributing to a significant portion of the roughly 1,000+ annual construction fatalities. These events happen when a worker is squeezed, crushed, or compressed between objects, or pulled into machinery. Unlike one-time risks, caught-in hazards evolve as the project progresses from raw ground to finished structure and later facility upkeep. Today's talk focuses solely on recognizing and controlling these dangers throughout the entire building's lifecycle.

### **Key Safety Points:**

#### **1. Ground-Up Phase: Excavation, Trenching & Foundation Work**

- Properly slope, bench, or shore all excavations deeper than 5 feet (or as required by soil type) to prevent cave-ins that can trap workers (OSHA 1926.652).
- Keep spoil piles, equipment, and materials at least 2 feet back from trench edges.
- Use protective systems and daily inspections by a competent person before entry.
- Never enter an unprotected trench—cave-ins can occur suddenly and bury workers in seconds.

#### **2. Structural & Framing Phase: Erection, Formwork & Heavy Equipment**

- Maintain clear separation between workers and operating heavy machinery (excavators, loaders, cranes) to avoid being pinned against structures or vehicles.
- During steel erection or concrete pouring, secure formwork and rebar to prevent collapsing assemblies that can crush limbs or bodies.
- Use spotters and establish exclusion zones when backing equipment or moving large components.

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- Install and maintain guards on all machinery pinch points, rotating parts, and power tools.

### **3. Finishing Phase: Interior Build-Out, Roofing & Envelope Work**

- When installing walls, ceilings, or heavy finishes (drywall lifts, windows, mechanical units), use proper lifting techniques and team lifts or mechanical aids to avoid being crushed between materials and fixed surfaces.
- Secure ladders, scaffolds, and aerial lifts so they don't shift and pin workers against walls or ceilings.
- While roofing or siding, watch for being caught between roof edges and falling materials or equipment.
- Keep work areas free of clutter that could trap someone during a slip or equipment movement.

### **4. Maintenance Phase: Post-Occupancy Repairs & Facility Servicing**

- Before servicing HVAC, elevators, plumbing, or electrical systems, lock out/tag out (LOTO) all energy sources to prevent unexpected startup that could catch workers in moving parts (OSHA 1910.147 applies alongside construction rules).
- When accessing confined spaces like crawlspaces, attics, or utility vaults, use permits, ventilation, and attendant monitoring to avoid entrapment.
- During roof or exterior maintenance, secure tools and materials to prevent them from shifting and pinning workers against parapets or equipment.
- Regularly inspect and maintain storage racks, gates, and doors so they don't unexpectedly close or collapse on maintenance personnel.

### **General Controls That Apply Across All Phases:**

- Conduct pre-task planning and job hazard analyses specifically identifying pinch points, moving equipment, and collapsing materials.
- Wear appropriate PPE, including high-visibility clothing, gloves, and steel-toe boots where crushing risks exist.
- Never work alone in high-risk areas—always have a spotter or attendant.

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- Train operators and workers on safe distances from equipment and proper use of guards and safety devices.
- Immediately report unstable trenches, unguarded machinery, or missing shoring to supervision.

### Discussion Questions:

- What caught-in hazards have we encountered on this site during the current phase, and how did we control them?
- How can we better coordinate between trades to avoid workers being caught between new installations and existing structures?
- In maintenance work, what LOTO or confined-space steps are most critical to prevent being trapped?

**Key Takeaway:** Caught-in or caught-between hazards don't end when the building is occupied—they change form but remain present from groundbreaking through decades of maintenance. Proper planning, protective systems, equipment guards, and clear communication can eliminate these preventable incidents.

**Closing:** Stop work if you see an unprotected trench, unguarded machinery, or a situation where someone could be crushed or pinned. Speak up immediately, your vigilance protects everyone. Let's commit to zero caught-in incidents from site prep through long-term building care. Stay alert, follow procedures, and watch out for one another.

