

Hazard! Unprotected Trench

20 NJ Workers Dead in Trench-Related Incidents

1992-2015

4 DEATHS IN 9 MONTHS
(OCT 2014 - JUNE 2015)



70%

Cave-in



15%

Fall



10%

Struck-by



5%

Electrocution

- ▶ One double-victim incident
- ▶ 25% in residential construction
- ▶ Trenches depth: 3-30 ft.*
- ▶ 45% died in trenches less than 10 ft. deep

**Information unavailable for four of the incidents*



WHAT WAS LEARNED...

- **All the incidents could have been prevented.**
- All workers on site should be trained about hazards and work practices in a language that they understand and at their literacy level.
- The OSHA-required competent person must inspect the excavation, adjacent areas, and protective systems each day before work begins, as needed throughout the shift, and after every rainstorm.
- Anyone can fall to their death in an excavation or opening that is unmarked and not properly secured.
- Trench cave-ins can happen anywhere even on a small residential job.
- Besides cave-ins, workers have also died from falls; being struck by objects or equipment; working under suspended or raised loads and materials; and coming into contact with power lines.
- **Save a life! Learn how to prevent trench-related injuries. See back for Resources.**

HOW FOUR OF THE 20 VICTIMS DIED...

A 32-year old plumber was installing a 4-inch PVC sewer pipe at a private home. He was working inside an 8-foot deep trench when the walls caved in and suffocated him.

A 40-year old equipment operator was using a forklift to remove pallets from a building being demolished. She backed over a 4-foot trench that had been excavated and covered with plywood. The lift fell into the trench, pinning her between the forklift cage and steering wheel.

A 54-year old construction worker died after a 2-ton steel plate fell on his lower back. The plate was being lowered into a trench by a backhoe when it caught on the side of the trench putting slack on the chain holding the plate. The plate came out of the sling and fell on the victim who was standing to the side of the trench.

A 42-year old construction trainer was electrocuted as he was guiding the end frame of a shoring system into place. As the crane was lowering the section into the trench, the frame hit an overhead power line.

RESOURCES...

Have a paper copy? Get direct access to the websites below by visiting nj.gov/health/surv/documents/njtrenching.pdf

SAFETY CONSULTATION

- ▶ **NJ Department of Labor and Workforce Development – Occupational Safety & Health On-Site Consultation Program:**
http://lwd.dol.state.nj.us/labor/lssse/employer/Occupational_Safety_and_Health_Onsite_Consultation_Program.html

TRAINING

- ▶ **Courses**
 - **New Jersey State Safety Council Training Institute:**
<http://www.njsafety.org/index.html> [consult the Training Calendar for schedule of courses] or call (800) 228-3834
 - **NJ Department of Labor and Workforce Development – Occupational Safety & Health Training Unit:**
http://lwd.dol.state.nj.us/labor/lssse/employer/OSH_Training_Unit.html or call (609) 633-2587
- ▶ **YouTube Videos – There are many trenching videos on YouTube; please verify the source before playing**
 - **“No New Year – Trench Collapse”** from CPWR (The Center for Construction Research and Training):
English version: <https://www.youtube.com/watch?v=iFahIN0ueTI&list=PLuzTg2wYpXWVxqcDKk0f80boEkmITZMf>
Spanish version “Sin Un Año Nuevo”: https://www.youtube.com/watch?v=q-U78P5GLfQ&list=PLuzTg2wYpXWVxqn154BxseVdEQ_LiJ7A3&index=3
 - **Trench Cave-in** filmed by Oregon OSHA: <https://www.youtube.com/watch?v=D6dHoSAT6MU>
 - **Trenching Prevention Video (v-Tool)** from the United Safety Council <https://www.youtube.com/watch?v=kUqBUJEqwKA>
 - **Excavations, Trenching and Shoring Safety Training** from MSHA (Mine Safety and Health Administration)
<https://www.youtube.com/watch?v=gFmsVEsRv94> and https://www.youtube.com/watch?v=JO6k2Ww8c_k
- ▶ **Slide Presentations and Other Training Materials**
 - **Excavation & Trenching Awareness for the Construction Industry** from OSHA and the University of Maryland Fire and Rescue Institute: https://www.osha.gov/dte/grant_materials/fy07/sh-16582-07.html
 - **Work Zone Safety (see Trench and Excavation)** from OSHA and the North Dakota Safety Council:
https://www.osha.gov/dte/grant_materials/fy09/sh-19504-09.html
- ▶ **Educational Materials in English and Spanish:**
 - Trenches Hazard Alert from CPWR: <http://www.cpwr.com/publications/hazard-alert-cards>
 - Other bilingual materials are available by visiting OSHA Website at <https://www.osha.gov/SLTC/trenchingexcavation/>
- ▶ **Web-based Training**
 - **Trench Safety Awareness** from NIOSH (National Institute for Occupational Safety and Health):
<http://www.cdc.gov/niosh/docs/2006-133d/download.html> [TIP: after downloading zip files, click on “start.exe” to run]

STANDARDS OF PRACTICE

- ▶ **Federal Standards** from the Occupational Health and Safety Administration (OSHA):
 - 29 CFR 1926 – Subpart P – Excavations:
https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10930
- ▶ **Safety Requirements for Excavation Standard** from the American National Standards Institute (ANSI) and the American Society of Safety Engineers (ASSE):
 - ANSI/ASSE A10.12-1998 (R2010) Safety Requirements for Excavation
<http://www.asse.org/ansiasse-a1012-1998-r2010-safety-requirements-for-excavation/>

GUIDANCE DOCUMENTS

- ▶ **Trenching and Excavation Safety** from OSHA: <https://www.osha.gov/Publications/osha2226.pdf>
- ▶ **Preventing Worker Deaths from Trench Cave-ins** from NIOSH: <http://www.cdc.gov/niosh/docs/wp-solutions/2011-208/pdfs/2011-208.pdf>
- ▶ **Excavations – Safe Practices for Small Business Owners and Contractors** from Oregon OSHA:
<http://www.orosha.org/pdf/pubs/2174.pdf>
- ▶ **Underground Damage Prevention Guidelines** from New Jersey One Call:
<http://www.nj1-call.org/training-and-safety/newsletters-and-publications/>

KEY INTERNET WEBSITES

- ▶ **OSHA Construction eTool on Trenching and Excavation:**
<https://www.osha.gov/SLTC/etools/construction/trenching/mainpage.html>
- ▶ **OSHA Safety and Health Topics – Trenching and Excavation:** <https://www.osha.gov/SLTC/trenchingexcavation/>
- ▶ **NIOSH Trenching and Excavation:** <http://www.cdc.gov/niosh/topics/trenching/>



Know what's below.
Call before you dig.

FATALITY ASSESSMENT AND CONTROL EVALUATION (FACE) REPORTS

- ▶ **NIOSH clearinghouse for both in-house and State FACE Reports:** <http://www.cdc.gov/niosh/face/>
[TIP: Under “Search FACE Reports” box, type: trench, cave-in, excavation, and then hit Enter]