

CONN-OSHA Quarterly

CONNECTICUT DEPARTMENT OF LABOR DIVISION of OCCUPATIONAL SAFETY and HEALTH

Trenching and Excavation-Play It Safe:

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How many times have you been driving along and noticed a trench shield lying on its side somewhere near an open trench or excavation? More often than not, employees are working in the trench or excavation under questionable or hazardous conditions while the trench shield is available but unused.

Trenching and excavation work presents a myriad of extremely dangerous hazards to employees. Due to cost and time availability, especially on short-term operations, the attitude, “the job will be over before anyone knows so why bother,” is adopted and compliance with OSHA standards is often overlooked. And so it goes, trenches are routinely entered without basic trench protection, often without incident. The fact is that all too often there are cave-ins and collapses and someone is seriously injured or killed.

In 1985, The US Department of Labor/OSHA issued a directive entitled “Special Emphasis Program: Trenching and Excavation.” This National Emphasis Program (NEP) was established in order to focus greater emphasis on trenching and excavation operations. The OSHA application was extended nationwide and the reason for this program was “Because of the continuing incidence of trench/excavation collapses and accompanying loss of life, the agency has determined that an increased OSHA enforcement presence at worksites where such operations are being conducted is warranted.”

The Directive further stated that “Although it would be expected that, after more than 12 years of enforcement activity (1970 through 1985), most employers would be adhering to shoring and sloping requirements, experience has shown that is not the case. OSHA believes that the rate of deaths and serious injuries resulting from trench/excavation accidents (mostly cave-ins) can be significantly affected only by a concentration of compliance resources within the areas of trenching and excavation operations.”

**U.S. Excavation and Trenching
 Injuries and Fatalities**

Year	Fatal	Non-Fatal*	Totals
2003	48	310	358
2004	41	100	141
2005	44	120	164
Totals	133	530	663

*These injuries required days away from work

That was the birth of the trenching and excavation Special Emphasis Program which is still very much alive and active today.

The directive mandates that all OSHA Compliance Safety and Health Officers (CSHOs) be on the lookout for trenching and excavation worksites. Regardless of whether or not a violation is observed, a CSHO observing a trenching and excavation operation must:

The above table reflects the reported number of recorded trenching and excavation injuries and fatalities in the US from 2003 to 2005.

It is apparent that when an accident occurs in a trenching or excavation operation the chances of a fatality being involved are significant. Also, the impact of the fatality has a ripple effect that is often far reaching. Consider the victim’s parents, spouse, children, other relatives, friends and co-workers.

- Make note of the condition of the operation, including any serious hazards.
- Note the name and address or location of the worksite and contractor performing the operation.
- Contact an OSHA supervisor for a decision as to whether to conduct an inspection.

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If the CSHO observing the operation involving trenching or excavation sees an apparent serious hazard in plain view, and if it is not convenient to contact a supervisor at the time, an inspection shall be conducted and the supervisor notified as soon as practical after the inspection has been completed.

Consider the following OSHA Regional News Release: **U.S. Labor Department's OSHA Fines Two Hollis, N.H., Contractors \$81,800 for Cave-In Hazards at Nashua Worksite**

Two Hollis, N.H., contractors face a combined total of \$81,800 in fines from the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) for alleged cave-in hazards at a Nashua construction site.

The citations and fines result from OSHA inspections opened Aug. 23, 2006, when two OSHA inspectors passing by the worksite observed employees working in an apparently unprotected trench. OSHA's inspection revealed that employees of Jennings Excavation, which was installing a water line, were working in two unprotected excavations, a 6.5 to 7.4-foot-deep catch basin and an 8.9 to 10-foot-deep building foundation.

Jennings was issued two willful citations, with \$55,000 in proposed fines, for allowing employees to work in both unprotected excavations and for not providing a ladder or other safe means of exit from the catch basin. The contractor was also issued three serious citations, with an additional \$3,500 in proposed fines, for not supporting an undermined sidewalk, failing to remove or support a power pole and no warning vests for employees exposed to vehicular traffic.

Ferd Construction, the controlling employer responsible for overall job safety on the project, was issued one willful citation, with a \$21,000 proposed fine, for allowing unprotected trenches, and three serious citations, with another \$2,300 in fines proposed, for lack of safe exit means from the catch basin and the unsupported sidewalk and power pole.

"An unguarded excavation can crush or kill employees within seconds," said Rosemarie Ohar, OSHA's New Hampshire area director. "There's no excuse for failing to use this clear, common sense and legally required safeguard."

OSHA defines a willful violation as one committed with an intentional disregard of, or plain indifference to, the requirements of the Occupational Safety and Health Act and regulations. OSHA issues a serious citation when death or serious physical harm is likely to result from a hazard about which the employer knew or should have known.

In an article by US DOL in North Aurora, Illinois the most frequently found hazard in trenching and excavation work was lack of cave-in protection (29 CFR 1926.652 (a)(1)).

This ranked second in the top ten list of all construction violations cited for the year. It was the most penalized standard (\$350,000) and 16% of them were cited as "Repeat", meaning the company had been cited for the same violation within the previous three years.

Interviews of employers cited offered these reasons for non-compliance:

- The soil was good.
- The job was only going to take a minute.
- That wasn't our employee.
- We have been doing this job for twenty years and would not expose ourselves to hazards. (The employee was in a ten foot deep trench without cave-in protection.)

And the number one reason:

- OSHA made us nervous.

The moral of this article is, excuses will not pay the fines, heal injuries or bring back the dead. Compliance with the OSHA Trenching and Excavation standards is the best insurance for a safe operation.

The US DOL has published an excavations booklet. Many of the questions and answers concerning trenching and excavation may be found in this publication. It can be downloaded from <http://www.osha.gov/pls/publications/pubindex.list>.

The general OSHA website is <http://www.osha.gov>. Finally, the CONN-OSHA office website is <http://www.ctdol.state.ct.us/osa/osa.htm>. The CONN-OSHA telephone number, where you can obtain information and answers to your safety and health questions and request consultation services, is (860) 263-6900.

Resources:

US DOL OSHA Directive – CPL 02-00-069, Special Emphasis Program: Trenching and Excavation
CONN-OSHA Bureau of Labor Statistics
US DOL OSHA News Releases
US DOL Fact Sheet "Trenching and Excavation Safety"
US DOL OSHA Excavations – OSHA 2226
USDOL OSHA Safety and Health Release 07-251-BOS/BOS 2007-050.

CONN-OSHA Receives Recognition Award

Edwin G. Foulke, Jr., Assistant Secretary of Labor, presented the Connecticut Department of Labor Division of Occupational Safety and Health with the On-Site Consultation Achievement Recognition (OSCAR) award for outstanding performance during fiscal year 2006. Director Richard Palo accepted the award on behalf of the CONN-OSHA Consultation Project at the Annual Consultation Conference held in Newport, R.I., April 2007. The project was recognized for conducting 451 safety and health consultations at private sector workplaces, performing at 103 percent of its projected goal. In addition to maintaining a high level of performance in terms of planned activities, CONN-OSHA staff members also participated in a full scale disaster exercise involving the deployment of assets from the Center for Disease Control and Prevention's Strategic National Stockpile (SNS).



National Work Zone Safety Awareness

The U.S. Department of Transportation reports that, each year, traffic accidents in work zones injure nearly 60,000 people. A growing problem, fatalities in work zones have increased 40 percent since 1997, to a total of 1,074 fatalities in 2005.

The National Work Zone Awareness Week (NWZAW) was designed to raise awareness of the deadly hazards to drivers and workers while in areas of road construction or maintenance. Beginning April 2, 2007, NWZAW was scheduled to coincide with the traditional start of road maintenance projects.

Since 2000, Connecticut has partnered with other states to participate in NWZAW. Governor M. Jodi Rell proclaimed that week as "Work Zone Safety Awareness Week" with a campaign theme of "Don't Zone Out - Pay Attention or Pay Double". Fines are doubled for any traffic violations cited in work zones.

Connecticut statistics show that most work zone crashes are rear end collisions and many of these accidents re-



sulted in fatalities to the vehicle occupants. Approximately half of all fatal work zone crashes occurred during the day. Motorists are encouraged to focus on driving and slow down when approaching work zones. Unexpected events are common on construction jobs, and slowing down allows yourself time to recognize hazards and react appropriately.

The good news is that the total number of reported accidents in Connecticut work zones has decreased approximately 27% between 2004 and 2005. This reduction trend is expected to continue with perseverance and hard work to improve work zone design and ongoing driver education of both workers and motorists.

10 Tips for Driving Safely in Work Zones



- **EXPECT THE UNEXPECTED!** Normal speed limits may be reduced, traffic lanes may be changed, and people may be working on or near the road.
- **SLOW DOWN!** Speeding is one of the major causes of work zone crashes.
- **DON'T TAILGATE!** KEEP A SAFE DISTANCE BETWEEN YOU AND THE CAR AHEAD OF YOU. The most common crash in a highway work zone is the rear end collision, so leave two car lengths between you and the car in front of you.
- **KEEP A SAFE DISTANCE BETWEEN YOUR VEHICLE AND THE CONSTRUCTION WORKERS AND THEIR EQUIPMENT.**
- **PAY ATTENTION TO THE SIGNS!** The warning signs are there to help you and other drivers move safely through the work zone. Observe the posted signs until you see the one that says you've left the work zone.
- **OBEY ROAD CREW FLAGGERS!** The flagger knows what is best for moving traffic safely in the work zone. A flagger has the same authority as a regulatory sign, so you can be cited for disobeying his or her directions.
- **STAY ALERT AND MINIMIZE DISTRACTIONS!** Dedicate your full attention to the roadway and avoid changing radio stations or using cell phones while driving in a work zone.
- **KEEP UP WITH THE TRAFFIC FLOW.** Motorists can help maintain traffic flow and posted speeds by merging as soon as possible. Don't drive right up to the lane closure and then try to barge in.
- **SCHEDULE ENOUGH TIME TO DRIVE SAFELY AND CHECK RADIO, TV AND WEBSITES FOR TRAFFIC INFORMATION.** Expect delays and leave early so you can reach your destination on time. Check www.ct.gov/dot - for information on traveling in Connecticut
- **BE PATIENT AND STAY CALM.** Work zones aren't there to personally inconvenience you. Remember, the work zone crew members are working to improve the road and make your future drive better.



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To receive the *Quarterly* electronically, contact gregory.grayson@dol.gov. In the subject line type "subscribe" and provide your e-mail address. You may also reach us by phone at (860) 263-6900 or visit our website at <http://www.ctdol.state.ct.us/osha/osha.htm>

Hazard Corner...

Trenching and Excavations

Two laborers were working in a trench (measuring 11 feet deep, 75 feet in length and 2 feet wide) to install rebar for a retaining wall. While drilling holes in the bedrock with a hammer drill, the unprotected walls collapsed without warning. One laborer was able to get out of the trench safely. The other laborer was unable to escape and died from traumatic asphyxiation; he was 37 years old and had worked for the contractor for only three months.

A 26 year old construction worker was using a laser transit to determine the proper depth for a drain pipe when the trench collapsed. The unprotected trench was 15 feet deep, 30 feet in length, and 5 feet wide. The excavation machinery in use near the edge of the trench may have triggered the collapse. This worker also died from traumatic asphyxiation; he had been working for the contractor for two years.

Many accidents with non-fatal injuries can be investigated and safety measures implemented before a serious accident occurs. However, the majority of trench collapses result in fatalities due to their speed and suddenness. One cubic foot of soil weighs approximately 100 pounds, preventing a person from digging himself or herself free. Even if his or her head is not buried, the person is likely to die due to the pressure of the soil.

Having a competent person on site, removing hazards adjacent to the trench (spoil piles, operating equipment), providing adequate egress, removing water accumulations and hazardous atmospheres, and using protective systems are some of the requirements of the OSHA Excavation Standards, 29 CFR 1926.650-652. CONN-OSHA can assist in providing education and training on the requirements of this standard. Call us at (860) 263-6900.



CONN-OSHA ~ Training Update...

Breakfast Roundtable This discussion group meets the third Tuesday of every month and the meetings are held from 8:15 am to 9:45 am. Pre-registration is required. To be placed on the e-mail distribution list, call John Able at (860) 263-6902 or email able.john@dol.gov

Powered Industrial Trucks **May 18** Powered Industrial Truck Standard OSHA's 29 CFR 1910.178. This 3-hour workshop introduces participants to OSHA's Powered Industrial Truck standard and includes an in-depth review of operator training.

Trenching & Excavation Safety **June 12** This workshop will provide an overview of 29 CFR 1926.650-652 Excavations, including the role of the competent person. The session is designed to assist participants in identifying hazards at their workplace, especially those associated with excavations and related activities.

Confined Space Safety **July 10** This class introduces you to the basic requirements and procedures involved with permit-required confined spaces as detailed in 29 CFR 1910.146. This information is vitally important to all those who work in or have responsibility for those that work in permit-required confined spaces.

Chemical Hazard Communication **September 13** Employees will be better able to take steps to protect themselves when they know what the hazards are and how to avoid exposure. This session will help attendees develop an effective Hazard Communication Program.

Classes are free and held at 200 Folly Brook Boulevard, Wethersfield, CT in Conference Room A from 9 am - 12 noon. To register, contact John Able at (860) 263-6902 or able.john@dol.gov. **Pre-registration is required.** For more training information, visit www.ctdol.state.ct.us/osha/osha.htm .

Fatality & Casualty Reporting

State & Town: CONN-OSHA (860) 263-6946 (local) or 1-866-241-4060 (toll-free)
Private Employers: Report to Federal OSHA at 1-800-321-OSHA(6742)