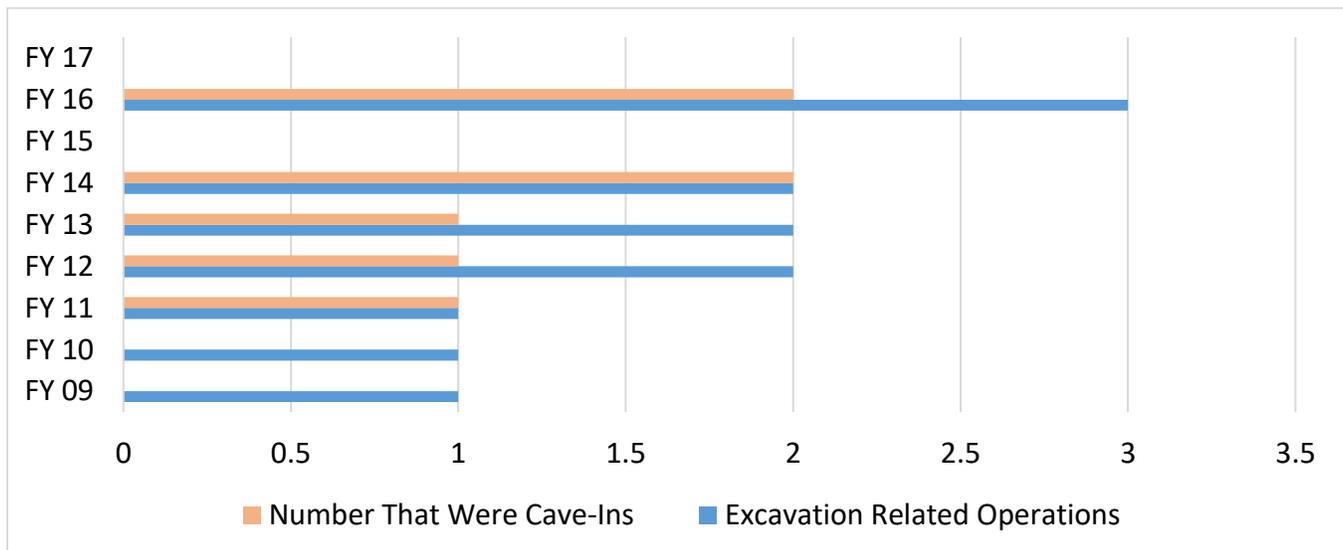


## 2018 Houston Area Excavation Update

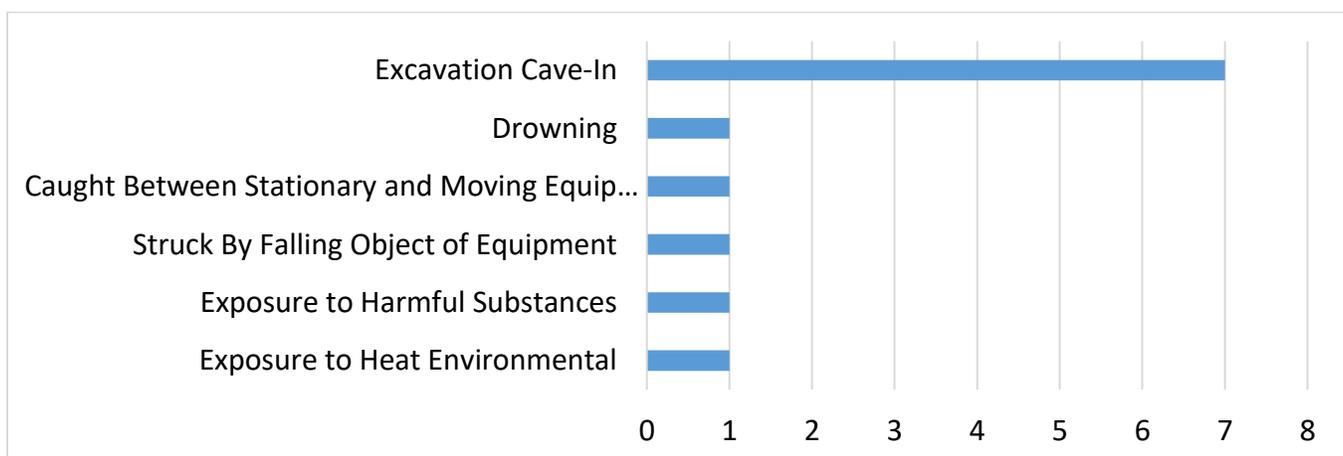
In Fiscal Year (FY) 2017 there were no reported excavation related fatalities reported to the Houston OSHA offices compared to three incidents the previous year of which two were trench cave-ins. There were five excavation related Serious Incident Reports (SIRs) in FY 2017. Excavation work is extremely dangerous and OSHA inspectors will stop and inspect unsafe excavations on-site. Excavation related fatalities can be prevented (as we see by not having an excavation related fatality last FY) and are covered by 1916.650 - .652 Subpart P - Excavations



**Houston Area Excavation Related Fatalities FY 2009 – FY 2017**



**FY 2009 - FY 2017 Houston Area Excavation Related Fatalities by Event**



**Houston Area Excavation Related Fatalities FY 09 – FY 17**

- Employee in an 11' deep, 10' wide trench installing a 48" water main died when the side of the trench collapsed. His body was recovered about 8 hours later
- EE shoveling soil out of trenches collapsed and died. Heat exhaustion

- An employee was in an excavation during the process of tying in a sewer line to a building under construction. During the digging process the backhoe operator scooped a bucket of dirt from the excavation and observed a crack forming on the wall of the trench. Before the backhoe operator was able to alert the employee, the trench caved-in. Soil covered the employee up to his chest. The backhoe operator and two other employees monitoring the trench jumped in to help dig the employee out but he was pronounced dead at the site.
- Employees were called out to repair a water main break. Employees excavated a trench through a concrete road. The trench was 16' long, 5' feet wide, and 8' to 10' deep. Two employees entered the unprotected trench to clean around and cut the broken pipe. After working in the trench for approximately five to ten minutes, the south wall of the excavation caved in causing fatal injuries to one employee and serious injuries to the other employee
- Employee was clearing dirt and debris from a fiber optic cable while walking in the trench when a section of the north wall collapsed striking employee in shoulder/neck area, pinning him when a second section fell and landed on top of him
- Two employees were in an excavation installing sanitary sewer lines near a gas line when the trench collapsed. One employee was able to get out of the trench without injury, but the other employee was caught in the cave-in. The trench was approximately 14 feet deep and cave-in protection was not being used. The employee was pronounced dead at the scene.
- Employee had entered excavation to rig trench boxes that were in the work area. One box had been removed and the crew was making ready to remove the last one. Employee went to tie off the next box when the walls of the excavation began to crumble and slide into the area where the employee was. The material struck the employee, causing him to stumble, and be buried by the debris and he died.
- Employee was installing a 2 inch water line and tracer wire in a trench 6.5' deep and 2' wide when the trench wall and spoil pile above him caved in and covered him. He was trapped 6-8 minutes when pulled out and died 6 days later
- Two employees were working in an excavation. One worker went to get water and when he returned he found him slumped over in the excavation. Died from heart attack and possible H2S exposure
- A foreman and crew were installing a 24" pipe into a 200' long x 5' deep excavation. One end of the pipe was being inserted into the trench using a choker attached to the bucket of a track hoe and the other end was suspended by a forklift. He was next to the pipe on the forklift end when the pipe shifted and knocked him into the excavation and the pipe landed on top of him
- A trench was being dug to lay pipe when a crew member walked between the excavator and piping. When the excavator rotated, the employee was caught between the excavator's counterweight and piping and died.
- The employer was excavating land for a retention pond. The decedent began the excavation three days prior to accident using a track hoe excavator. The trench measured approximately 100 foot in length, 12- 16 feet wide and 10-12 feet deep. Over the weekend there was a hard rain and the trench had filled with water. The decedent started to work that morning and the track hoe slid and turned over into the deeper section of the trench and he drowned.

### **Houston Area Excavation Related Serious Incident Reports FY 17**

Since January 2015 in-patient hospitalizations, amputations, and loss of an eye from a work related incident must be reported to OSHA within 24 hours. In FY 2017 there were five excavation related incidents reported to the Houston OSHA offices:

### **Caught between stationary and moving equipment or objects**

- Employee attempting to set up trench box when the excavator hit the trench box. The box shifted 3 or 4 inches and caught the employee's knee on spreader bar compressing to his heel into the storm culvert causing a fracture of left heel.

### **Excavation cave-in**

- A work crew was in a trench to erect a retaining wall to insert a large machine. During the work process the concrete company had to remove trench walls so the crew working inside the trench could begin to apply mortar to a pre-set area where the cinder blocks were to be placed. As the concrete crew removed the walls the side of the trench collapsed toppling onto one of the workers causing lacerations to the forehead, bruising and temporarily lost consciousness.

### **Struck by swinging load or equipment**

- A crew was moving skids out of the bottom of a large excavation. The skids had been placed in the bucket of a backhoe and the bucket was on the ground. A laborer was unloading the skids from the bucket and handing them to another crew laborer. This laborer was positioned next to the track hoe bucket and a super sack of sandbags. At this time the superintendent walked by the hoe operator and he turned to ask him if he would take over the track hoe while he went to the bathroom. As he twisted around to speak, his safety vest caught the operating lever and caused the bucket of the track hoe to move and pinch the laborer's left ankle between the bucket and super sand bag fracturing the lower left leg just above the ankle.

### **Fire vapors, gases, or liquids**

- A mini excavator on the edge of an excavation was digging an access pit and hit a natural gas line inside the excavation. A fire ignited and burned an employee that was standing near the edge of excavation. The employee received 1st degree burns to his lower right arm and right thigh.

### **Struck by falling object or equipment**

- Worker was in excavation tightening bolts on 18" pipe when he was hit by the bucket from an excavator and pinned in the excavation. Excavator operator was approximately 10' away from excavation was changing the bucket on the excavator from 36" to 48" and shook the bucket to ensure that it was locked in place. The bucket was not locked in and came loose, hit ground and rolled approximately 10' into the excavation striking the worker and pinning him in underneath the excavator bucket. Lower leg injury possibly fractured.

## **Let's work to eliminate trenching hazards in the Houston area and send every worker home safe at the end of the day**

This information has been developed by an OSHA Compliance Assistance Specialist and is intended to assist employers, workers, and others as they strive to improve workplace health and safety. While we attempt to thoroughly address specific topics [or hazards], it is not possible to include discussion of everything necessary to ensure a healthy and safe working environment in a presentation of this nature. Thus, this information must be understood as a tool for addressing workplace hazards, rather than an exhaustive statement of an employer's legal obligations, which are defined by statute, regulations, and standards. Likewise, to the extent that this information references practices or procedures that may enhance health or safety, but which are not required by a statute, regulation, or standard, it cannot, and does not, create additional legal obligations. Finally, over time, OSHA may modify rules and interpretations in light of new technology, information, or circumstances; to keep apprised of such developments, or to review information on a wide range of occupational safety and health topics, you can visit OSHA's website at [www.osha.gov](http://www.osha.gov). For further information contact James Shelton at the Houston North Area Office at [shelton.james@dol.gov](mailto:shelton.james@dol.gov)