

EHS CONCEPTS

BEYOND THE FOCUS FOUR

A foreman's fix guide to the four hazards that kill the most construction workers: falls, struck-by, caught-in or -between, and electrocution. A free field guide.

Ryan L. Rinehart

Retired Navy Veteran · Navy Safety Technician (NEC 9571) · Navy Rescue Swimmer
19+ years in EHS · Author of Safe on Purpose and No License to Lead

Keep your people whole.

FROM RYAN

Nobody on your crew plans to die at work today

The examples in this letter (the roof edge, the trench, the boom, the backing truck) are composites to show the pattern, not reports of real events.

Every foreman knows the Focus Four by heart: falls, struck-by, caught-in or -between, electrocution. Most crews have sat through the slides. And still, the same four show up in the fatality reports every year. The harness that was on the truck. The trench that was “only going to be open an hour.” The boom that drifted toward the line while everyone watched the load. The dump truck that backed up with no spotter because the spotter was running material.

The Bureau of Labor Statistics counted 1,034 fatal work injuries in private construction in 2024, about one in five of the 5,070 work deaths in the country. Falls, slips, and trips alone killed 389 of them. Fatal falls from heights are still the single biggest way construction work kills people.

Training is not the gap. Most of these crews were trained. The gap is that the protection was not planned, bought, staged, or inspected before the work started, and the schedule did not leave room to stop and fix it. Workers make choices inside the conditions we build.

For each of the four hazards you get the pain point, what the 2024 data says, the root causes, the rules in plain words with tags, controls in hierarchy order, a printable self-audit, who owns what, and one question to start a toolbox talk.

Pick the hazard your crew faces tomorrow morning. Walk it with the self-audit before the first task starts. Then do the next one.

Ryan L. Rinehart

Founder, EHS Concepts — The Ways of Safety

Keep your people whole.



THE VERIFIED NUMBERS

What construction work cost in lives in 2024

1,034

Fatal work injuries in private construction in 2024, about one in five of all U.S. work deaths (5,070)*

389

Construction deaths from falls, slips, and trips: about 38% of the sector total*

373

Of those, falls to a lower level. At least 232 fell from 6 to 30 feet (BLS)

146

Struck-by deaths in the categories mapped in this guide: struck by objects (79) plus pedestrians struck by vehicles (67)*

52

Construction deaths from exposure to electricity, about 5% of the sector total*

6,992

Federal OSHA citations of fall protection (29 CFR 1926.501) in FY 2025, the most-cited standard for the 15th fiscal year in a row

Source: U.S. Bureau of Labor Statistics, Census of Fatal Occupational Injuries (CFOI) 2024, released Feb. 19, 2026: news release and Table A-9 (fatal injuries by event or exposure and private industry sector). Private-sector construction (NAICS 23) only; government construction workers are not included in these sector figures. OSHA's Focus Four are hazard groups, not BLS categories. The mapping of BLS event codes to the four hazards is an EHS Concepts approximation and is explained under each hazard. Citation count: federal OSHA FY 2025 final data (Oct. 1, 2024 to Sept. 30, 2025), OSHA Top 10 list as reported by Safety+Health, Apr. 29, 2026. * Rows marked with an asterisk are EHS Concepts calculations from the published figures.

The Focus Four, mapped to the 2024 fatality data

	HAZARD	2024 CONSTRUCTION DEATHS (BLS EVENT CATEGORIES USED)*	MAIN OSHA RULES
1	Falls	389 falls, slips, and trips; 373 falls to a lower level. About 38% of construction deaths	1926.501, .502, .503, .451, .1053 [CON]
2	Struck-by	79 struck by falling, flying, or swinging objects; 67 pedestrians struck by vehicles (30 in road work zones)	1926.100, .201, .600, .601, .602, .1424 [CON]
3	Caught-in or -between	37 collapse or engulfment (13 trench or excavation, 21 building or structure); 9 compressed between running equipment and an object; 5 caught in running equipment	1926.651, .652, .300, .600 [CON]
4	Electrocution	52 exposure to electricity: 28 direct contact, 21 indirect contact (through a conductive object)	1926.404, .416, .417, .1408 [CON]

Counts are BLS CFOI 2024, private construction, Table A-9. BLS suppresses small cells, so subcategories do not always add to their totals. Struck-by and caught-in counts use the BLS event codes named in the table; some deaths in other codes (for example, roadway crashes and struck by rolling equipment) also fit OSHA's broader definitions. Do not add these rows to get a Focus Four total.

BEFORE THE FOUR HAZARDS

The five basics that sit under all four

29 CFR 1926.20(b) Safety programs (rule title: "accident prevention") · CON · final	The employer must run a safety program that includes frequent and regular inspections of job sites, materials, and equipment by competent persons it designates. Unsafe equipment gets tagged, locked, or removed.
29 CFR 1926.21(b)(2) Safety training · CON · final	Instruct each employee to recognize and avoid unsafe conditions and to know the rules that apply to their work.
29 CFR 1926.32(f) Competent person · CON · final	Someone who can identify existing and predictable hazards and has the authority to take prompt corrective action. Both parts. A competent person who cannot stop the work is not one.
29 CFR 1904.39 Reporting · BOTH · final	Report a work-related death to OSHA within 8 hours, and an in-patient hospitalization, amputation, or loss of an eye within 24 hours.
OSH Act Sec. 11(c) Anti-retaliation · BOTH · final	You may not punish a worker for reporting an injury, a hazard, or a safety concern. A crew that will not speak up is a crew you cannot protect.

Tags: CON = construction (29 CFR 1926). GI = general industry (29 CFR 1910). BOTH = applies to both (the OSH Act, 29 CFR 1904). GUIDANCE = advisory; it is not a rule and cannot be cited by itself.

Ten-minute foundation check

#	CHECK	YES	NO
1	A competent person is named for this job today, and the crew knows who it is.	☐	☐
2	That person has authority to stop work and fix the hazard without calling the office first.	☐	☐
3	There is a written site inspection from this week, and the open items have names and dates.	☐	☐
4	Every worker on site had hazard training for the work they are doing today, including subs and new hires.	☐	☐
5	Fall protection, shoring, and lockout equipment for today's tasks is on site, not on order.	☐	☐
6	The pre-task plan for today names the Focus Four hazards for each task.	☐	☐
7	Workers can name how to report a hazard and say they would.	☐	☐
8	The crew knows who calls OSHA within 8 hours after a death or 24 hours after a hospitalization.	☐	☐

HOW TO USE THIS GUIDE

Walk it. Score it. Own it.

1. Start with the hazard your crew faces tomorrow morning, not the one at the top of this guide.
2. Print the self-audit page. Walk one crew, one task, one area. Thirty minutes, before the task starts if you can.
3. Score what you can see or put your hand on, not what the safety plan says. If the plan and the field disagree, the plan is wrong until the field changes.
4. Every “No” gets one owner and one date before you leave the area. Live exposures get stopped now.
5. Walk it again at the next phase change. A construction site changes every week; your audit has to keep up.

Spotlight: the deaths the Focus Four do not cover

THE PAIN POINT **A crew does great on falls and trenches all year. Then a laborer dies driving between sites, and another is found unresponsive in a porta-john at lunch.**

(illustrative)

The Focus Four cover the biggest killers on a jobsite, but not all of them. In the same 2024 BLS data, private construction also lost 244 workers to transportation incidents (129 in roadway crashes), 90 to unintentional drug or alcohol overdoses, 25 to suicide, and 24 to environmental heat. (Source: BLS CFI 2024, Table A-9.)

Treat these as site hazards too. Driving between jobs is work. Heat is planned like any other exposure. Overdose and suicide prevention belong in the safety program, without judgment: naloxone in the first-aid kit, an employee assistance number on the trailer wall, and supervisors who know how to ask.

- ☐ Driving between sites is covered by a written policy (phones, belts, fatigue).
- ☐ There is a heat plan with water, shade, rest, and acclimatization for new workers.
- ☐ Supervisors have a crisis or employee assistance number and know how to use it.

USE THIS EVERY TIME

When you find a gap: the eight-step response

1. Stop or contain.	If the gap is live (an open edge, an unprotected trench, a boom near a line, a worker in the swing radius), stop that task now. Anyone can call it. Stop is a right on this site. Restart is a decision. A named person makes it after the control is in place.
2. Fix the condition first.	Set the guardrail, slide the trench box in, barricade the swing radius, de-energize the circuit. Then fix the paperwork so it says what is true.
3. Find the decision that allowed it.	Ask what made the condition normal: the bid that left out shoring, the harness that stayed in the gang box, the schedule that put two trades in one space. Do not stop at "they should have known."
4. One owner. One date.	One name, not a trade or a company. One date, not "ASAP."
5. Verify in the field.	The owner shows the fix at the work. Re-check at the next phase change.
6. Look sideways.	If it is on one crew, one sub, or one site, check the others this week.
7. Protect the person who raised it.	Thank them and tell them what changed. Retaliation for reporting an injury or hazard is illegal under Section 11(c) of the OSH Act.
8. Get help when you need it.	OSHA's On-Site Consultation Program is free, confidential, and separate from enforcement for small and mid-size employers (osha.gov/consultation). Your insurer's loss-control staff and your trade association are also free resources.

Leaders own the conditions. Workers make choices inside the conditions we build. When a gap shows up, the first question is not "who did it?" It is "what did we build, fund, schedule, or tolerate that made this normal?"

This guide is a practical summary for planning and self-audit. It is not legal advice and does not replace the text of OSHA or state rules, manufacturer instructions, or engineered designs. State-plan states may have different or additional rules. Regulatory text is paraphrased. When this guide and a regulation disagree, the regulation controls. Fatality figures are national counts and will not match any one company's experience.

01 Falls

1926.501, .502, .503 [CON] · 1926.451 scaffolds [CON] · 1926.1053, .1060 ladders [CON]

389

construction deaths from falls, slips, and trips in 2024

~38%

of all private construction deaths*

6 ft

construction fall protection trigger (10 ft on scaffolds)

THE PAIN POINT The roofer's harness is in the gang box. The anchor was never set because the job was “just a quick flashing repair.” He steps back to look at the line and goes off the eave, 14 feet to the driveway. (illustrative)

What the data says

Source: BLS CFI 2024, private construction, Table A-9. Falls, slips, and trips killed 389 private construction workers in 2024, about 38% of the 1,034 construction deaths. 373 were falls to a lower level. In the largest group of those (“other fall to a lower level,” 299 deaths), 190 falls were from 6 to 30 feet, 43 from more than 30 feet, and 14 from less than 6 feet. Counting every fall-to-a-lower-level category, at least 232 fell from 6 to 30 feet (BLS does not publish the smallest counts). Another 38 deaths were falls when a structure or piece of equipment collapsed under the worker. Roofing contractors lost 120 workers in 2024; 96 of them died in falls (Table A-1). On the enforcement side, fall protection (1926.501) was federal OSHA's most-cited standard in FY 2025 with 6,992 violations, the 15th fiscal year in a row at No. 1. Ladders (1926.1053, 2,842), scaffolding (1926.451, 2,286), and fall protection training (1926.503, 2,216) were also in the Top 10.

Why it really happens

Not worker carelessness. These are the system and leadership conditions that make this predictable.

- Fall protection is not in the bid or the schedule, so it gets improvised on site.
- Short tasks at height (a flashing repair, a light fixture, a last sheet of decking) are treated as too quick to tie off.
- Anchors, guardrails, and covers are not planned before the crew gets to the edge.
- Ladders and scaffolds are set by whoever gets there first, and no competent person checks them.
- Training happened once, at another company, and never covered this roof, this edge, or this lift.

REQUIREMENTS AND CONTROLS · FALLS

What the rules require, in plain words

1926.501(b)(1) · CON · final	Protect each worker on a walking or working surface with an unprotected side or edge 6 feet or more above a lower level with guardrails, safety nets, or personal fall arrest. Holes, skylights, leading edges, and roofs have their own paragraphs in 1926.501(b).
1926.502 · CON · final	Sets the criteria: guardrail top rails 42 inches, plus or minus 3 inches; personal fall arrest rigged so a worker cannot free fall more than 6 feet or hit a lower level, with maximum arresting force of 1,800 pounds with a harness; hole covers secured and marked.
1926.451(g)(1) · CON · final	Protect each worker on a scaffold more than 10 feet above a lower level from falling. 1926.454 requires scaffold users to be trained by a qualified person.
1926.1053(b)(1) · CON · final	Portable ladders used to reach an upper landing extend at least 3 feet above it, or are secured at the top with a grab rail. Ladders are inspected by a competent person and defective ones tagged and removed.
1926.503(a), (b) · CON · final	Train each worker who might be exposed to fall hazards, by a competent person, and keep a written certification record with the worker's name, the date, and the trainer's or employer's signature.

Paraphrased. Federal regulatory text checked on eCFR (current to Oct. 8, 2026) on Oct. 13, 2026. State-plan states may have different or additional rules. Tags: CON = construction (29 CFR 1926). GI = general industry (29 CFR 1910). BOTH = applies to both (the OSH Act, 29 CFR 1904). GUIDANCE = advisory; it is not a rule and cannot be cited by itself.

Controls that work, in hierarchy order

Eliminate	Do the work from the ground: prefabricate trusses and rails at grade, pre-install anchors and guardrail sockets before the roof goes on, use extension tools.
Engineer	Guardrails and parapets at every edge, covers marked "HOLE" or "COVER" and fastened down, skylight screens, safety nets.
Equipment	Aerial and scissor lifts instead of ladders for repeated high work; personal fall arrest with an anchor planned before the work starts.
Administrative	Fall protection plan in every bid and pre-task plan. Competent-person checks of ladders and scaffolds each shift. Rescue plan for anyone who falls and is caught by a harness.
Small-crew fix	Put a roof anchor kit and a harness for every roofer on the truck as standard stock. Rule: no one goes above 6 feet until the foreman has seen the anchor.

Leaders own the conditions. If the control only works when the foreman is willing to argue with the schedule, it is not a control. Plan it, buy it, and stage it before the crew shows up.

30-MINUTE SELF-AUDIT · PRINT AND TAKE TO THE FLOOR

01 · Falls

PROJECT / SITE	TRADE / CREW	AUDITOR	DATE
----------------	--------------	---------	------

#	CHECK WHAT YOU CAN SEE OR PUT YOUR HAND ON	YES	NO	N/A	NOTES
1	Every edge, hole, and skylight 6 feet or more above a lower level is guarded, covered, or netted.	☐	☐	☐	
2	Hole covers are fastened, marked, and strong enough for the load.	☐	☐	☐	
3	Workers using personal fall arrest are tied to an anchor rated for the job.	☐	☐	☐	
4	Harnesses and lanyards were inspected before use and are in good condition.	☐	☐	☐	
5	Scaffolds over 10 feet have guardrails or fall arrest, and were inspected this shift.	☐	☐	☐	
6	Scaffold planks are fully decked and the scaffold has safe access.	☐	☐	☐	
7	Ladders extend 3 feet above the landing or are secured, and none are damaged.	☐	☐	☐	
8	There is a written plan to rescue a worker caught by a harness.	☐	☐	☐	
9	Each worker exposed to falls has a fall protection training record.	☐	☐	☐	
10	The foreman can show the fall protection plan for today's tasks.	☐	☐	☐	

#	GAP FOUND	OWNER (ONE NAME)	DUE	VERIFIED

Rule: any "No" that is a live exposure gets stopped or contained before you leave the area. Stop is a right on this site. Restart is a decision. A named person makes it after the control is in place.

PREVENTION PLAYBOOK · FALLS

Who owns it

Owner / GM	Puts fall protection in every bid and funds anchors, rails, lifts, and harnesses.
Project manager	Schedules the guardrail and anchor installation before the trade that needs it.
Foreman / competent person	Checks edges, ladders, and scaffolds every shift; stops work at an unprotected edge.
Workers	Inspect their gear, refuse an unprotected edge, and have the right to stop.
Safety lead	Audits fall protection on every active site and tracks training records.

How to verify it is working in the field

- Walk the site and list every edge, hole, and opening. Mark each protected or not.
- Ask a roofer to show you the anchor they are tied to and who checked it.
- Pull the fall training records for everyone on site today, including subs.

TOOLBOX TALK STARTER

If you fell right now, what would catch you, and who checked it this morning?

Ask it at the job, not in the break room. Then listen. Write down what you hear and give it an owner before you leave.

IF YOU FIND A GAP

If an edge, hole, or skylight is open, barricade it or stand someone at it now. Pull a damaged ladder or harness out of service on the spot. Then name the owner and date for the permanent fix. Then run the eight-step gap response at the front of this guide.

02 Struck-by

1926.100 [CON] · 1926.201 flaggers [CON] · 1926.600, .601, .602 equipment and vehicles [CON] · 1926.1424 swing radius [CON]

79

construction deaths, struck by falling, flying, or swinging objects*

67

construction pedestrians struck by vehicles

30

of those were in road work zones

THE PAIN POINT The dump truck backs up to the spread pile. The spotter is running grade stakes because the crew is short. The laborer with ear protection never hears the alarm over the plate compactor. (illustrative)

What the data says

Source: BLS CFI 2024, private construction, Table A-9. OSHA defines struck-by injuries as those produced by forcible contact or impact between the person and an object or piece of equipment. In 2024, BLS counted 79 private construction deaths from being struck by a propelled, falling, or suspended object (55 struck by falling objects, 14 by propelled objects, 9 by suspended or swinging objects). Another 67 construction workers died as pedestrians struck by vehicles, 30 of them in road work zones and 24 in non-roadway areas such as job sites and yards. A further 9 were struck by rolling powered vehicles or machinery. These categories use different BLS event codes and are shown separately.

Why it really happens

Not worker carelessness. These are the system and leadership conditions that make this predictable.

- Pedestrians and equipment share the same space because no one drew a traffic plan.
- Spotters are pulled to other work when the crew is short.
- Overhead work and loads move above people who are not part of the lift.
- Work zone layouts are set up fast and never re-checked when the work moves.
- Backup alarms and cameras are broken or ignored, and nobody owns the fix.

REQUIREMENTS AND CONTROLS · STRUCK-BY

What the rules require, in plain words

1926.601(b)(4) · CON · final	Do not use a motor vehicle with an obstructed rear view unless it has a reverse signal alarm audible above the surrounding noise, or it backs up only when an observer signals it is safe. 1926.602(a)(9) sets the same rule for earthmoving and compacting equipment.
1926.600(a)(3) · CON · final	Equipment and loads held aloft by slings, hoists, or jacks are blocked or cribbed before anyone works under them. Blades, buckets, and dump bodies are fully lowered or blocked when being repaired or not in use.
1926.1424(a)(2) · CON · final	Where a crane's rotating superstructure could strike or crush someone, train workers on the hazard and erect control lines, warning lines, railings, or similar barriers to mark the swing radius.
1926.201(a) · CON · final	Flaggers and their warning garments follow Part 6 of the federal Manual on Uniform Traffic Control Devices (MUTCD).
1926.100(a) · CON · final	Workers where there is a possible danger of head injury from impact or from falling or flying objects wear protective helmets.

Paraphrased. Federal regulatory text checked on eCFR (current to Oct. 8, 2026) on Oct. 13, 2026. State-plan states may have different or additional rules. Tags: CON = construction (29 CFR 1926). GI = general industry (29 CFR 1910). BOTH = applies to both (the OSH Act, 29 CFR 1904). GUIDANCE = advisory; it is not a rule and cannot be cited by itself.

Controls that work, in hierarchy order

Eliminate	Keep people and equipment apart: separate haul routes, one-way traffic, deliveries scheduled when crews are not in the area.
Engineer	Barricades and hard barriers between traffic and workers, toe boards and debris netting, backup cameras and proximity alarms, tool lanyards for work at height.
Administrative	Site traffic plan with pedestrian routes. Dedicated spotter who does nothing else while equipment backs. Swing-radius barricade on every crane and excavator. Work zone set up to MUTCD and re-checked when work moves.
PPE	Hard hats, high-visibility garments, and eye protection where objects can fall or fly. PPE is the last layer, not the plan.
Small-crew fix	Mark a no-walk zone around every machine that swings or backs, and make the spotter role a named job on the pre-task plan, not a task for whoever is free.

Leaders own the conditions. If the control only works when the foreman is willing to argue with the schedule, it is not a control. Plan it, buy it, and stage it before the crew shows up.

30-MINUTE SELF-AUDIT · PRINT AND TAKE TO THE FLOOR

02 · Struck-by

PROJECT / SITE	TRADE / CREW	AUDITOR	DATE
----------------	--------------	---------	------

#	CHECK WHAT YOU CAN SEE OR PUT YOUR HAND ON	YES	NO	N/A	NOTES
1	There is a site traffic plan, and pedestrian routes are marked and separated from equipment.	☐	☐	☐	
2	Every vehicle with an obstructed rear view has a working backup alarm, or uses a spotter.	☐	☐	☐	
3	Spotters are dedicated and in radio or eye contact with the operator.	☐	☐	☐	
4	The swing radius of cranes and excavators is barricaded or marked.	☐	☐	☐	
5	No one works under a suspended load or raised equipment that is not blocked.	☐	☐	☐	
6	Material and tools at height are secured; toe boards or netting are in place.	☐	☐	☐	
7	Work zone signs, cones, and barriers match the plan and the current work location.	☐	☐	☐	
8	Workers near traffic or equipment wear high-visibility garments.	☐	☐	☐	
9	Hard hats are worn where objects can fall or fly.	☐	☐	☐	
10	Operators did a walk-around before moving equipment this shift.	☐	☐	☐	

#	GAP FOUND	OWNER (ONE NAME)	DUE	VERIFIED

Rule: any “No” that is a live exposure gets stopped or contained before you leave the area. Stop is a right on this site. Restart is a decision. A named person makes it after the control is in place.

PREVENTION PLAYBOOK · STRUCK-BY

Who owns it

Owner / GM	Funds barriers, cameras, and enough people to staff spotters.
Project manager	Builds the site traffic and delivery plan before mobilization.
Foreman / competent person	Assigns spotters, sets the swing-radius barricade, and re-checks the work zone when it moves.
Operators and drivers	Do the walk-around, stop when they lose sight of the spotter, and report near misses.
Safety lead	Audits traffic control weekly and reviews struck-by near misses.

How to verify it is working in the field

- Stand at the busiest equipment area for 10 minutes. Count the times a worker on foot enters the swing or backing path.
- Ask an operator: who is your spotter right now, and what is the signal to stop?
- Test three backup alarms over the noise of the site.

TOOLBOX TALK STARTER

Where on this site could a machine or a load hit someone today, and what keeps people out of that space?

Ask it at the job, not in the break room. Then listen. Write down what you hear and give it an owner before you leave.

IF YOU FIND A GAP

If workers are in a swing radius or backing path, stop the equipment now and set the barricade or spotter before it moves again. Name the owner and date for the traffic plan fix. Then run the eight-step gap response at the front of this guide.

03

Caught-in or -between

1926.1424 [CON]

1926.651, .652 excavations [CON] · 1926.600(a)(3) blocking [CON] · 1926.300(b) guarding [CON] ·

37

construction deaths from collapse or engulfment

13

of those in a trench or excavation

5 ft

trench depth that requires a protective system

THE PAIN POINT The trench is 7 feet deep in wet clay. The box is still on the trailer because the excavator was needed on the other side of the site first. The pipe layer gets in “for two minutes” to check grade. (illustrative)

What the data says

Source: BLS CFI 2024, private construction, Table A-9. OSHA's Focus Four training defines caught-in or -between injuries as being squeezed, caught, crushed, pinched, or compressed between two or more objects or parts of an object, and notes the key test is whether the impact alone caused the injury (struck-by) or the crushing did (caught). In 2024, BLS counted 37 private construction deaths from collapse or engulfment, including 13 in an open trench or excavation and 21 in a collapsing building or structure. Another 9 workers were compressed between running equipment and another object, 5 were caught in running equipment, and 5 were caught or wedged between non-running objects.

Why it really happens

Not worker carelessness. These are the system and leadership conditions that make this predictable.

- Shoring is not in the bid, or the box is not on site when the digging starts.
- The competent person is not named, not on site, or does not have authority to stop the dig.
- Spoils are piled at the edge because there is nowhere else to put them.
- Workers get between equipment and a wall, truck, or load because the space was never planned.
- Guards come off tools and equipment for a jam and do not go back on.

REQUIREMENTS AND CONTROLS · CAUGHT-IN OR -BETWEEN

What the rules require, in plain words

1926.652(a)(1) · CON · final	Protect each worker in an excavation from cave-ins with a protective system (sloping, benching, shoring, or a shield) unless it is entirely in stable rock, or less than 5 feet deep and a competent person finds no sign of a potential cave-in.
1926.651(k)(1) · CON · final	A competent person inspects the excavation, the area around it, and protective systems daily before work starts, as needed during the shift, and after rain or any other event that increases the hazard.
1926.651(c)(2), (j)(2) · CON · final	Trenches 4 feet or deeper need a ladder, stairway, or ramp within 25 feet of lateral travel. Keep spoils and equipment at least 2 feet from the edge, or use retaining devices.
1926.600(a)(3) · CON · final	Block or crib raised equipment and loads before anyone works under or between them.
1926.300(b)(2) · CON · final	Guard belts, gears, shafts, pulleys, chains, and other moving parts of equipment that workers could contact.

Paraphrased. Federal regulatory text checked on eCFR (current to Oct. 8, 2026) on Oct. 13, 2026. State-plan states may have different or additional rules. Tags: CON = construction (29 CFR 1926). GI = general industry (29 CFR 1910). BOTH = applies to both (the OSH Act, 29 CFR 1904). GUIDANCE = advisory; it is not a rule and cannot be cited by itself.

Controls that work, in hierarchy order

Eliminate	Trenchless methods where they fit; pre-assembled pipe runs lowered in so fewer people enter the trench.
Engineer	Trench boxes, shoring, sloping, and benching designed for the soil and depth; guards on every moving part; physical stops that keep people out of pinch points.
Administrative	No entry until the competent person has inspected and signed for the protective system. Spoils plan before digging. Pinch-point zones marked around equipment. Lockout of equipment before clearing a jam.
Planning	Shoring and the competent person go in the bid and on the schedule. The box arrives before the excavator starts.
Small-crew fix	Rule: the box is in the hole before anyone else is. Put it on the pre-task plan with the competent person's name.

Leaders own the conditions. If the control only works when the foreman is willing to argue with the schedule, it is not a control. Plan it, buy it, and stage it before the crew shows up.

30-MINUTE SELF-AUDIT · PRINT AND TAKE TO THE FLOOR

03 · Caught-in or -between

PROJECT / SITE	TRADE / CREW	AUDITOR	DATE
----------------	--------------	---------	------

#	CHECK WHAT YOU CAN SEE OR PUT YOUR HAND ON	YES	NO	N/A	NOTES
1	A competent person is named for this excavation and is on site.	☐	☐	☐	
2	Trenches 5 feet or deeper have a protective system in place (box, shoring, or slope).	☐	☐	☐	
3	The excavation was inspected today before work and after any rain.	☐	☐	☐	
4	Spoils and equipment are at least 2 feet back from the edge.	☐	☐	☐	
5	A ladder or ramp is within 25 feet of every worker in a trench 4 feet or deeper.	☐	☐	☐	
6	Utilities were located and marked before digging.	☐	☐	☐	
7	No one is working between equipment and a wall, vehicle, or load.	☐	☐	☐	
8	Raised equipment and loads are blocked before anyone works under them.	☐	☐	☐	
9	Guards are on every tool and machine with exposed moving parts.	☐	☐	☐	
10	Equipment is locked out before anyone clears a jam or works on it.	☐	☐	☐	

#	GAP FOUND	OWNER (ONE NAME)	DUE	VERIFIED

Rule: any "No" that is a live exposure gets stopped or contained before you leave the area. Stop is a right on this site. Restart is a decision. A named person makes it after the control is in place.

PREVENTION PLAYBOOK · CAUGHT-IN OR -BETWEEN

Who owns it

Owner / GM	Bids shoring, boxes, and a qualified competent person into every excavation job.
Project manager	Schedules the protective system to arrive before digging starts.
Foreman / competent person	Inspects daily, classifies soil, and stops entry when protection is not in place.
Workers and operators	Stay out of unprotected trenches and pinch points; have the right to stop.
Safety lead	Audits excavations and guarding weekly; checks competent-person qualifications.

How to verify it is working in the field

- Measure the depth of every open trench on site and check the protective system against it.
- Ask the competent person to show today's inspection and explain the soil type.
- Watch an equipment operation for 10 minutes. Count the times someone stands between the machine and a fixed object.

TOOLBOX TALK STARTER

Who is the competent person on this dig today, and what would make them pull everyone out?

Ask it at the job, not in the break room. Then listen. Write down what you hear and give it an owner before you leave.

IF YOU FIND A GAP

If a trench is unprotected, get everyone out now and keep them out until the protective system is in. Name the owner and date for the fix and for the bid change. Then run the eight-step gap response at the front of this guide.

04 Electrocution

1926.404(b)(1) GFCI [CON] · 1926.416, .417 [CON] · 1926.1408 power lines and cranes [CON]

52

construction deaths from exposure to electricity in 2024

~5%

of all private construction deaths*

20 ft

crane and boom planning distance from power lines up to 350 kV

THE PAIN POINT The concrete pump boom swings toward the overhead line while everyone watches the pour. Nobody was assigned to watch the line. The worker holding the hose is the path to ground. (illustrative)

What the data says

Source: BLS CFI 2024, private construction, Table A-9. Exposure to electricity killed 52 private construction workers in 2024, about 5% of the sector total. 28 died from direct contact (13 at 220 volts or less and 9 at more than 220 volts), and 21 from indirect contact, when current reaches the worker through a conductive object such as a tool, ladder, or boom. 17 of the indirect deaths involved more than 220 volts. Electricians are not the only ones exposed: overhead lines, buried cables, and damaged cords put every trade at risk.

Why it really happens

Not worker carelessness. These are the system and leadership conditions that make this predictable.

- Overhead and buried lines are not marked on the site plan or in the pre-task plan.
- Booms, ladders, and long materials are moved near lines with no observer.
- Temporary power and cords take a beating and are not inspected.
- Circuits are assumed dead instead of locked, tagged, and tested.
- GFCIs are missing on temporary power or bypassed when they trip.

REQUIREMENTS AND CONTROLS · ELECTROCUTION

What the rules require, in plain words

1926.416(a)(1) · CON · final	Do not let a worker work close enough to an electric power circuit to contact it unless the circuit is de-energized and grounded, or the worker is protected by guarding, insulation, or other effective means.
1926.404(b)(1) · CON · final	Protect workers from ground faults with GFCIs on all 120-volt, single-phase, 15- and 20-amp receptacle outlets that are not part of the building's permanent wiring, or run an assured equipment grounding conductor program.
1926.417 · CON · final	Controls for de-energized circuits are locked out or tagged; de-energized equipment is made inoperative and tagged at every point where it can be energized.
1926.1408 · CON · final	Before operating cranes and derricks near power lines up to 350 kV, identify the work zone and check whether the equipment could get within 20 feet of a line. If so, de-energize and ground, keep a 20-foot clearance, or follow the minimum approach distances with a dedicated spotter and other encroachment precautions.
1926.21(b)(2) · CON · final	Train each worker to recognize and avoid electrical hazards on the job, not just electricians.

Paraphrased. Federal regulatory text checked on eCFR (current to Oct. 8, 2026) on Oct. 13, 2026. State-plan states may have different or additional rules. Tags: CON = construction (29 CFR 1926). GI = general industry (29 CFR 1910). BOTH = applies to both (the OSH Act, 29 CFR 1904). GUIDANCE = advisory; it is not a rule and cannot be cited by itself.

Controls that work, in hierarchy order

Eliminate	De-energize and ground the line or circuit. Ask the utility to de-energize or relocate lines before the job starts.
Engineer	Insulating line covers installed by the utility, GFCIs on all temporary power, range-limiting devices and proximity alarms on booms, non-conductive ladders near electrical work.
Administrative	Mark overhead lines on the site plan and with flags or goalposts on site. Dedicated line observer for any equipment near lines. Lockout, tagout, and test-before-touch. Daily cord inspection.
PPE	Insulated gloves and tools rated for the voltage, used by qualified workers only. PPE is the last layer.
Small-crew fix	Walk the site with the crew on day one and point at every overhead line. Put flags on the ground below them and a GFCI on every cord.

Leaders own the conditions. If the control only works when the foreman is willing to argue with the schedule, it is not a control. Plan it, buy it, and stage it before the crew shows up.

30-MINUTE SELF-AUDIT · PRINT AND TAKE TO THE FLOOR

04 · Electrocution

PROJECT / SITE	TRADE / CREW	AUDITOR	DATE
----------------	--------------	---------	------

#	CHECK WHAT YOU CAN SEE OR PUT YOUR HAND ON	YES	NO	N/A	NOTES
1	Overhead and buried lines are identified on the site plan and marked on site.	☐	☐	☐	
2	Equipment that could come within 20 feet of a line has a written plan and a dedicated spotter.	☐	☐	☐	
3	Utility locate was called and marks are visible before any digging.	☐	☐	☐	
4	All temporary 120-volt receptacles in use are GFCI-protected, or an assured grounding program is documented.	☐	☐	☐	
5	GFCIs were tested and none are bypassed.	☐	☐	☐	
6	Extension cords are hard-service type, undamaged, and not run through doors or water.	☐	☐	☐	
7	Circuits being worked on are locked out or tagged and tested dead.	☐	☐	☐	
8	Ladders used near electrical work are non-conductive.	☐	☐	☐	
9	Only qualified workers do energized electrical work, with the right PPE.	☐	☐	☐	
10	Workers can point to the nearest overhead line and say how they stay clear.	☐	☐	☐	

#	GAP FOUND	OWNER (ONE NAME)	DUE	VERIFIED

Rule: any “No” that is a live exposure gets stopped or contained before you leave the area. Stop is a right on this site. Restart is a decision. A named person makes it after the control is in place.

PREVENTION PLAYBOOK · ELECTROCUTION

Who owns it

Owner / GM	Funds utility coordination, line covers, and GFCI-protected temporary power.
Project manager	Calls the utility early and puts line clearance in the schedule.
Foreman / competent person	Assigns the line observer, checks GFCIs and cords daily, and stops equipment that drifts toward a line.
Workers and operators	Treat every line as live, report damaged cords, and have the right to stop.
Safety lead	Audits electrical controls and line clearance on every active site.

How to verify it is working in the field

- Test five GFCIs on site with a tester. Count how many trip.
- Ask an operator how close the boom can get to the nearest line and who is watching it.
- Pull three cords at random and inspect them end to end.

TOOLBOX TALK STARTER

Where is the nearest power line to the work you are doing today, and what keeps you, your tools, and your equipment away from it?

Ask it at the job, not in the break room. Then listen. Write down what you hear and give it an owner before you leave.

IF YOU FIND A GAP

If equipment is working near a line without a plan or spotter, stop it now. Tag out a damaged cord on the spot. Then name the owner and date for the line clearance or GFCI fix. Then run the eight-step gap response at the front of this guide.

CHECK OUR WORK

Sources

1. U.S. Bureau of Labor Statistics, Census of Fatal Occupational Injuries Summary, 2024 (news release USDL-26-0230, Feb. 19, 2026)
<https://www.bls.gov/news.release/cfoi.nr0.htm>
2. BLS CFOI 2024, Table A-9: fatal occupational injuries by event or exposure and major private industry sector
<https://www.bls.gov/iif/fatal-injuries-tables/fatal-occupational-injuries-table-a-9-2024.htm>
3. BLS CFOI 2024, Table A-1: fatal occupational injuries by industry and event or exposure (roofing contractors row)
<https://www.bls.gov/iif/fatal-injuries-tables/fatal-occupational-injuries-table-a-1-2024.htm>
4. OSHA, Construction Focus Four Training (outreach lesson plans and definitions)
<https://www.osha.gov/training/outreach/construction/focus-four>
5. OSHA, Construction Focus Four: Caught-In or -Between Hazards, Instructor Guide (PDF)
https://www.osha.gov/sites/default/files/caught_iorb_ig.pdf
6. OSHA, Construction Focus Four: Struck-By Hazards, Instructor Guide (PDF)
https://www.osha.gov/sites/default/files/struckby_ig.pdf
7. Safety+Health, "OSHA reveals final 'Top 10' data for FY 2025" (Apr. 29, 2026)
<https://www.safetyandhealthmagazine.com/osha-reveals-final-top-10-data-for-fy-2025/>
8. OSHA, Top 10 Most Frequently Cited Standards
<https://www.osha.gov/top10citedstandards>
9. 29 CFR 1926.20 and 1926.21, general safety and health provisions; safety training, eCFR
<https://www.ecfr.gov/current/title-29/part-1926/subpart-C>
10. 29 CFR 1926.32, definitions (competent person), eCFR
<https://www.ecfr.gov/current/title-29/section-1926.32>
11. 29 CFR 1904.39, reporting fatalities and severe injuries, eCFR
<https://www.ecfr.gov/current/title-29/section-1904.39>
12. OSH Act Section 11(c), anti-retaliation
https://www.osha.gov/laws-regs/oshact/section_11
13. 29 CFR 1926.501, 1926.502, 1926.503, fall protection (Subpart M), eCFR
<https://www.ecfr.gov/current/title-29/part-1926/subpart-M>
14. 29 CFR 1926.451 and 1926.454, scaffolds, eCFR
<https://www.ecfr.gov/current/title-29/part-1926/subpart-L>
15. 29 CFR 1926.1053 and 1926.1060, ladders, eCFR
<https://www.ecfr.gov/current/title-29/part-1926/subpart-X>
16. 29 CFR 1926.100, head protection, eCFR
<https://www.ecfr.gov/current/title-29/section-1926.100>
17. 29 CFR 1926.201, signaling (flaggers, MUTCD Part 6), eCFR
<https://www.ecfr.gov/current/title-29/section-1926.201>
18. 29 CFR 1926.600, 1926.601, 1926.602, equipment, motor vehicles, earthmoving equipment, eCFR
<https://www.ecfr.gov/current/title-29/part-1926/subpart-O>
19. 29 CFR 1926.1424, work area control (cranes, swing radius), eCFR
<https://www.ecfr.gov/current/title-29/section-1926.1424>
20. 29 CFR 1926.651 and 1926.652, excavations, eCFR
<https://www.ecfr.gov/current/title-29/part-1926/subpart-P>
21. 29 CFR 1926.300, tools general (guarding), eCFR
<https://www.ecfr.gov/current/title-29/section-1926.300>

22. 29 CFR 1926.404, 1926.416, 1926.417, electrical, eCFR
<https://www.ecfr.gov/current/title-29/part-1926/subpart-K>
23. 29 CFR 1926.1408, power line safety (up to 350 kV), equipment operations, eCFR
<https://www.ecfr.gov/current/title-29/section-1926.1408>
24. OSHA, Trenching and Excavation Safety topic page
<https://www.osha.gov/trenching-excavation>
25. OSHA, Fall Protection topic page and Stop Falls campaign
<https://www.osha.gov/stop-falls>
26. OSHA, On-Site Consultation Program
<https://www.osha.gov/consultation>

Sources retrieved and checked October 13, 2026. This guide is a practical summary for planning and self-audit. It is not legal advice and does not replace the text of OSHA or state rules, manufacturer instructions, or engineered designs. State-plan states may have different or additional rules. Regulatory text is paraphrased. When this guide and a regulation disagree, the regulation controls. Fatality figures are national counts and will not match any one company's experience.

FREE FIELD TOOL · NEXT STEP

ONE TASK. SEVEN MINUTES.

The free 7-Minute Safety Walk is a one-page field tool. Pick one task running right now. Name the energy: the height, the moving load, the trench wall, the live circuit. Find the control you can put your hand on, and compare it to what the plan claims. It is the fastest way to find out whether the fixes in this guide are working on your site today.

Get the free 7-Minute Safety Walk →

thewaysofsafety.com/walk



EHS CONCEPTS
— THE WAYS OF SAFETY —

Keep your people whole.

Ryan L. Rinehart · EHS Concepts — The Ways of Safety · thewaysofsafety.com · EHSConceptsTWS@outlook.com