



BACKING, SPOTTERS AND INTERNAL TRAFFIC CONTROL

Vehicle, Equipment and Pedestrian Movement Inside the Work Zone

POLICY STANDARD

Plan the site so backing is eliminated or minimized. Separate workers from moving vehicles and equipment, use trained spotters when required, maintain positive communication and stop movement immediately whenever the path, spotter or clearance cannot be confirmed.

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USE OF THIS POLICY

This policy establishes minimum company expectations and is not all-inclusive. The approved traffic-control plan, manufacturer instructions, OSHA, MUTCD, WisDOT/project requirements and any more protective site rule also apply.

Primary Regulatory References

- 29 CFR 1926.601 - Motor vehicles; 1926.602 - Material handling equipment
- 29 CFR 1926.200 - Signs, signals and barricades; MUTCD Part 6 for areas open to public travel
- 29 CFR 1926 Subpart CC for crane signal persons/operations; 1910.178(l) as incorporated by 1926.602(d) for powered industrial trucks
- FHWA/NIOSH internal traffic-control and construction-equipment visibility best practices

1. Purpose, Scope and Responsibilities

Purpose and Scope

- Applies to trucks, pickups, trailers, loaders, skid steers, excavators, dozers, rollers, forklifts, cranes, aerial lifts and delivery vehicles at projects, yards, shops and staging areas.
- Covers backing, travel, swing, loading/dumping, parking, pedestrian interaction and internal traffic separate from public temporary traffic control.

Management / Project Management

- Provide site planning, suitable equipment, trained operators/spotters, lighting, barriers and time to control movement.
- Coordinate controlling-contractor, subcontractor, delivery, owner and public-traffic interfaces.

Foreman / Competent Person

- Develop and update the internal traffic control plan (ITCP), assign routes/zones, confirm operator/spotter roles and inspect conditions each shift.
- Stop movement when controls fail and correct recurring backing or pedestrian conflicts.

Operators / Drivers

- Complete inspection/walk-around, wear seat belt, follow ITCP/speed rules and move only when path and communication are confirmed.
- The operator has final responsibility to stop; a spotter's signal does not authorize unsafe movement.

Spotters and Pedestrians

- Spotters follow this policy and have no competing duty while directing movement. Pedestrians use designated routes and make positive contact before approaching equipment.
- Every employee may stop movement or warn of an immediate hazard.

2. Internal Traffic Control Plan

Plan Before Mobilization

- Design the flow of construction vehicles, equipment and workers inside the work space. Coordinate it with, but distinguish it from, the public traffic-control plan.
- Use current site drawings/aerials and update for work phase, bridge access, excavation, crane setup, concrete pours, deliveries and changing grades.

Plan Elements

- Identify entrances/exits, one-way routes, haul roads, speed limits, intersections, turnarounds, backing/loading/dumping areas, parking, staging and washout/refueling.
- Identify pedestrian walkways, break areas, toilets, muster points, delivery check-in, visitor parking and controlled crossings.
- Show restricted zones around swing radii, counterweights, cranes, excavations, water, overhead lines, falsework and unstable edges.
- Maintain emergency access and prevent construction queues from extending into live traffic or blocking rail crossings.

Design Priorities

- Create drive-through or loop routes and pull-through parking so vehicles do not need to back.
- Separate people and equipment with distance, barriers, channelizing devices, scheduling or dedicated access. Paint/cones alone are insufficient if vehicles can easily intrude.
- Provide stable road width, grade, drainage, edge protection/berms, sight distance, turning radius and capacity for the largest expected vehicle.

Communication

- Post the current plan at check-in and brief crews/drivers. Use clear signs meeting applicable OSHA/MUTCD requirements.
- Only authorized personnel change routes or devices. Re-brief after a change.

3. Backing Prevention and Pre-Movement Checks

Eliminate or Minimize

- Plan unloading and staging before the truck arrives. Use pull-through positions, one-way travel, turnaround areas or repositioning rather than long-distance backing.
- When backing cannot be eliminated, shorten the distance, clear the zone and use the controls required by this policy.

Before Starting / Moving

- Operator completes a 360-degree walk-around immediately before movement when practical, checking people, vehicles, overhead/side/rear clearance, soft ground, edges, utilities, attachments and load.
- Clean/adjust windows, mirrors and cameras; verify seat, seat belt, brakes, steering, horn, lights, beacon and required reverse alarm.
- Sound horn/startup warning as site practice requires and allow nearby employees time to move clear.
- Confirm the intended route and destination. Do not begin if the path will become hidden or the vehicle cannot exit safely.

Backing Controls

- OSHA requires covered motor vehicles/earthmoving equipment with an obstructed rear view to use an audible reverse alarm distinguishable/audible above surrounding noise or back only when an observer signals it is safe.
- Company expectation: use a trained spotter whenever people, structures, edges, utilities, congested areas or limited clearance make an alarm/camera alone insufficient, and whenever required by the ITCP or owner.
- Before backing, operator and spotter confirm the zone clear. Back at walking speed or slower as conditions require; avoid sharp turns and unnecessary acceleration.

No Spotter Available

- Do not improvise. Park safely and contact the foreman. Reconfigure, barricade/clear the area or assign a trained spotter before movement.

4. Spotter Selection, Position and Conduct

Selection

- Spotter must be trained, alert, fit for duty, familiar with equipment blind areas and able to communicate in the agreed language/method.
- Spotter wears properly fitting high-visibility apparel and task PPE. A delivery driver or unbriefed person is not automatically qualified.

Position

- Stand where the operator can continuously see the spotter, preferably on the driver's side when feasible, outside the vehicle's path, swing radius, pinch/crush zone and drop-off edge.
- Maintain a clear escape route. Never stand directly behind/in front of moving equipment, between equipment and a fixed object, under raised attachments or in a place requiring walking backward.
- Reposition only after stopping the vehicle and confirming the new location with the operator.

Conduct

- Inspect the entire path, including overhead clearance, sides, rear, front swing/off-tracking, people and changing ground.
- Devote full attention to the movement. No phone, paperwork, traffic flagging or other simultaneous duty.
- Keep unauthorized people out of the zone. Use additional spotters for blind corners/complex movement only under a clearly defined lead-spotter plan.

Authority

- Spotter gives clear directional instructions and stops movement at the first uncertainty. Spotter never enters a blind area while equipment is moving.
- Anyone may give the emergency-stop signal; only the designated lead spotter gives routine movement directions.

5. Operator-Spotter Communication

Pre-Movement Agreement

- Identify operator and designated spotter; review route, destination, blind areas, hazards, travel speed and stopping point.
- Agree on standard hand signals or dedicated radio words for start, direction, distance, slow and stop. Avoid vague terms such as 'come on' or 'you're good.'
- Test radios and confirm channel. Hand signals must be visible in expected lighting/weather.

Closed-Loop Communication

- Spotter gives a direction; operator acknowledges before moving. Use distance countdowns where useful and a clear final stop command.
- Operator moves only in the direction signaled and at controlled speed. If a signal conflicts with observation, stop and clarify.

Loss of Contact

- Operator stops immediately if visual/radio contact is lost, signal is unclear, spotter leaves the agreed position or another person begins directing.
- Remain stopped until contact is restored, spotter/path are verified and both parties agree to resume.
- A reverse alarm sounding or camera image does not authorize continuing after spotter contact is lost.

Emergency Stop

- Use a simple unmistakable signal/word understood by everyone. Operator stops safely and sets brake until hazard is resolved.

Cranes

- A backing spotter does not automatically meet OSHA Subpart CC signal-person qualification. Crane signals/operations follow the Cranes and Hoisting Policy.

6. Equipment, Alarms, Cameras and Visibility

Required Equipment Condition

- Beginning-of-shift inspection covers brakes, parking/emergency brake, steering, tires/tracks, horn, seat belt, controls, coupling devices, lights/reflectors, windshield/wipers/defroster and safety devices as applicable.
- Correct defects before service when they could cause failure or defeat the backing/control plan.

Audible Alarms

- Reverse alarm must be distinguishable/audible above surrounding noise when used for OSHA compliance. Verify function before operation.
- Alarms warn; they do not confirm the path is clear. Workers must not become desensitized or rely on hearing protection to detect every alarm.
- Use broadband/self-adjusting alarms only when permitted and maintained to provide effective warning.

Cameras, Sensors and Mirrors

- Cameras and proximity/radar systems supplement direct observation and spotters; they do not eliminate blind areas, latency, dirt, glare or sensor limitations.
- Clean and test devices; understand detection zones and false/missed alerts. Stop when image/sensor performance is unreliable.
- Never defeat, mute, cover or reposition a safety device without authorization and required evaluation.

Visibility

- Provide headlights/taillights/brake lights and work-zone illumination required by OSHA/project conditions. Control glare and deep shadows.
- Keep cab glass clear; replace broken/cracked glass affecting view and use operable wipers/defrosters where needed.

Seat Belts

- Operators and vehicle occupants wear provided seat belts. No unauthorized riders; transport only in designed seats.

7. Pedestrians, Deliveries and Multi-Employer Sites

Pedestrian Rules

- Use designated walkways/crossings and stay out of travel lanes, blind areas and swing zones. Face traffic where practical and remain alert.
- Before approaching equipment, stop outside the zone, make eye/hand/radio contact and receive operator acknowledgment. Never assume the operator sees you.
- Do not pass beneath raised loads/attachments or between equipment and fixed objects. Avoid phones/earbuds in movement zones.

Delivery and Visitor Control

- Require check-in. Provide route, speed, PPE, staging/unloading location, backing/spotter rules and contact person before entry.
- Schedule deliveries to avoid congestion and stage trucks off public roads/rail crossings. Use a trained site spotter where the driver is unfamiliar or visibility is restricted.
- Drivers remain in a designated safe area or cab as planned during loading/unloading; do not wander through the work zone.

Multi-Employer Coordination

- Controlling contractor communicates ITCP and changes to subcontractors. Each employer trains its personnel and controls its equipment.
- Resolve overlapping crane, haul, concrete, excavation, pile-driving and public-traffic paths before simultaneous work.
- A subcontractor's alarm/spotter practice cannot be less protective than the governing site plan.

Worker Parking

- Locate personal vehicles outside equipment routes when possible; use pull-through/controlled parking and pedestrian path to the work area.

8. Dumping, Loading and Special Operations

Dump Trucks

- Select firm, level dumping ground clear of overhead lines, edges, soft fill and side slope. Spotter stays outside rear/tip-over/falling-material zone.
- Align tractor/trailer before raising bed; maintain adequate clearance. Stop for leaning, shifting load, stuck tailgate, ground settlement or overhead conflict.
- Do not travel with bed raised. Lower and secure bed before moving; use permanently attached positive support before maintenance/inspection under a raised body.

Loading

- Keep truck operator protected by cab shield/canopy or outside the cab/zone as planned when loaded by crane, shovel or loader.
- No one stands between loader and truck, beneath bucket/load or in articulation/swing area. Confirm horn/radio signals between operators.
- Secure transported tools/materials against movement and comply with load/vehicle capacity.

Concrete Trucks and Pumps

- Plan truck approach, chute/pump position, outriggers, power-line clearance and washout before arrival.
- Spotter avoids chute, tire, outrigger and hose pinch zones. Control truck movement through one designated signaler.

Skid Steers / Loaders / Excavators

- Account for front/rear swing, counterweight, articulation and attachment blind areas. Lower attachments when parked.
- Use physical exclusion zones; a spotter is not protection for employees intentionally working inside an active swing radius.

Towing / Trailers

- Inspect couplings, safety chains, electrical/brakes and load securement. Use a spotter for hitching only from a visible safe position; no person between units while either can move unexpectedly.

9. Night Work, Weather and Changing Conditions

Night / Low Visibility

- Meet the Night Work and Illumination Policy. Light travel routes, crossings, backing zones, spotters and hazards without blinding operators or motorists.
- Use clean retroreflective apparel/devices and illuminated wands only as trained. Verify signals from the operator's seat before movement.

Weather and Ground

- Reassess for rain, fog, snow, dust, smoke, ice, mud, glare and wind. Reduce speed, improve routes/traction/lighting or stop.
- Inspect roads, mats, bridges, ramps, berms and edges for washout, settlement, rutting and capacity. OSHA requires access roads/grades to safely accommodate equipment.
- Keep pedestrians away from splash, sliding/rolling equipment and unstable shoulders.

Changing Work

- Update ITCP for excavation growth, falsework, deck pours, crane moves, lane shifts, stockpiles and delivery surges.
- Temporary shortcuts or moving devices without authorization are prohibited.

Fatigue and Distraction

- Operators/spotters report fatigue, illness or medication that impairs vigilance. Rotate/relieve spotters during long or high-demand movements.
- No handheld phone use while operating, spotting or walking in active internal traffic zones.

Shift Handoff

- Communicate route closures, soft areas, disabled equipment, changed staging and incomplete controls to the next shift.

10. Emergency Response, Training and Records

Immediate Response

- For contact/near miss: stop all movement, set brakes/lower attachments if safe, warn others, call 911 for serious injury and activate the project emergency plan.
- Do not move equipment involved in a serious incident unless necessary to prevent greater harm or authorized after scene control.
- Provide exact location/access, meet responders, account for employees and preserve evidence.

Utility / Edge / Rollover

- After utility contact, follow Utility-Strike/Electrical policies; stay on equipment when electrical contact may exist and keep others away unless fire or greater hazard requires escape.
- Do not attempt unplanned rescue beneath unstable, suspended, rolled or tipped equipment. Use trained/equipped response and stabilize first.

Training

- Train operators on specific equipment, blind areas, alarms/cameras, ITCP, seat belts, inspection, travel/backing/dumping and emergency actions.
- Train spotters through instruction and practical demonstration on positioning, signals/radio, path assessment, escape and stop authority.
- Brief pedestrians, delivery coordinators and affected subcontractors. Toolbox talks supplement but do not replace operator/PIT/crane or regulatory training.

Records

- Maintain ITCP revisions, equipment inspections, operator/spotter training, delivery briefings when required, incidents/near misses and corrective actions.
- Review annually and after scope/equipment changes, repeated conflicts, near miss or incident.

11. Stop-Work Rules and Field Scenarios

Immediate Stop-Work Triggers

- Spotter not visible/communication lost; person/vehicle enters path; unclear/conflicting signal; alarm/camera/brake/light failure; route/ground/edge unsafe; overhead obstruction; unauthorized plan change; excessive speed; operator/spotter fatigue or distraction.

Scenario: Spotter Must Move

- Spotter signals STOP; operator stops and sets brake. Spotter relocates outside path and confirms visibility/escape route. Operator acknowledges before resuming.

Scenario: Person Enters Zone

- Anyone signals emergency stop. Do not resume until person is clear, reason for entry is addressed and operator/spotter re-confirm the route.

Scenario: Delivery Arrives Unexpectedly

- Hold at check-in/staging. Do not wave the truck into active work. Foreman assigns route, unloading location and trained spotter before entry.

Scenario: Alarm Fails

- Remove from service or use the specific OSHA-permitted observer control only under foreman approval and safe planned conditions. Repair promptly; do not treat a camera as an automatic substitute.

Scenario: No Clear Escape for Spotter

- Do not back. Reconfigure movement, clear/barricade area, use another position/technology or change work sequence.

Restart

- Work resumes only after correction, current-condition reassessment and clear operator/spotter agreement.

12. Daily ITCP and Backing Checklist

VERIFY	MINIMUM EXPECTATION
ITCP	Current routes, one-way flow, speed, backing/dump zones, pedestrian paths and emergency access.
Ground/clearance	Road capacity, grades, berms/edges, overhead/side clearance, utilities and destination acceptable.
Separation	Barriers/zones/scheduling separate pedestrians, equipment, deliveries and public traffic.
Equipment	Shift inspection complete; brakes, steering, horn, seat belt, lights, glass/mirrors and alarms functional.
Operator	Authorized/fit; route, blind areas, speed, seat belt and stop rules understood.
Spotter	Trained/fit; high visibility; visible safe position, escape route and no competing duty.
Communication	One designated spotter; signals/radio tested; emergency stop and lost-contact rule confirmed.
Backing	Eliminated/minimized; short controlled path; 360 walk-around and zone clear immediately before move.
Deliveries	Check-in, staging, route, unloading, PPE and driver safe location coordinated.
Special work	Dump/load/concrete/crane/excavation/swing and overhead-line interfaces controlled.
Night/weather	Lighting/glare, retroreflection, rain/fog/snow/dust/mud/ice and fatigue acceptable.
Emergency	Exact location/access, 911 process, scene control and utility/rollover actions understood.
FINAL GO / NO-GO	The operator and spotter both confirm the complete path and communication before movement. Either may stop the operation. If the spotter cannot stand safely, the backing plan is not acceptable.

13. Test Your Knowledge

Circle the best answer. Review missed questions before operating or spotting.

1. What is the first choice for controlling backing? A. A louder alarm B. Eliminate/minimize it through site layout C. Back faster	2. What must an operator do when the spotter disappears from view? A. Stop immediately B. Continue using camera C. Sound horn and continue
3. Where should a spotter stand? A. Directly behind vehicle B. Between vehicle and wall C. Visible to operator, outside path/pinch zones with escape route	4. Does a reverse alarm prove the path is clear? A. Yes B. No C. Only at night
5. Who gives routine backing directions? A. The designated spotter B. Anyone nearby C. The delivery driver	6. What should happen before movement begins? A. Operator/spotter agree on route and communication B. Spotter starts walking backward C. Pedestrians move around the truck
7. May a spotter use a phone while directing movement? A. For short calls B. No - spotting requires full attention C. If wearing high visibility	8. What is required when a person enters the backing zone? A. Continue slowly B. Use the horn C. Stop and clear/reassess before resuming
9. What should an unexpected delivery do? A. Hold at check-in until route/unloading/spotter are assigned B. Follow the nearest truck C. Back toward the crew	10. Who may give an emergency-stop warning? A. Foreman only B. Any person who sees the hazard C. Spotter only

EMPLOYEE: _____

DATE: _____

ANSWER KEY: 1-B | 2-A | 3-C | 4-B | 5-A | 6-A | 7-B | 8-C | 9-A | 10-B