
OSHA®
Occupational Safety
and Health Administration

Work Zone Safety

Internal Traffic Control

Preventing Runovers and Backovers

Brian Crain
Compliance Officer
USDOL / OSHA

Every day in America, 14 people go to work, and never come home.

What's most important:

These deaths are mostly preventable –

Preventable by basic safety precautions!

Protecting workers from traffic hazards

Providing a safety harness, line and anchor to prevent workers from falling off a roof

Shoring a trench to make sure it doesn't collapse

Guarding a machine or tool so a worker doesn't suffer an amputation

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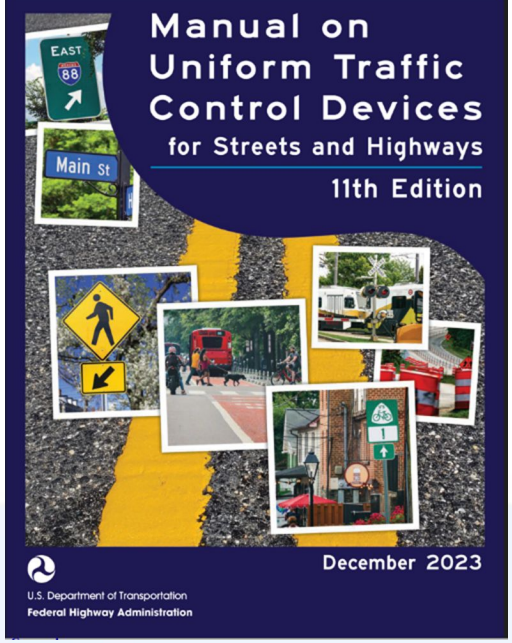
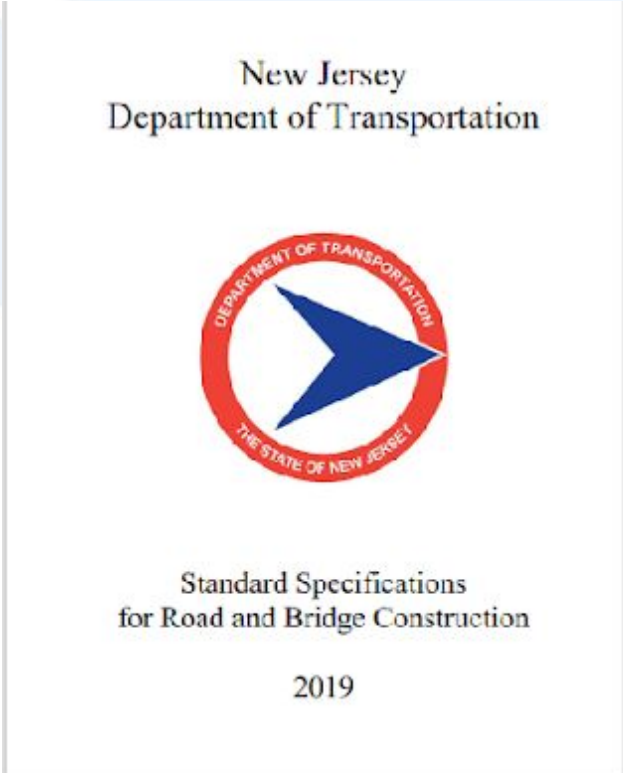
Internal Traffic Control

Temporary Traffic Control Plans are defined and prescribed in the U.S. Federal Highway Administration's "*Manual on Uniform Traffic Control Devices*" or "*MUTCD*"





As well as the NJ Dept of Transportation "*Standard Specifications for Road and Bridge Construction*"

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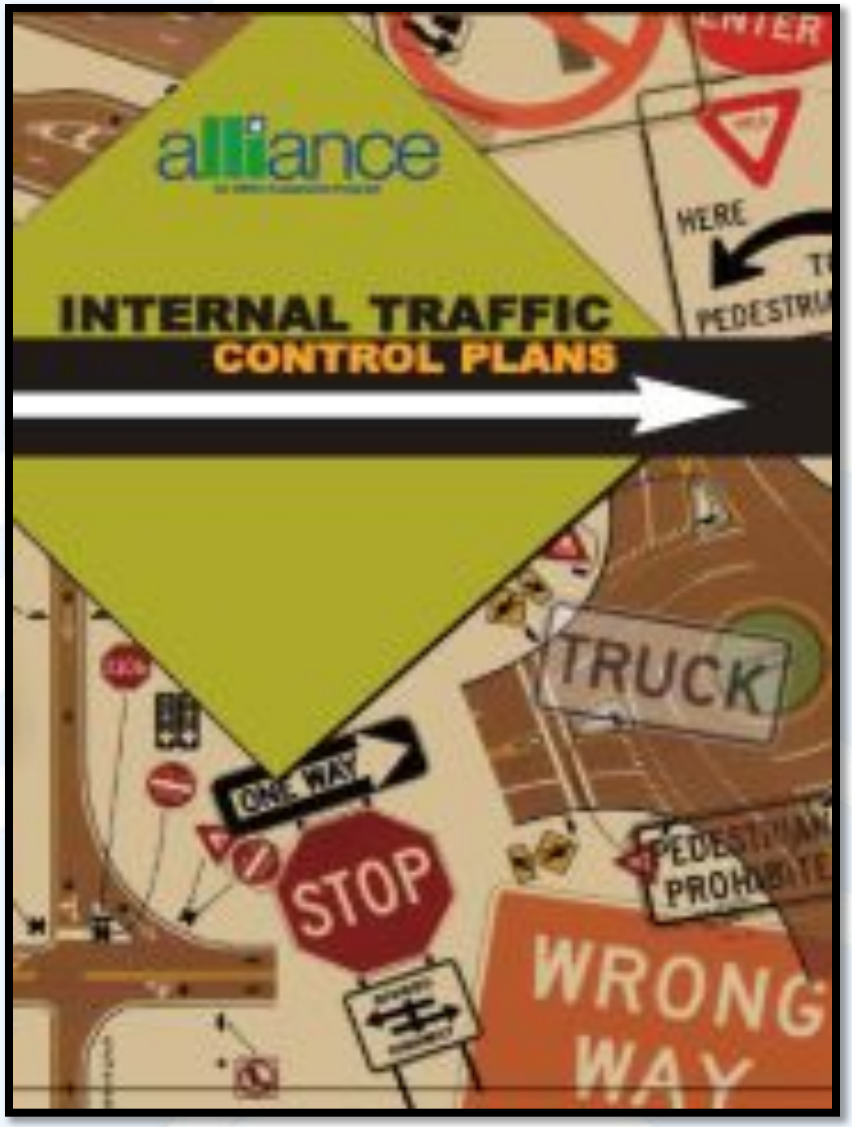
Internal Traffic Control is normally considered an industry *recommended practice* and not prescribed by law.



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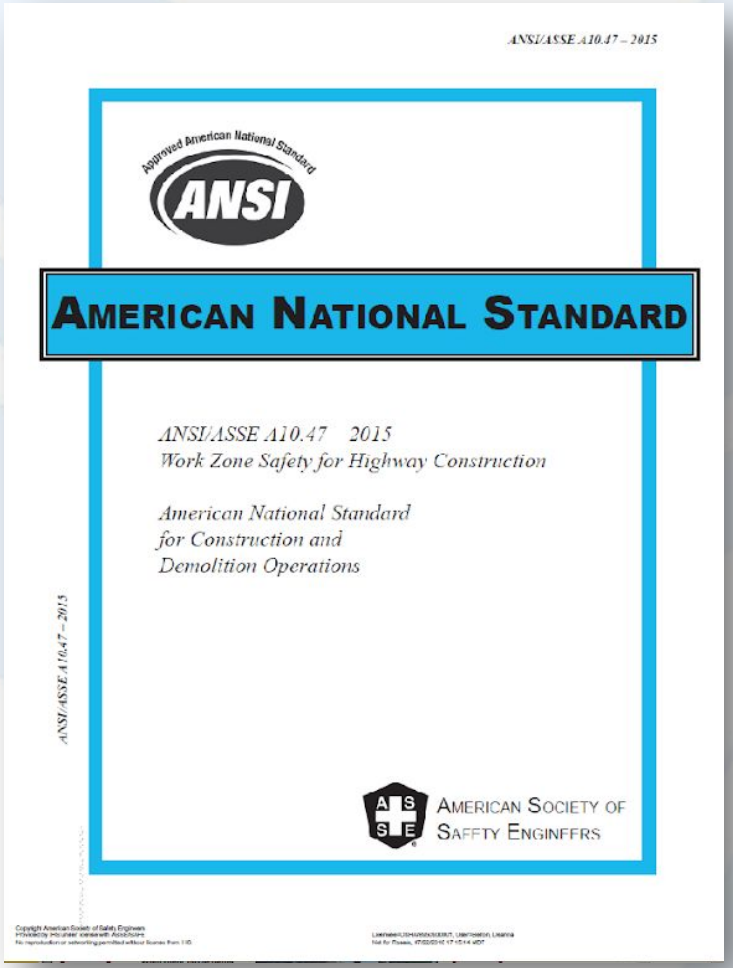
Internal Traffic Control



ANSI/ASSE A10.47

6.4 - Internal Traffic Control Plans (ITCP)

Employers **shall** develop traffic control plans for inside their work zones to minimize backing and other conflicts between employees and work vehicles/equipment and to maximize the separation of vehicles and pedestrians.

This plan **shall** be communicated to all employees on the site and all vehicle operators entering the site.

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The difference between Internal Traffic Control and Temporary Traffic Control?

- Temporary Traffic Control Plans **<u>focus on moving traffic</u>** safely through a work zone.

- Internal Traffic Control Plans focus on **<u>keeping workers on foot from being struck</u>** by construction equipment and large trucks within the work zone.

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Overview

- Informs all workers within the work space about the location of others.

- Minimizes interaction between workers on foot and construction vehicles.

Overview

- Established prior to start of construction.
- Facilitates communication among key work zone parties.
- Designates routes and operating procedures for large trucks delivering materials.
- Creates a traffic pattern to minimizing backing.

Overview

- Coordinates truck and equipment movements
- Limits access points to the work zone
- Provides Information on traffic paths and safe/ unsafe work areas for workers
- Heightens awareness of workers on foot in relation to vehicle traffic in the work area

How Does ITC Work?

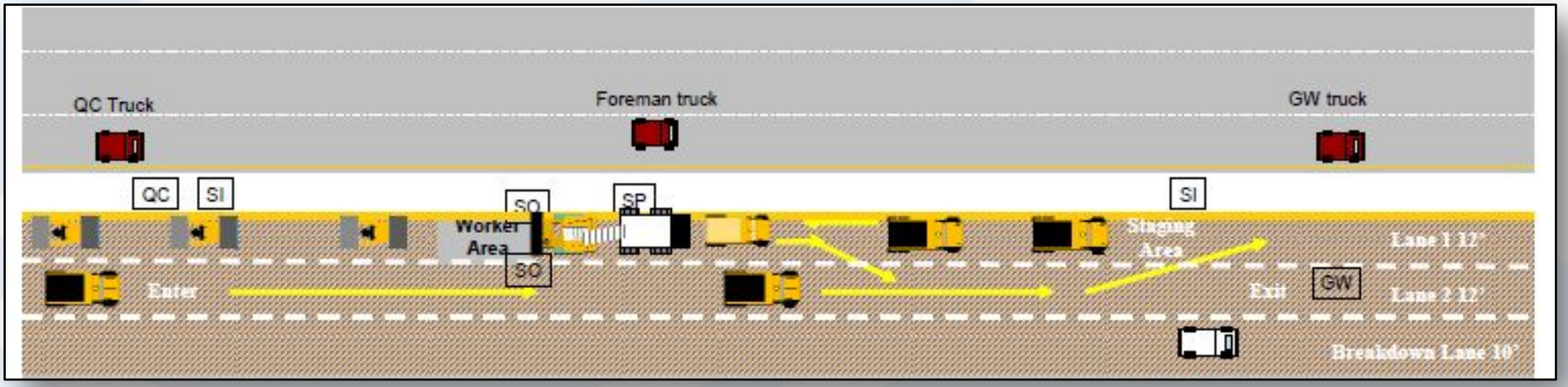
- Limits work zone access and egress points
- Coordinates truck and equipment movements
- Provides information on traffic paths and safe or unsafe areas for workers
- Heightens awareness of workers on foot to vehicle traffic in work area

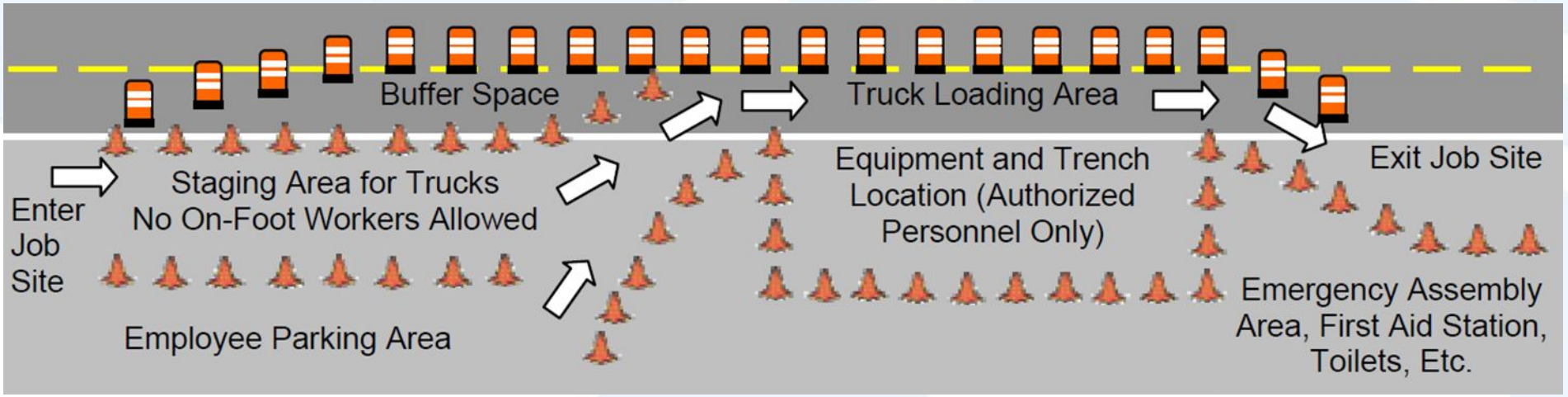
Why Implement Internal Traffic Control?

- ITC protects worker on foot
- ITC reduces hazards for equipment operators.

Every person on the site has the responsibility to be vigilant and work safely!!

Sample Internal Traffic Control Plans





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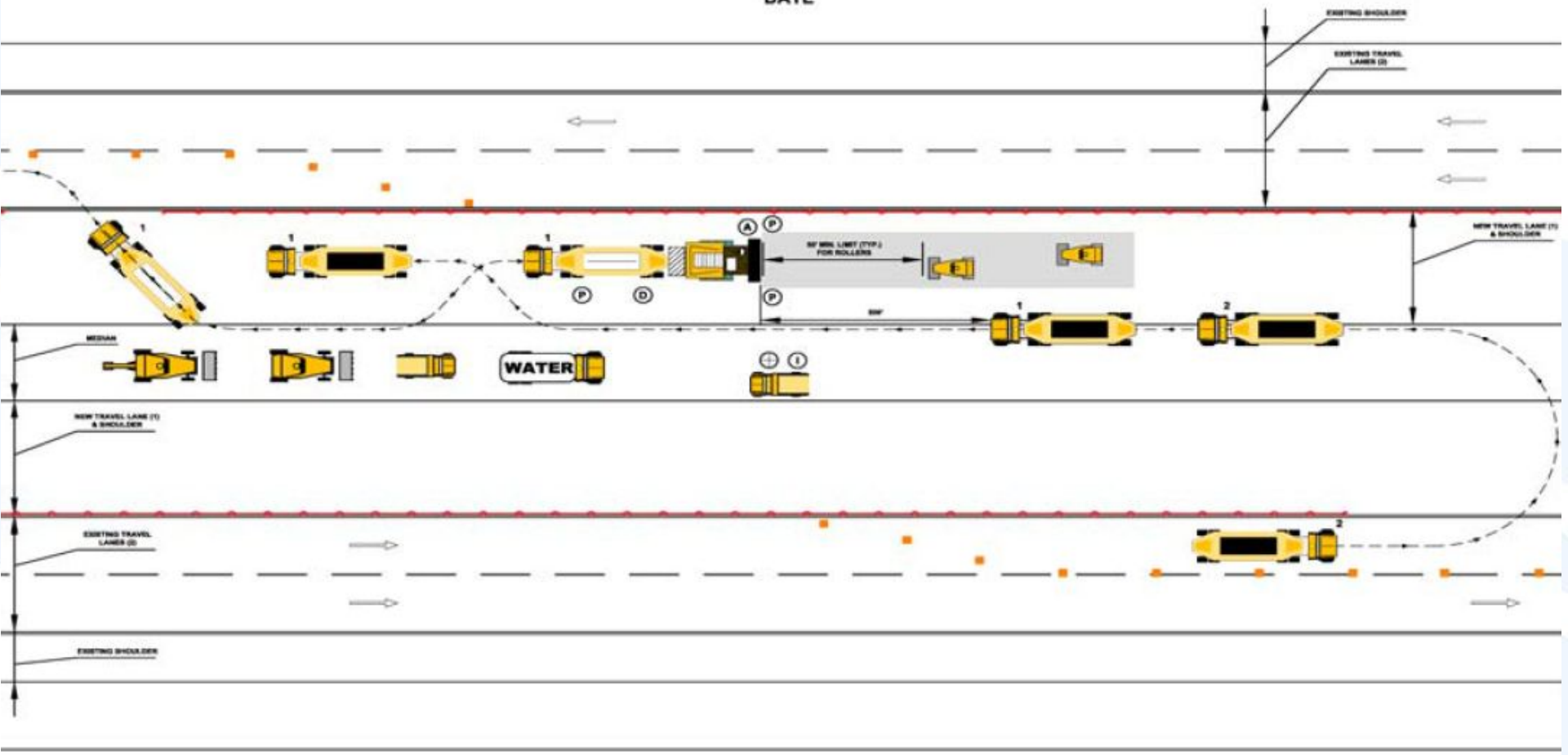
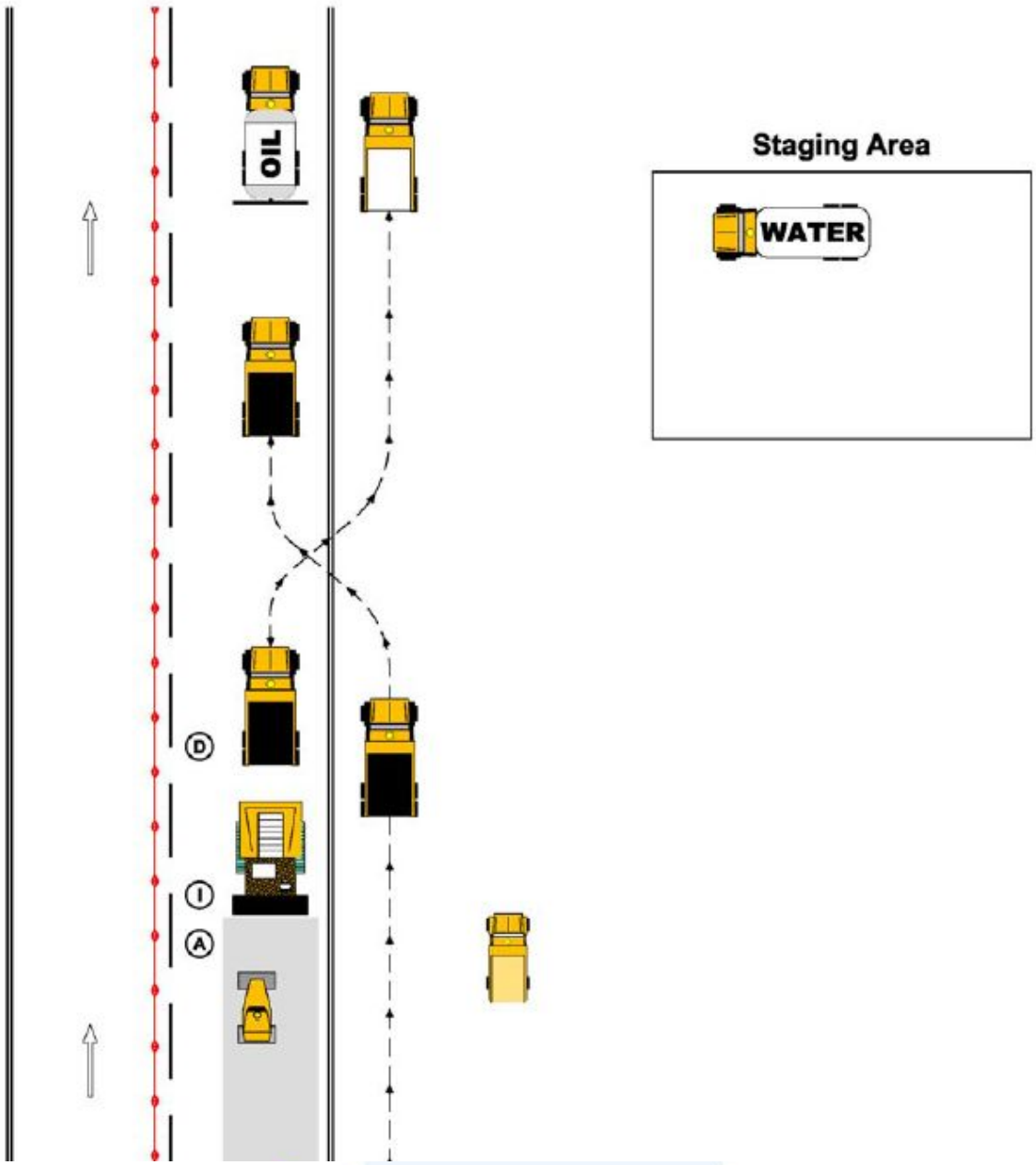
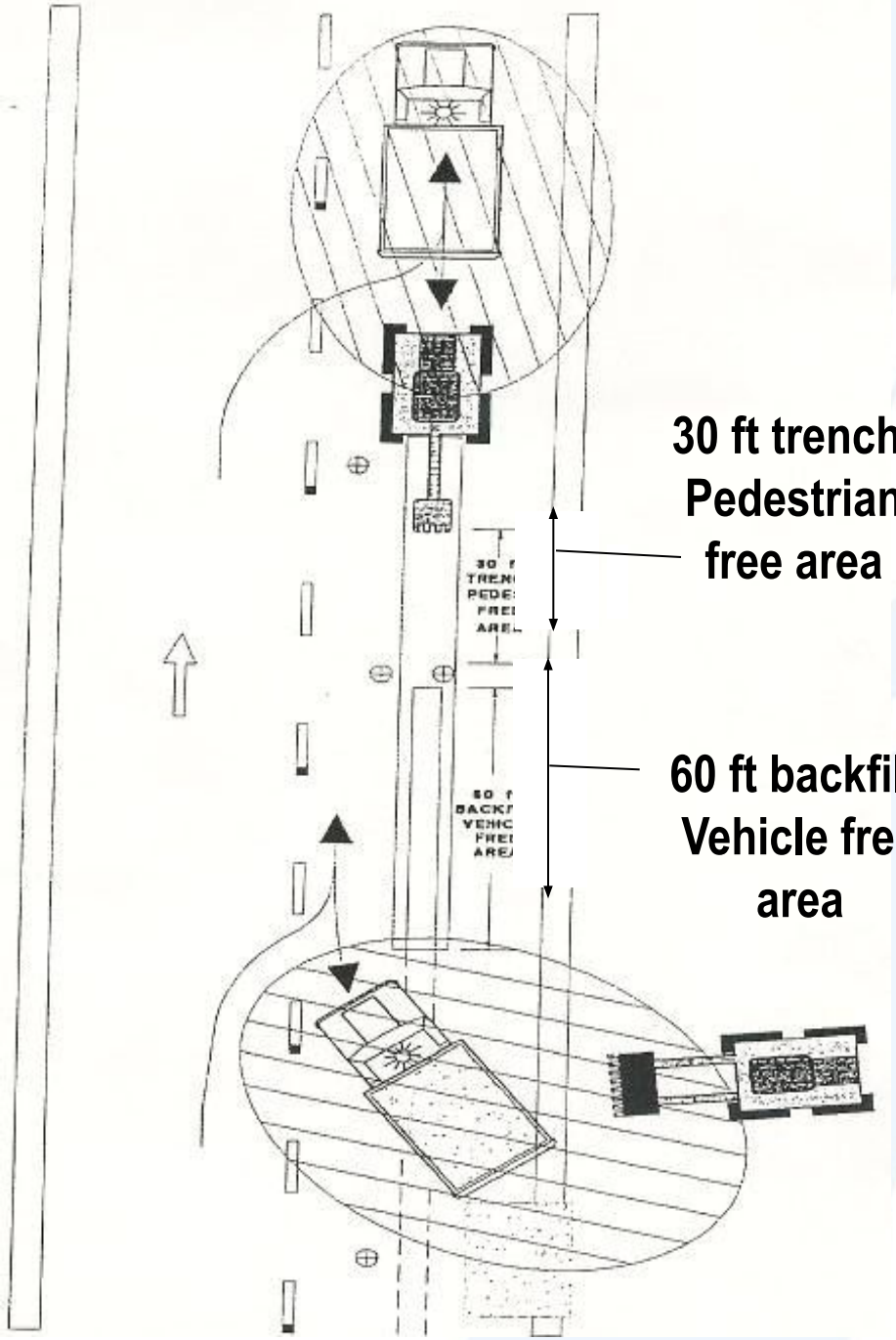
INTERNAL TRAFFIC CONTROL PLAN
OPERATION TYPE
PROJECT NAME
PROJECT LOCATION
DATE



PAVING MODEL PLAN
"TRAFFIC SEPARATE"



Sample Internal Traffic Control Plan for Trenching Work in a Highway Work Zone

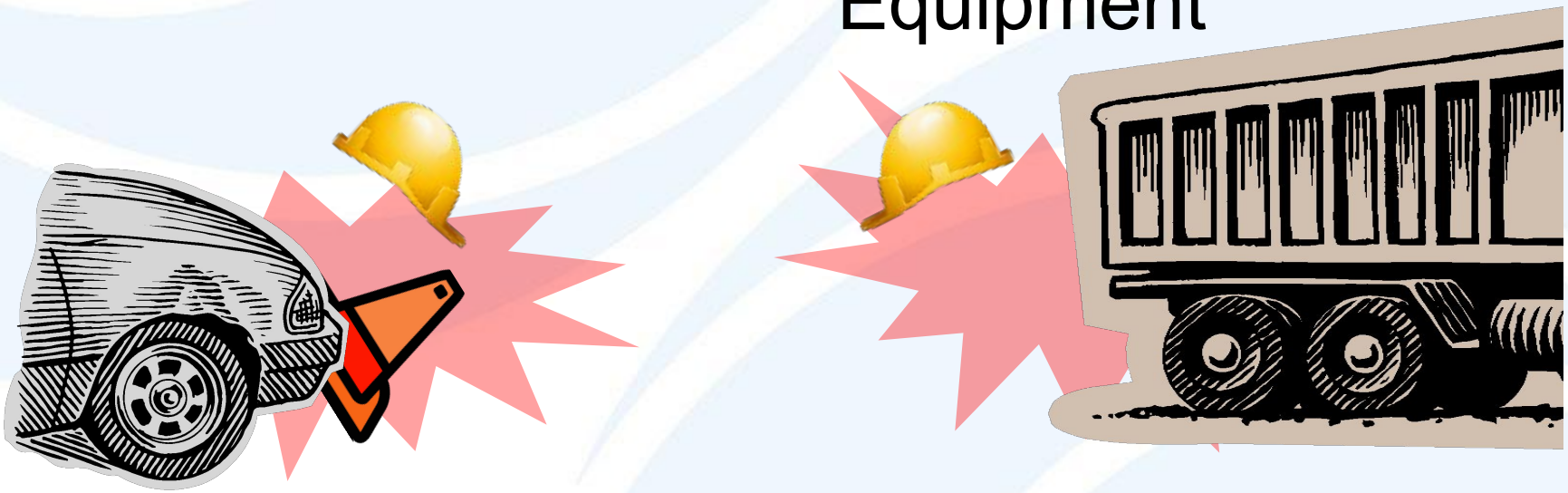


30 ft trench- Pedestrian free area

60 ft backfill- Vehicle free area

Two "Struck-By" Hazards

- Workers Struck-by Motorists
- Workers Struck-by Construction Trucks and Equipment



MORE WORKERS ARE KILLED BY CONSTRUCTION VEHICLES THAN BY MOTORISTS

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Construction Vehicles are the Greatest Hazard

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Vehicles Frequently Enter and Exit

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Workers on Foot in Close Proximity to Large Vehicles

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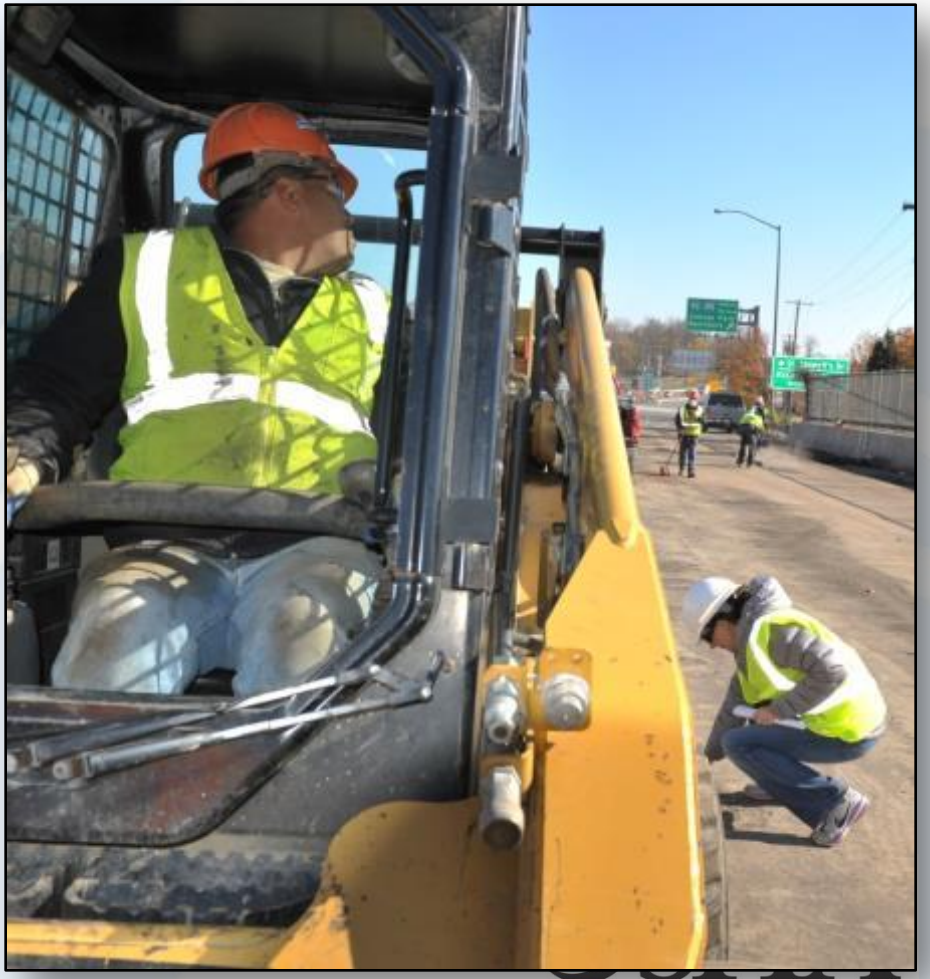
Blind Spots

- Blind Spots are the locations around equipment and vehicles where workers on foot are invisible to the operator through his windows and mirrors.

Behind the Vehicle

Outside Mirror Range

Workers Are Vulnerable in Blind Spots



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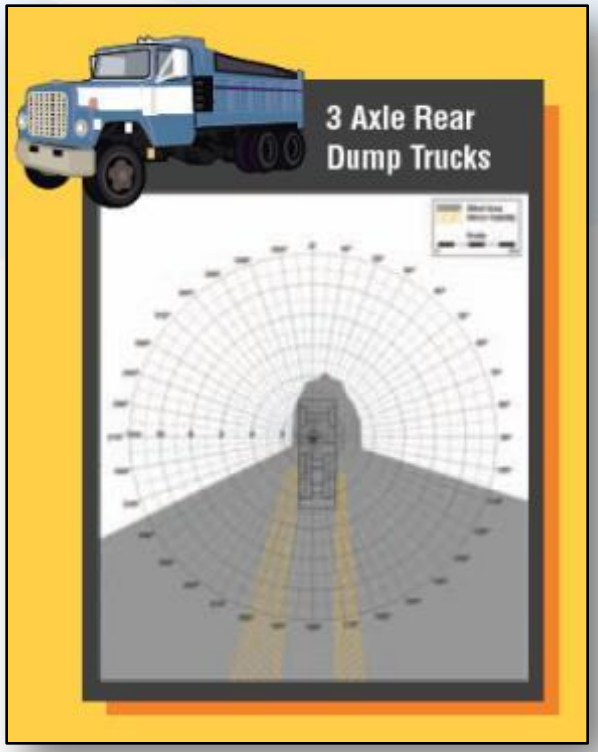
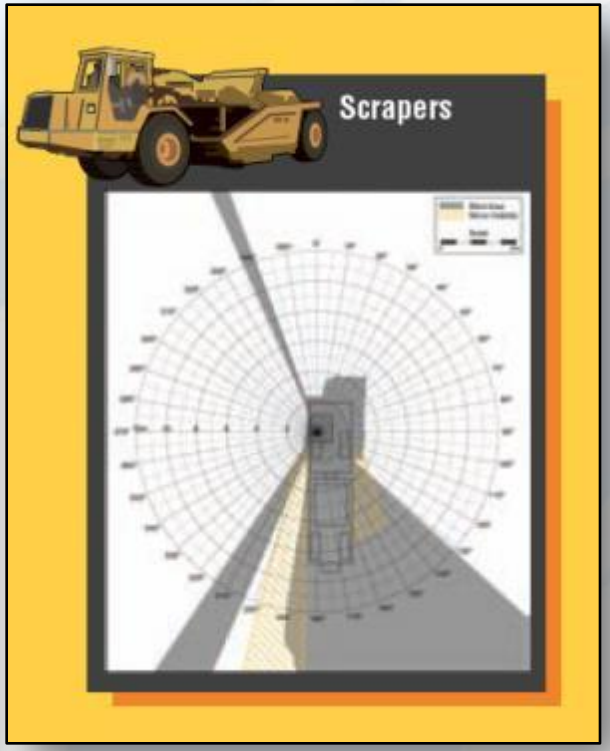
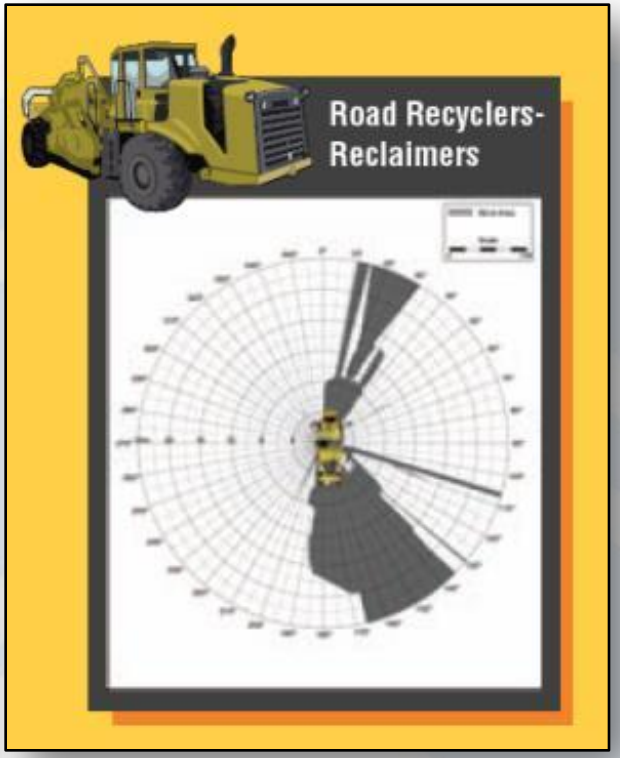
Blind Spots

- Each type and make of vehicle has its unique blind spots.







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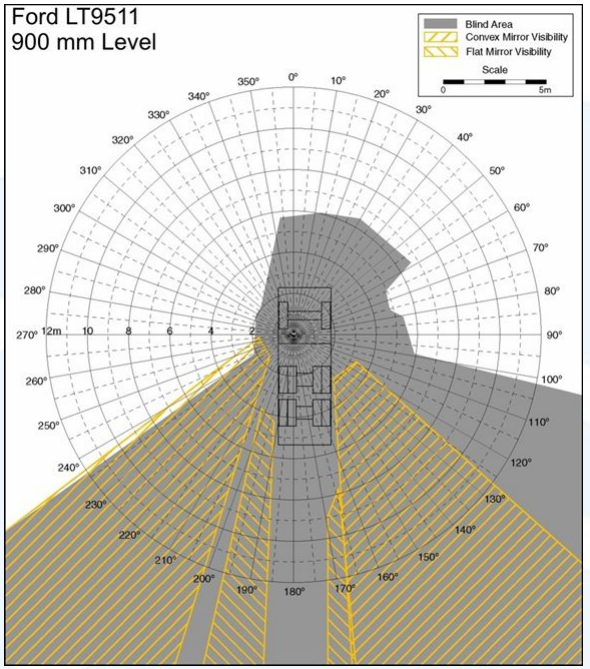
Be Familiar Vehicle & Equipment Blind Spots in Your Work Environment



http://www.cdc.gov/niosh/topics/highwayworkzones/bad/imagelookup.html

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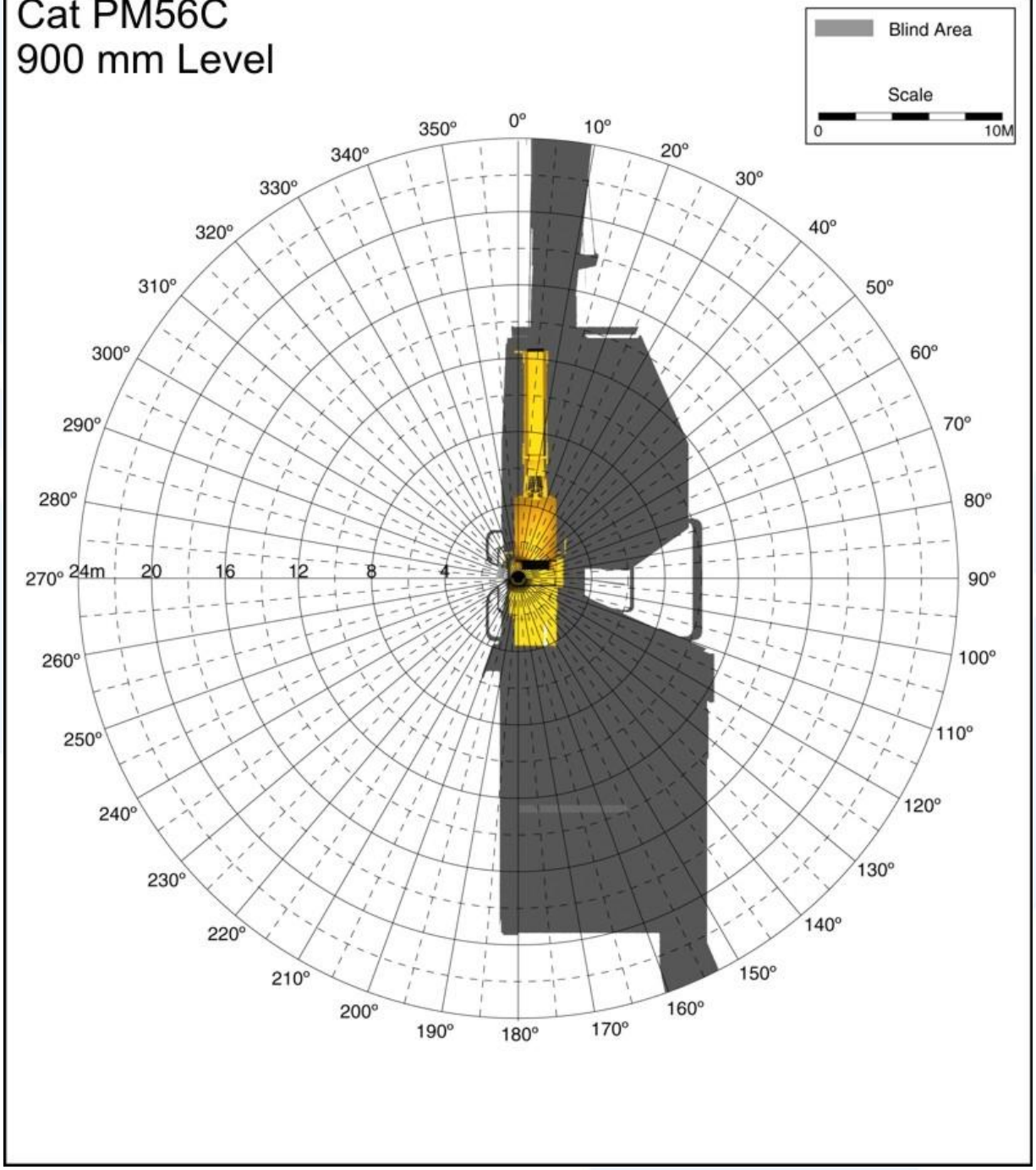
Cat PM56C
900 mm Level



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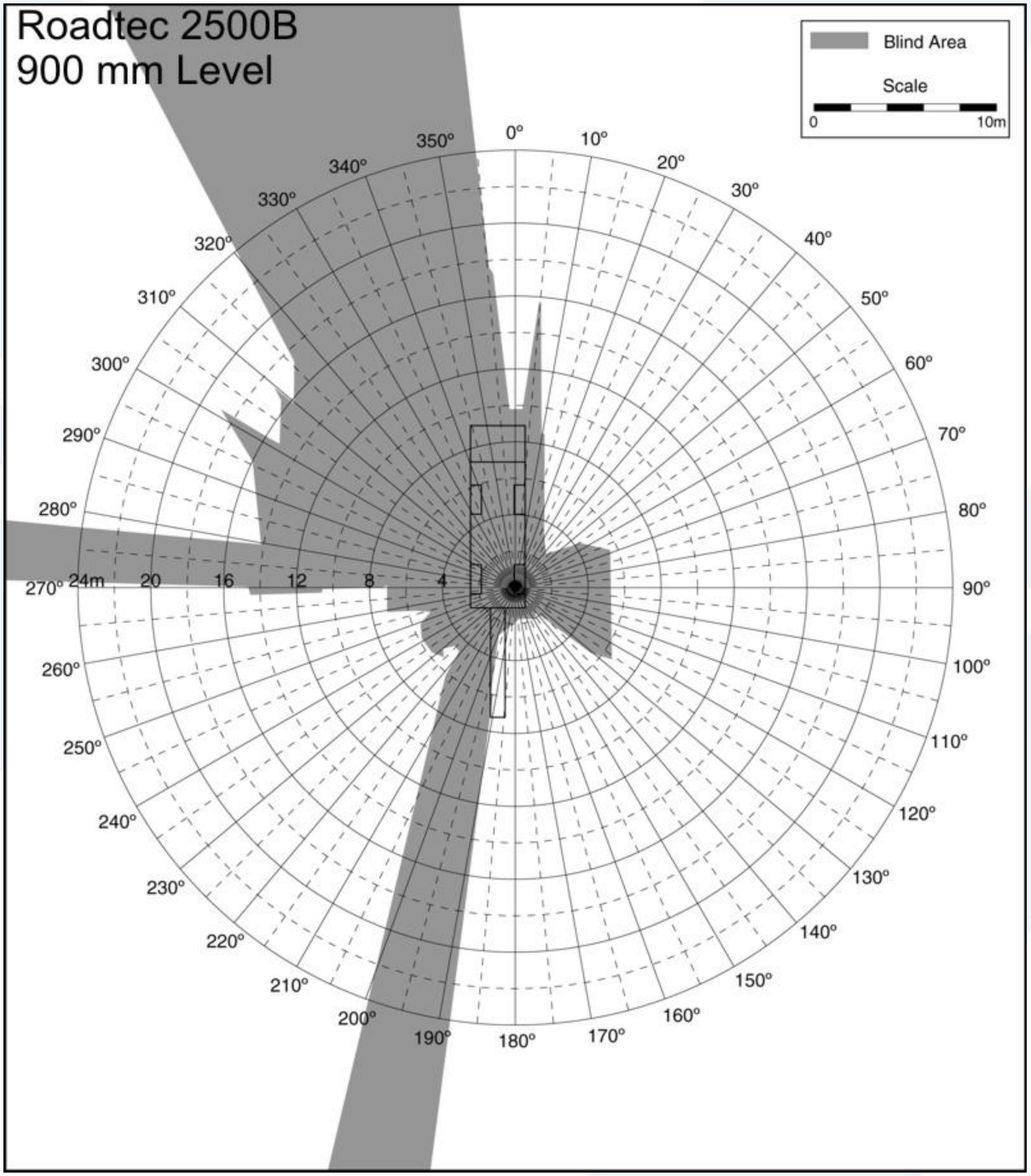
Roadtec 2500B
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Blind Area
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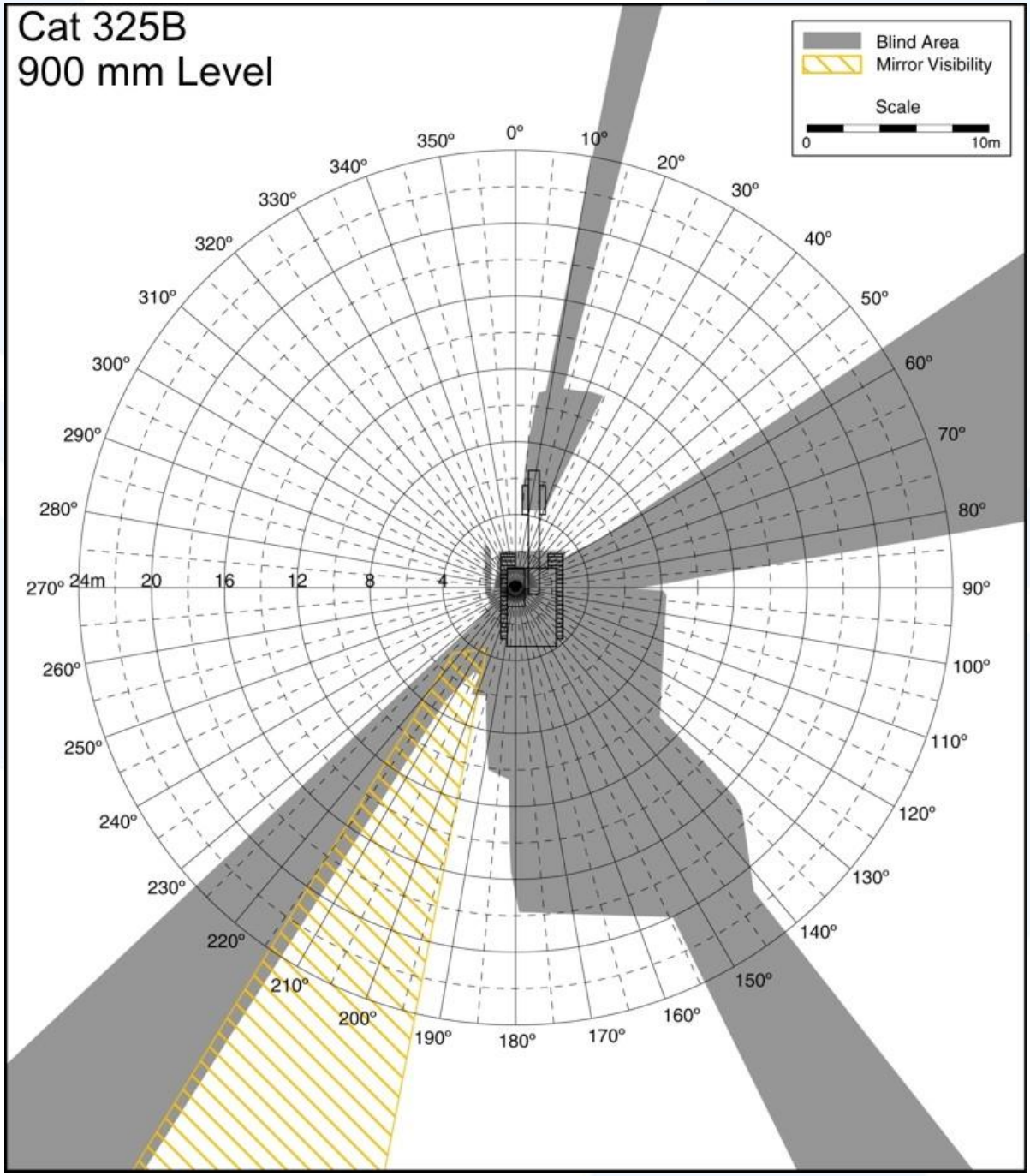
OSHA®


Cat 325B
900 mm Level
Blind Area
Mirror Visibility
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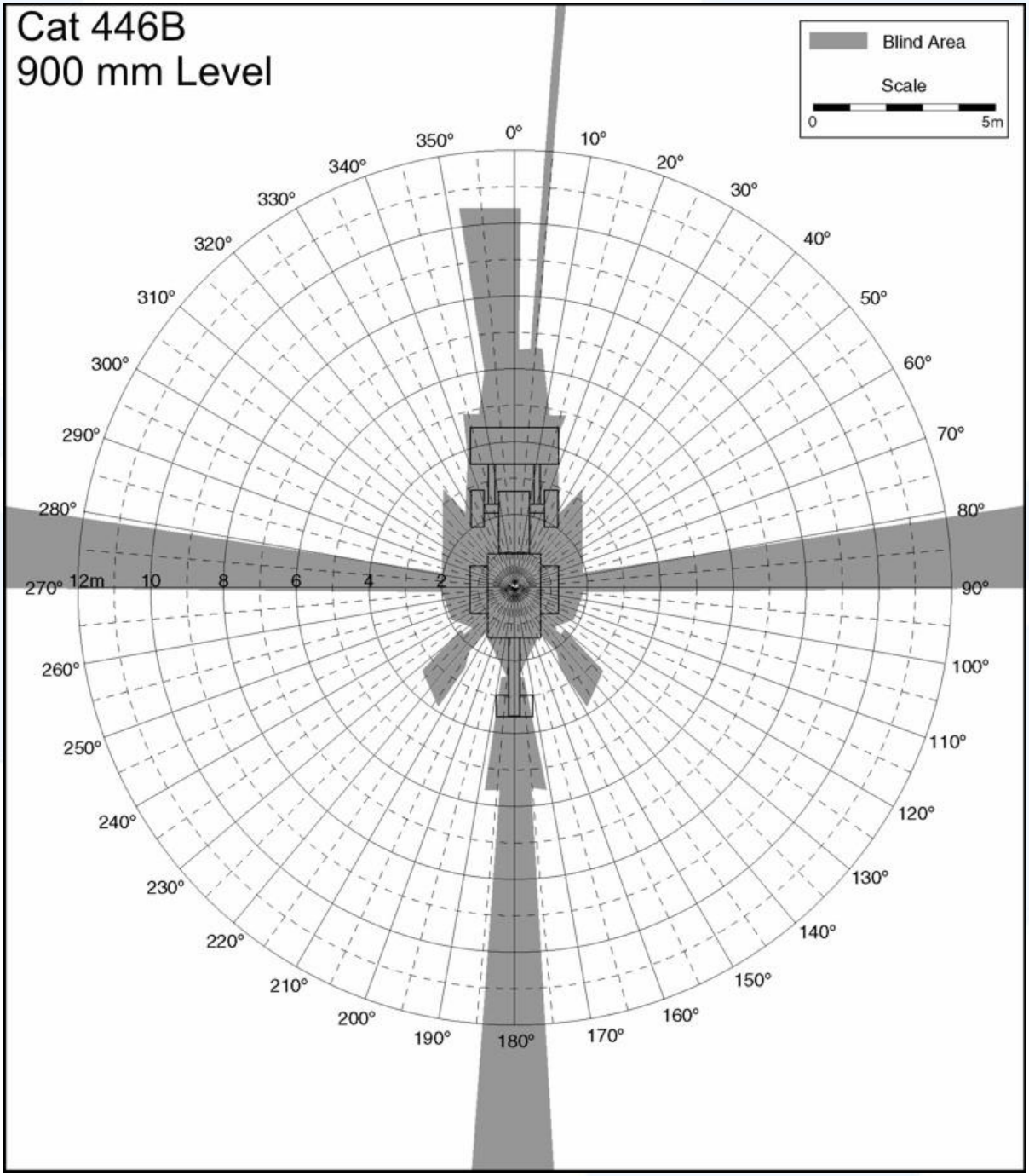
OSHA®


Cat 446B
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Safe Practices for Workers on Foot

- **Operators Must Confirm Before Workers Approach**

✔ Workers must wait for a clear signal from the operator before approaching equipment

✔ Otherwise, it is difficult for workers to tell if operator is looking at them

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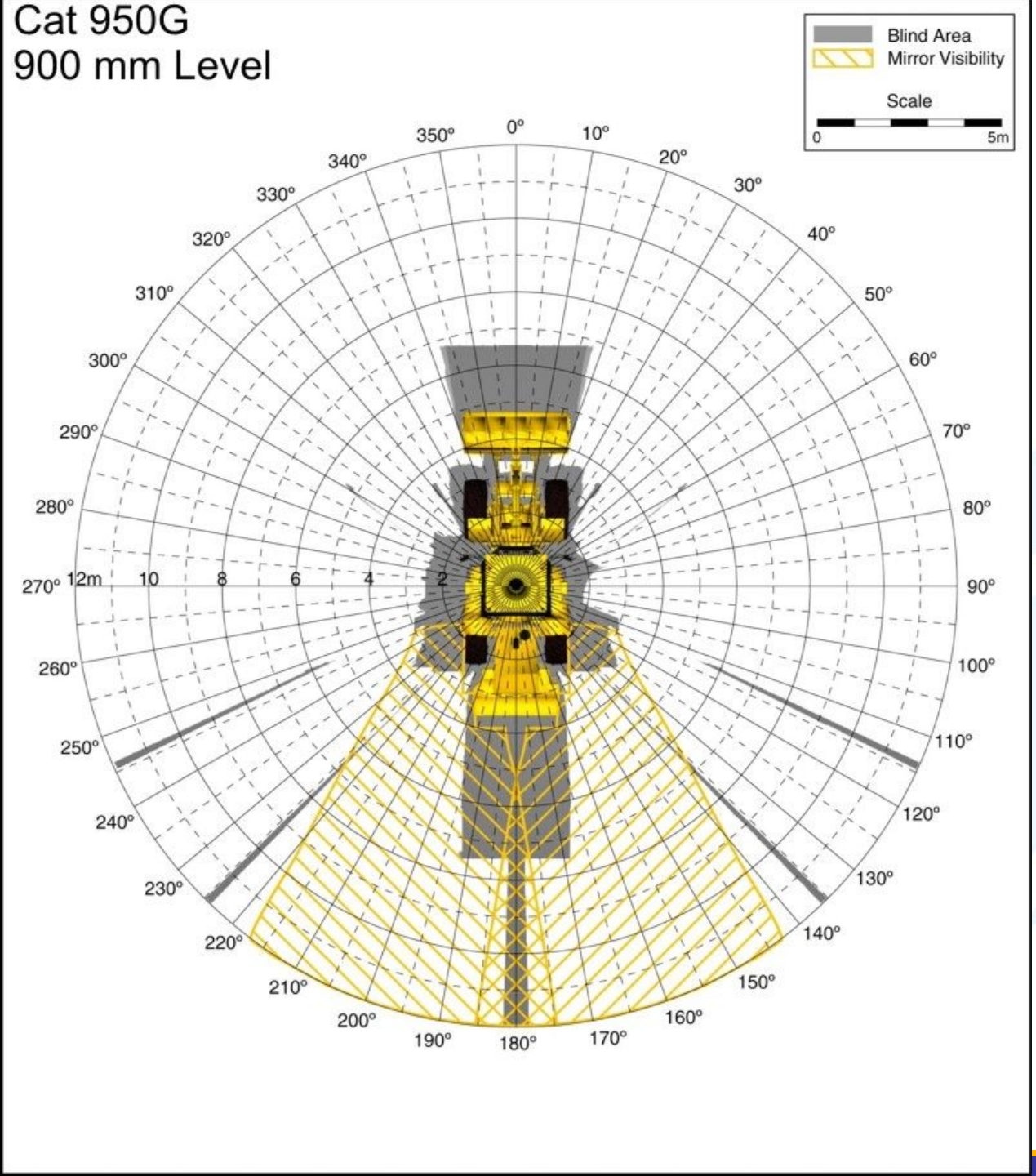
Cat 950G
900 mm Level



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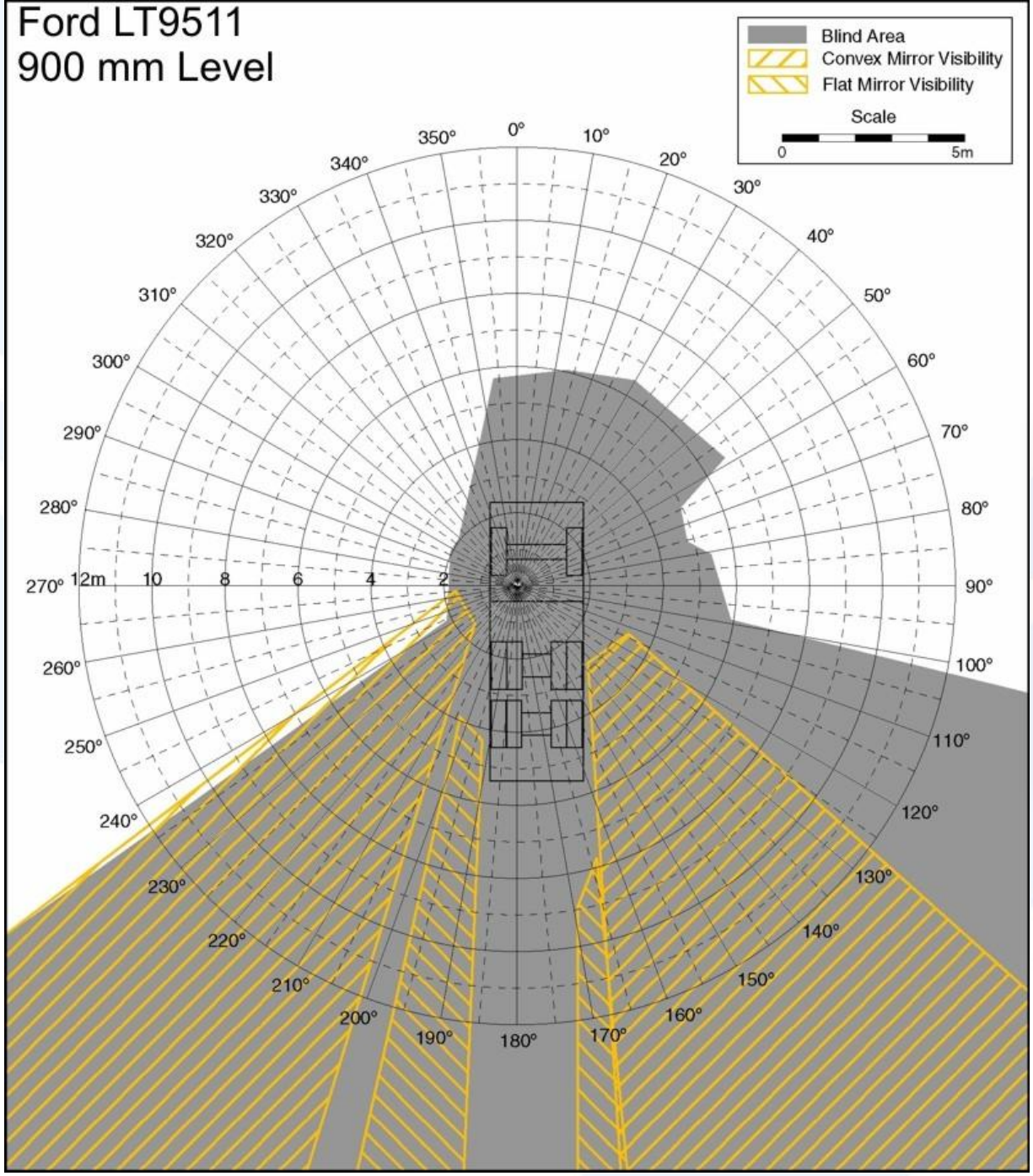
Daily News Clips
Saturday-Monday, October 30-November 1, 2021

The Sioux Falls Police Department and first responders were notified of an "injury-accident" that resulted in the death of a woman on Friday morning.

The incident happened around 9:30 a.m. at a private lot in the 4000 block of N. National Avenue in northern Sioux Falls, according to a press release sent out by police.

A 49-year-old woman died after she was struck by a front-end loader. Neither drugs nor alcohol appear to be a factor, said police spokesman Sam Clemens in the release. OSHA is investigating the circumstances surrounding the accident.


Ford LT9511
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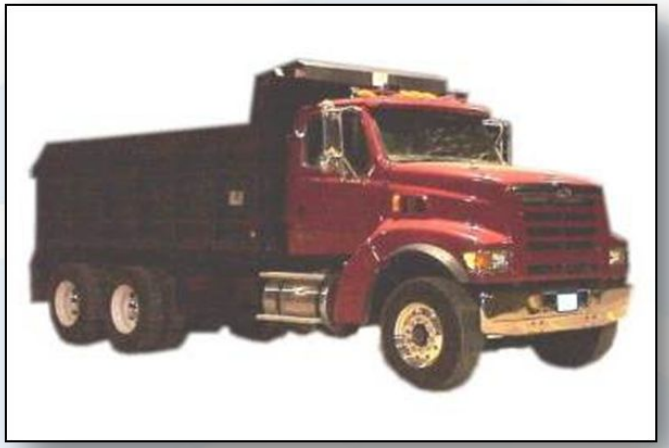

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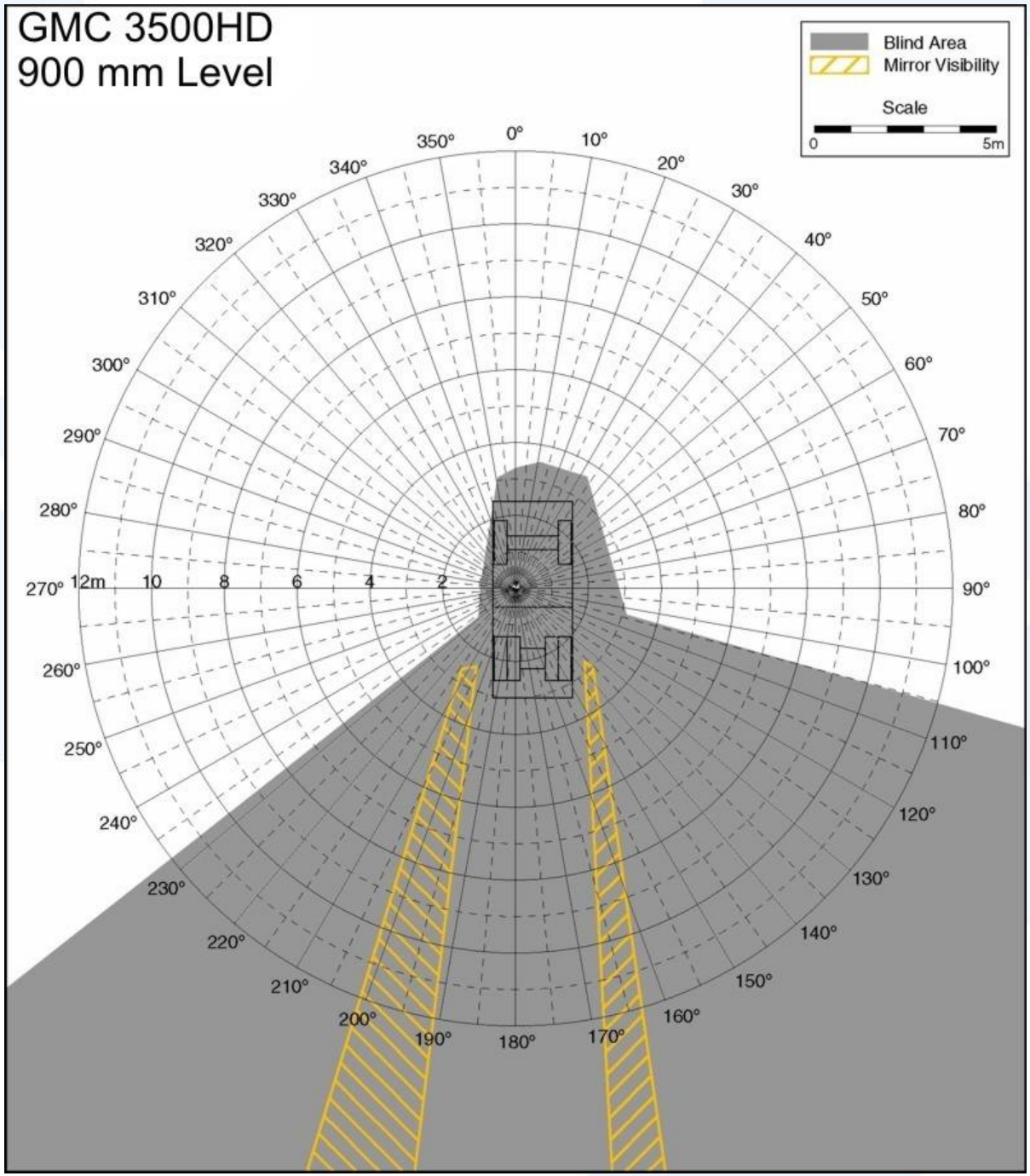
Designate a Spotter


GMC 3500HD
900 mm Level
Blind Area
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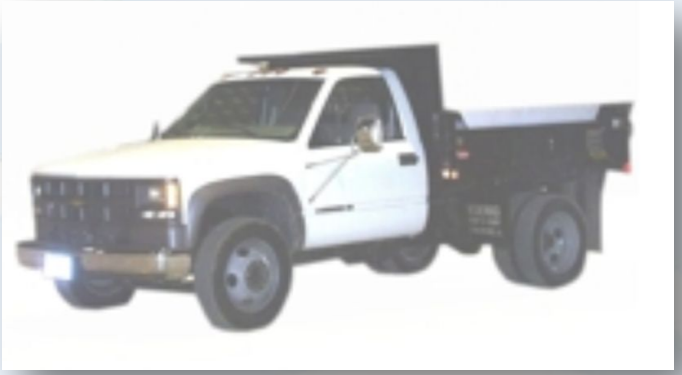

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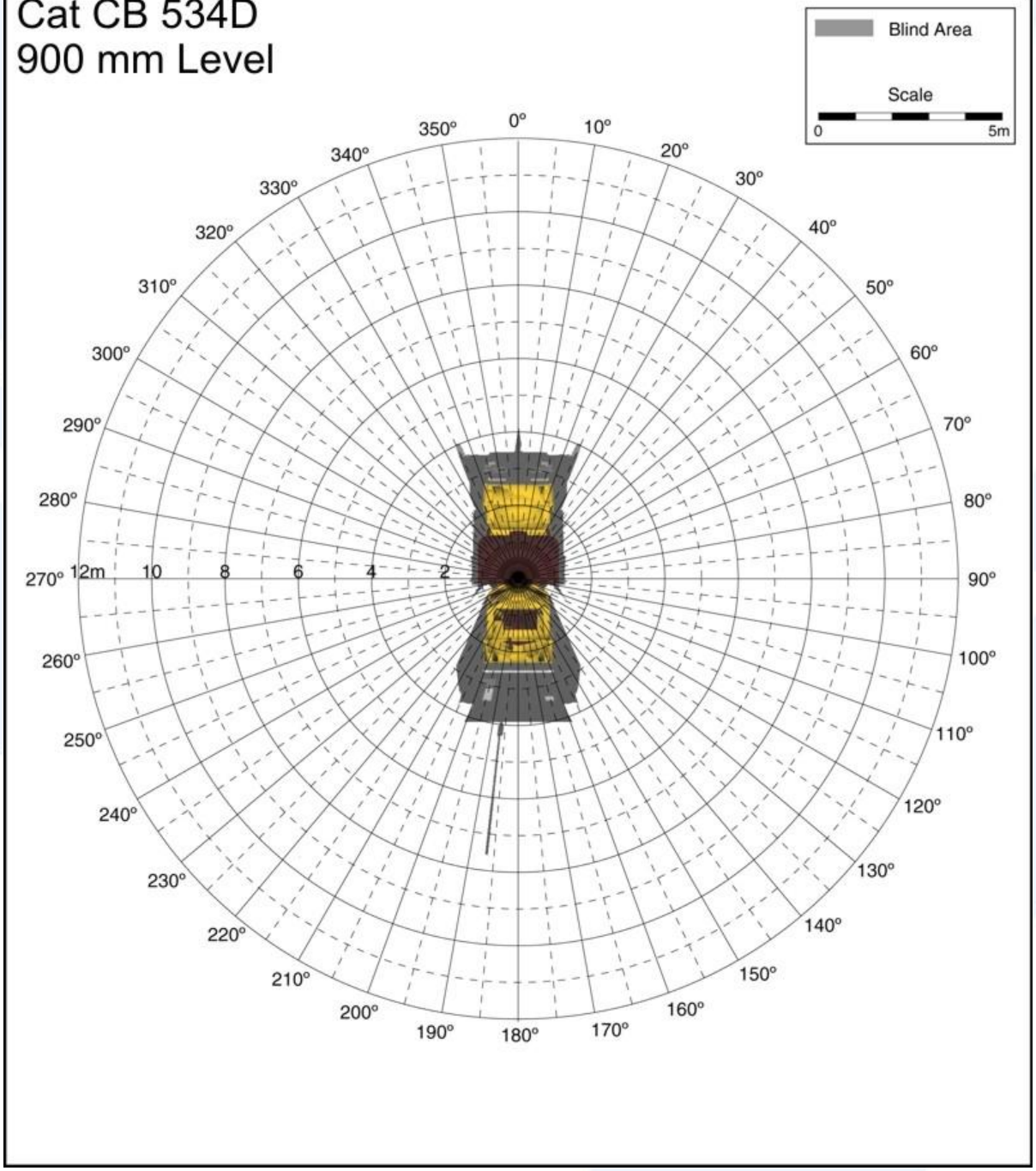
Cat CB 534D
900 mm Level



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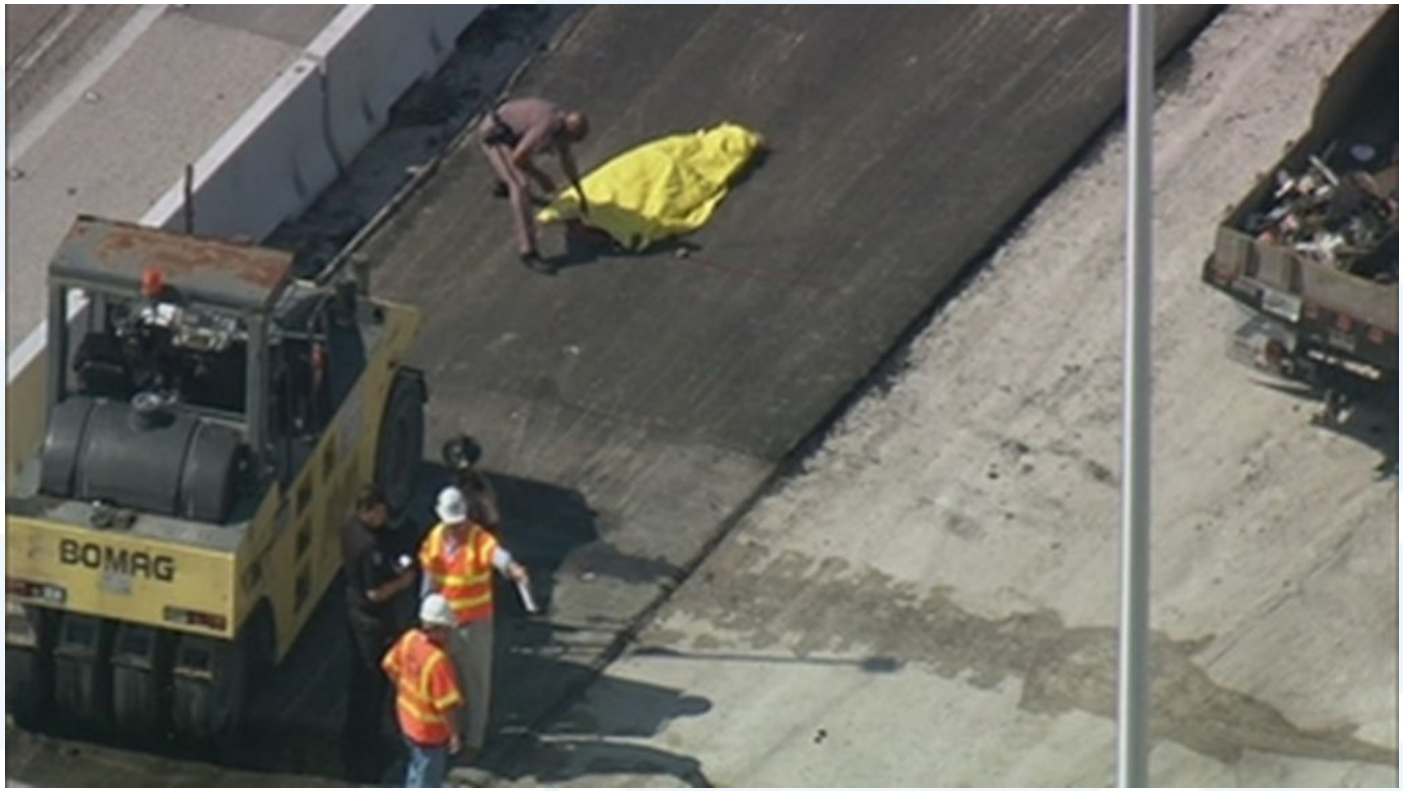
Know Your Surroundings

So how could this happen?!?!



A freak accident involving a roller claimed the life of a construction worker in Broward County.

Florida Highway Patrol officials said the roller "collided" with the worker.

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CASE STUDY

Fatality Assessment and Control Evaluation (FACE) Program

Massachusetts Case Report: 08-MA-028

On June 3, at approximately **1:20 a.m.**

Laborer Dies After Being Backed Over by Dump Truck at a **Nighttime** Highway Work Zone Construction Site

A31-year-old male construction worker / laborer was fatally injured when he was struck by a backing dump truck. The victim was on foot walking away from the dump truck, towards oncoming traffic, while painting a guideline for the operator of an asphalt milling machine to follow.

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The night of the incident was the first night of milling.

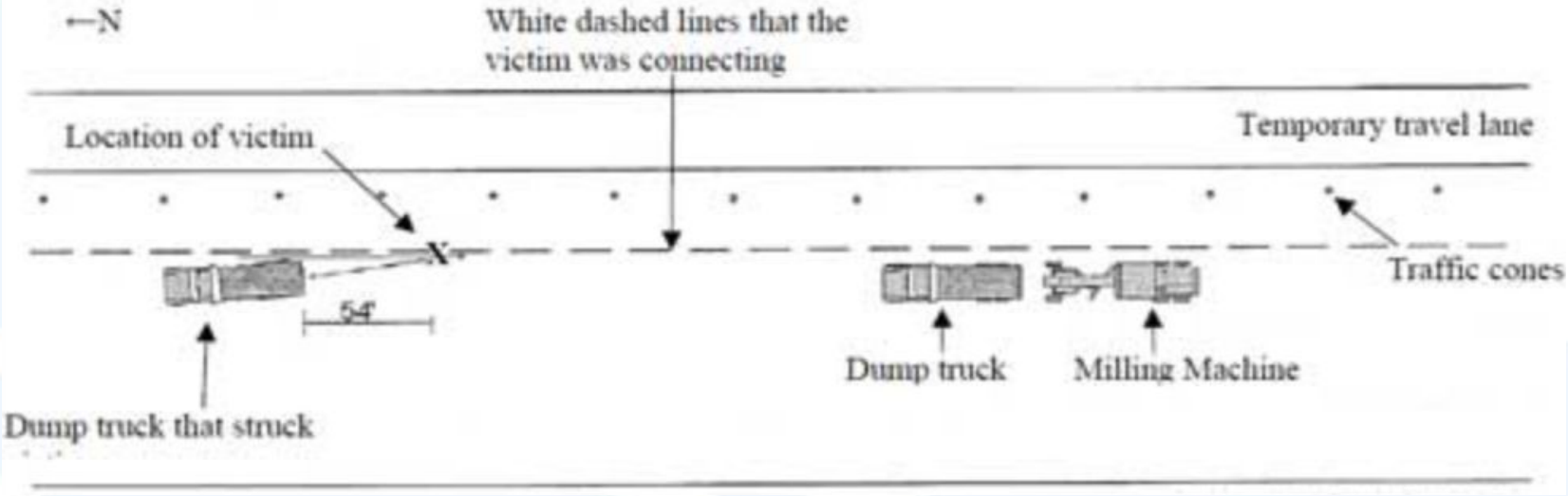
The company had two work crews onsite:

-A safety crew consisting of one safety foreman and two laborers.

-A milling crew consisting of one construction superintendent, one milling superintendent/ supervisor, one milling foreman, three ground laborers (including the victim), and one operating engineer.

In addition, there were three state troopers and one state highway department engineer onsite.

Figure 2 – Diagram of the work zone.



Equipment included, a cold planer (milling machine), water truck, sweeper, skid-steer loader and two light towers.

Light towers positioned at the beginning and end of the milling operation.

No aux lighting was set up between the two light towers.

During the milling process the milling machine lights were used to illuminate the work area.

13 tri-axle dump trucks, owned and operated by multiple subcontractors, used to collect the millings.

.

The driver of the dump truck had a passenger (non employee) inside the cab at the time of the incident. Federal law (49 CFR Part 392.60) prohibits this unless authorized in writing by the motor carrier.

After the incident the dump truck was impounded and a full inspection of the truck was conducted. The truck appeared to be in good working order with a functioning backup alarm.

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The victim was a ground laborer. His primary tasks;

Observe the milling process

Ensure correct position of dump trucks collecting millings

The victim was wearing blue jeans, a dark colored sweatshirt, work boots, a high visibility Class II green vest, and a red hardhat.

Prior to the incident, three passes of the milling machine had been completed and the milling equipment had backed to the start line.

During the ten minute down time some of the workers conducted required maintenance or were on break.

During this downtime, it was reported that the company foreman had planned on painting a section of a guideline when the victim offered to perform this.

The incident was not witnessed;

It appears that the victim had walked to the northern boundary of the section to be milled, turned to face the on coming traffic and started walking in the southerly direction back towards the start line as he painted the guideline.

The incident involved tri-axle dump truck was next in line to be loaded with milled asphalt. The truck driver may have thought he needed to reposition his dump truck closer to the milling machine and started to back the truck in a southerly direction.

While backing, the dump truck's rear right dual wheels struck and ran over the victim. The dump truck driver realized that he ran something over and drove the truck forward approximately 54 feet, running over the victim a second time. The dump truck driver got out of the truck's cab, walked to the rear of the truck, found the victim.

NIOSH / FACE Recommendations:

#1: Employers should develop, implement, and **enforce** an **internal traffic control plan** (ITCP) specific to each construction site to help protect workers on foot.

#2: Employers should ensure backing protocols are in place and that designated individuals are assigned as signalers to direct backing vehicles on construction sites.

#3: Employers should ensure that communication exists among equipment operators and workers on foot.

#4: Employers should ensure work zones are properly illuminated.

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#5: Employers should implement a buddy system for employees working on foot around mobile construction equipment.

#6: Employers should develop and enforce policies that prohibit nonemployee passengers from riding within the cabs of construction vehicles and heavy equipment while being operated within construction sites / work zones.

#7: Employers should consider installing monitoring technology on construction vehicles and equipment to assist operators in detecting workers on foot within blind areas.

What Can WE ALL Do?

Meet at the beginning of the detail to discuss the day's goal

Discuss how the goal is going to be met

Frequently inspect the site

STOP the process if it is unsafe

LEAD BY EXAMPLE!

What Can LEADERS Do?

Bang the Drum! Never stop talking SAFETY!

Invest in SKILLS – Training is the cornerstone

Set baseline standards and regularly check to ensure they are being met

Hold managers Accountable

Reward SAFE Practices

LEAD BY EXAMPLE!

FORMULA FOR SUCCESS

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NJAPA


HONOR
STATE
POLICE
NJ
DUTY
FIDELITY


National LTAP & TTAP Programs
Serving America's Local Road & Bridge Agencies


DEPARTMENT OF TRANSPORTATION
THE STATE OF NEW JERSEY

OSHA


NTP
NTURNPIKE


Construction Industry
Advancement Program
of New Jersey


SOCIETY OF ASPHALT TECHNOLOGISTS, INC.
SAT
NEW JERSEY


NEW JERSEY DIVISION OF
HIGHWAY TRAFFIC SAFETY


DEPARTMENT OF TRANSPORTATION
UNITED STATES OF AMERICA


AGC of America
Building Your Quality of Life


Laborers
Locals
472 and 172
SET


N.J.P.T.O.A.
New Jersey Police Traffic Officer Association

THINK SAFETY!

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and Health Administration