Anticipate Non-Obvious Movement to Prevent Serious Injury

Executive Summary: There exists thousands of hazards on a construction site. Some are obvious, some require more intimate knowledge of the industry and its equipment. Below are some of the non-obvious, learned hazards.

A bed and other leaning things. Not your mattress, but a truck bed in its upright and dumping position. The safe place to stand is outside the radius of tipping or flipping of this truck. Often times sticky clay can get stuck in the upper part of a bed and topple the bed and the cab of the truck, violently slinging it to the ground. The little unknown fact for some may be that off-road trucks (the trucks with the 5' or taller tires) are designed to roll the bed over on its side. There is a joint between the undercarriage of the bed and the back of the cab allowing the bed to rollover. So, the lesson here is to be prepared for a rollover – a truck bed could kill you during its normal designed operation.

Cracked or moving dirt. Slopes or trench excavations fail for numerous reasons, but sometimes provide a warning. At the top of a slope or trench excavation, look for cracks in the dirt. Cracks in the dirt mean that the dirt is separating from itself and a large chunk may be getting ready to let loose. Don't fall with this moving dirt.

Haul roads. What immediately comes to mind is the on-site hauling of dirt by on-road trucks, scrapers, or off-road trucks. Look for tire patterns on the ground indicating heavy construction traffic. Walk intelligently and with purpose on a jobsite.

Potential energy of a pipe stack. Potential energy is stored energy as exists in a bundle of ductile iron pipe on the back of a truck. That bundle of pipe is wanting to react to gravity and break the bands constricting it. There are two dangers here: (1) the whip of the band slashing you and (2) the pipe rolling on you. Keep your distance and expect instability in the load while bundled or while being unbundled.

Overhead anything. Plain and simple, never stand under a load. Like the preceding item, a load suspended from a crane hook above, or the transmission pipe above carrying concrete from the concrete pump is nothing but potential energy. This load is being pulled to the ground by gravity and could result in crushing you.

Danger overhead crane

The wind. If the trees are moving, or dust is kicking up, things can blow over and crush you. Good examples of things susceptible to being blown over include gang-walled forms, masonry walls not fully integrated in the building, and even visqueen/poly sheeting over a recent concrete pour. All of these items act like a boat sail and can fall over or into you.

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Swinging and articulating. Cranes and excavators swing their counterweights, and in both instances the operator cannot see behind himself as this is taking place. A swinging counterweight leads to struck by and shearing accidents.

Not all construction equipment turns like your car. Sometimes the turning mechanism is an articulation which is more of a pivot between front axle and rear axle. If you stand too close to an articulating loader or truck you could be struck by a sudden lateral movement (versus run over by a tire).

My story. If you've been around cranes where the radius of swing is taped off, one of the reasons is due to shearing. It's an awful way to be hurt, but we had it happen on a job where an inspector was crushed and sheared in that gap between the bottom of the swinging counterweight and the top of the stationary track.

In another instance I was the project manager on a large treatment plant job, and saw it as my duty to stand the in the hospital by the wife of our employee who was on his back having rebar removal surgery.

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