

Please Post

## Naval Facilities Engineering Command

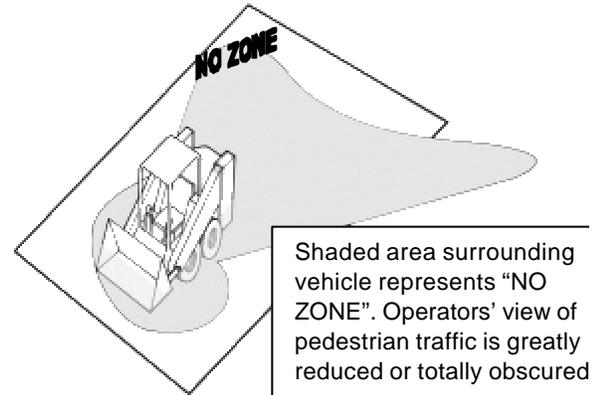
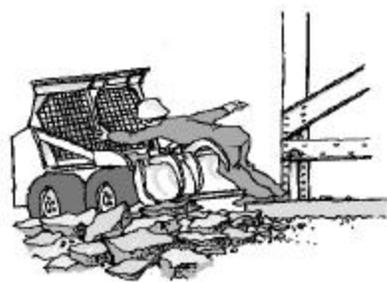
# Abstract of an Accident

99-14

**Accident Type:** Struck by Heavy Equipment  
**Injury:** Fatality  
**Type of Work:** Demolition  
**Equipment Involved:** Bobcat Model 763 with GRAPPEL Attachment

### DESCRIPTION OF THE ACCIDENT:

During a demolition project a laborer was assigned to cut re-bar mat imbedded in concrete deck (spoil pile rubble). He was standing on an existing structural steel column base (slated to remain) which was just outside the demo footprint. The bobcat operator began his approach to the spoil pile. Upon turning his vehicle left at an estimated 45-degree angle, the loader pivoted on the rear wheels and the empty raised bucket struck the laborer in the right lower leg as he stood on the column base. The laborer then fell into and between the grapple forks sustaining blunt fatal traumas to the chest and leg. Both the steel column structure and the operator blind spot (No Zone) may have obscured the driver's view of the laborer.



### DIRECT CAUSE:

- Failure to maintain adequate clearance between equipment and personnel.

### INDIRECT CAUSE:

- Contractor training of the bobcat operator failed to utilize manufacturer-designated instructors or training aids. Training was not provided in the language of the trainee, nor was instructor skilled in conducting training.
- Contractor did not provide effective site orientation for personnel in the work area. The operator and the ground man were unaware of the minimum work clearance area required for equipment. The ground man wore no high visibility clothing. *The Naval Shipyard Puget Sound 1998 study on heavy equipment "No Zones", revealed the following: On a Melrose model '753' skid steer loader, an operator's field of vision to the ground can be greatly reduced. The blind spot or NO ZONE, exists in the operator's line of sight to the ground, at the 9 to 12 o'clock position, is a distance of 6 feet 3 inches. See <http://www.safetycenter.navy.mil/ashore/OccupationalSafety/presentation/No%20zone/index.htm>*
- Contractor Activity Hazard Analysis (AHA) did not provide controls for recognized hazards listed in the AHA.

### LESSONS LEARNED:

- Machinery and mechanized equipment shall be operated
  - only by designated qualified personnel,
  - not in a manner that will endanger persons or property, and
  - safe operating speeds or loads shall not be exceeded.
- **All manufacturer's required training shall be conducted by a qualified person(s)**, and in the language understood by the operator.

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