



## INCIDENT DESCRIPTION

A City of Vancouver Engineering crew was installing shoring sets in an excavation prior to sewer pipe maintenance/installation. Two sets of shoring had been installed and excavation of an additional 5m length was being done in preparation for the third set. While excavating, the equipment operator came upon some old wooden dock pilings that were 1 m below the surface. The excavator removed the buried pilings which caused the trench to slough, exposing a significant amount of the root structure of a 30m tree

immediately adjacent to the excavation. The foreman stopped the work and called the Arboriculture Department. Arborists from this workgroup determined that the tree was stable, yet a high wind warning for the evening, coupled with the high traffic location (Terminal Avenue), prompted the Arboriculture group to initiate removal of the tree.

The utility arborists conducted a tailgate meeting to determine the next course of action. The decision was made to use an aerial bucket truck to access and remove/delimb the tree in sections. A spotter was used to help ensure safe placement of the bucket truck and to keep pedestrians away from the work site. The site was located at both a very busy intersection and a Skytrain pedestrian walkway. The arborist, manoeuvring the bucket as needed, proceeded to delimb branches from the tree. The skytrain and aerial lift bucket were working side by side. When a skytrain entered the station, pedestrians disembarked from the train and proceeded to exit the terminal. The spotter, who was observing the location of the boom in relation to the skytrain track, became busy directing the pedestrians away from the worksite. Unknown to the aerial lift operator or the spotter, the knuckle of the boom had moved over the guideway, and into the path of any oncoming skytrain. When the next skytrain departed the terminal, it struck the knuckle on the boom, just enough to create a spring action, so the knuckle kept bouncing and striking the train repeatedly as it passed.

## HAZARD(S)

1. Trench collapse due to unstable soil.
2. Equipment (with operator) struck by skytrain.
3. Injury and damage from falling debris.

## CAUSE(S)

1. Soil adjacent to tree sloughed exposing root ball.
2. Operating too close to Skytrain tracks / guideway.

## RECOMMENDATIONS

1. Develop safe work procedures while working within proximity of Skytrain.
2. Contact Skytrain to provide supervision