

Maintenance Innovation State of the Practice

Maintenance Innovation: Guiderail and Guardrail Post Pulling Process

Description: Guiderails and guardrails, essential safety features of roads and highways, are used when running off the road could be hazardous for vehicles and their occupants. As such, the rails need to be maintained in good condition. Crashes and other forces can damage railings and the posts that support them, necessitating removal of the posts.



(Source: Federal Highway Administration.)

Requester Name/Agency: Ken Relation, New York Department of Transportation

Date of Request: April 11, 2024

Query:

1. Does your agency have a prescribed written process for the removal/pulling of guiderail/guardrail posts?
 - a. If so, can you share it?
 - b. If no, does your agency have an unwritten best practice to share?
 - c. When removing damaged posts, do you use any special hardware (i.e., clamp, jaws, choke chain, other)?
 - d. If using a chain in your removal process, do you prescribe a certain diameter and/or grade of chain? If so, what size and grade?
2. What type of equipment does your agency use to remove damaged posts (i.e., loader, skid steer, truck-mounted pounder, other)?
3. Have you experienced any serious injuries through your current process?

Summary of Responses:

Two No Boundaries members responded to this query. In *Idaho*, there is no formal process for removal of guiderail/guardrail posts. The agency has three truck-mounted post pounder/pullers and plans to purchase three more so there is one available in each district. Other hardware used for removal varies and the agency has identified no serious injuries with the current process.

In *Utah*, there is no formal process for removal of guiderail/guardrail posts because the agency largely contracts for this work. Previously, the agency used a choker chain, auger, crane, and bucket or digger derrick truck. The chains were rated for at least 10,000 pounds for rigging and cables weren't used because they tended to coil after usage. Processes included:

- *Wood posts:* Insert a bolt in a hole in the post and pull it out with a crane mounted on a truck. For broken posts, an auger drills down through the middle of the stump to "chew out the wood."
- *Metal posts:* Insert a bolt in a hole, or drill into the post if there is no hole, and use a crane and lifting chain to remove the post.

Currently, Utah DOT contractors use a truck-mounted post pounder and the hammer's hydraulics to lift posts out of the ground. While there have been no injuries in recent memory, it is potentially hazardous when the post breaks free of the ground because it can swing and recoil.

Reference

[W-Beam Guardrail Repair: A Guide for Highway and Street Maintenance Personnel](#), Federal Highway Administration, November 2008.