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PNEUMATIC PIPE RAMMING SOLVES EMERGENCY SITUATION FOR RAIL CORRIDOR

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ABSTRACT: Pipe ramming continues to proven to be one of the most versatile and capable trenchless pipe installation methods. Pipe ramming is a favorite installation method for contractors installing casings under roads and rail lines because the method provides accurate installation in a wide range of soils without surface slump.

Recently, the Union Pacific Railroad discovered significant drainage problems after heavy rain and snow melt at its main east-west rail corridor through northern Nevada and northern California along the Feather River Canyon. Culverts that should have been able to allow the runoff water to pass safely under the deep cuts had failed, collapsed etc. Emergency crews worked around the clock pumping water up and over the steep embankments to prevent rail line washout.

Rail traffic was slowed in order to prevent additional damage to the saturated soils of the embankments or rail failure. The Union Pacific enacted emergency plans and hired a contractor to install new culverts. Pipe ramming was chosen to install the new 48- and 60-inch culverts to relieve the water pressure. Ramming was ideal because the canyons were full of rocks and boulders. A 24-inch diameter pneumatic pipe ramming tool was used. Access was difficult.

The Union Pacific and other railroads have many old culverts that are in this condition or worse. A case can be made that the pipes supporting rail traffic are in need of rehab and replacement as badly as other decaying infrastructure like old gas mains, sewers and water mains.