

Mouse Trap Winner #2

Survey Pin Puller

A small solution solved a huge problem in Sioux County, Iowa, making them a second place winner in this year's Build a Better Mousetrap Award sponsored by the Federal Highway Administration's Office of Innovative Program Deliver Center for Local Aid Support.

Members from the Sioux County Secondary Roads Department say they needed a better way to pull survey pins out of the roadways on paving projects. The process has always been to just bend over and pull the pins manually with a vise grip. This was considered back-breaking work because there was an average 3200 pins for an eight-mile paving project. The team began having discussions about how they can make improvements.

After exchanging ideas and a little trial and error, the team came up with the Survey Pin Puller. A couple of hours of design and construction and less than a \$100 investment, the team developed the award winning contraption that features a wheel, handle grips, some tubing, and other small materials. The device gives crew members more leverage to remove the stubborn pins easier and quicker. Equipment Operator Derek De Groot came up with the solution and says that he is very surprised at how well this worked! "We quickly threw it together and it has exceeded our expectations!" The Survey Pin Puller is now used on paving projects throughout Sioux County without causing physical ailments for the road crews.



Figure 1. Innovative Survey Pin Puller. Picture provided by Sioux County.



Figure 2. The soil nail pin being pulled out the soil. Picture provided by Sioux County.

Doug Julius, Sioux County Engineer and supervisor of the team who developed the Survey Pin Puller says he pretty much stays out of their way as they solve problems for issues out in the field. "I just give the okay and leave it up to the guys working on the project to find the solutions. Everyone works really well together."