

## YOU SHOW US CONTEST 2013



### PIPE PULLER

City of Cañon City

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#### Problem Statement:

While installing 24-inch diameter HDPE pipe, the gasket ends of the pipe were being damaged during the process of pushing the joints of pipe together with the bucket of the backhoe.

#### Solution:

After trying various methods to push the pipe together without causing damage, it was decided to design and build a device to pull the two pieces of pipe together. The puller consists of a bar for leverage attached to a strap that fits down in the corrugations of the pipe with the chain and boomers attached to the other end. Then the bar is pulled back, pulling the two pieces of pipe together. A blueprint drawing is attached for your reference.

#### Labor, Equipment, and Materials Used:

Cost of 6 feet of 1" X ½" flat strap	\$ 9.18
Cost of 3 feet of ¾" black iron pipe	\$ 7.98
Cost of 6 feet of 5/16" chain	\$ 23.94
Cost of 2 – 10" chain boomers	\$ 17.99
Cost of 2 – 7/16" X 2 ½" bolts	\$ 2.78
Cost of 2 – 7/16" lock nuts	\$ 2.80
<u>Cost of labor</u>	<u>\$160.00</u>
<b>Total Cost</b>	<b>\$225.67</b>

**Savings and Benefits:**

The 24 inch diameter pipe costs on average \$480.00 per 20-foot section and if the ends are damaged the pipe is useless as the pipe cannot be sealed. Time is saved on the job as the workers can safely put the pipe together while the operator continues to dig.

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