



US Army Corps of Engineers

## Working to improve centuries old acequias for New Mexico community

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Engineers Mike Clay and Josh Giannini, members of the USACE Memphis District's Design Branch, are assisting the Chamisal and La Joya Acequia Districts of New Mexico with solving a problem that dates back several centuries. The communities have turned to the USACE for help with the ongoing challenge of keeping water freely flowing through the acequias. Albuquerque and Memphis Districts are teaming-up to help.

Mike Clay explained that acequias are irrigation canals that pull water off a river and distributes it to areas that normally don't get water. They are used to flood fields and for other irrigation purposes. The Chamisal Acequia was built into a steep hillside to provide irrigation from the Santa Barbara River to small farming communities around Llano, N.M.

According to Toribio Garcia, who wrote about her family connection to the acequia in Chamisal, the roots of the Chamisal Acequia construction reach back to 1751 with the Las Trampas Land Grant to 12 families known as the "Doze Familias." It was constructed by the 12 families, over 12 years, totaling 12 miles from the Santa Barbara River to the Plaza de Chamisal.

Clay said the challenge is that the steep hillside above the acequia contains many loose cobbles and boulders which fall into the acequia and have to be moved regularly. He continued to explain that it has become burdensome to clear the debris because it's almost impossible to get equipment in some areas. Horse teams were used in the past but no one has trained horse teams anymore to use for this purpose.

Clay added that the embankment built along the right descending bank to contain the diverted water has been plagued with problems such as general seepage, burrowing animals and overtopping due to downstream obstruction.

Clay says the Albuquerque District wants to pipe the approximate one mile stretch that runs alongside the mountain so that debris rolls over it without creating an obstruction. He and Giannini made a site visit on May 23 to determine the appropriate design approach. They are awaiting final approval to move forward with their design.

Clay and Giannini also made a site visit to the La Joya Acequia located at the downstream end of a network of irrigation canals and ditches. It carries water to areas along the eastern bank of the Rio Grande River, south of Albuquerque, N.M. The La Joya Acequia District has asked USACE to help with the heavy sediment load in the acequia which regularly requires cleanouts.



**Memphis District engineers survey a section of the Chamisal Acequia to design a solution that will help keep the acequia flowing and clear of loose cobbles and boulders.**

**(Photo by Josh Giannini)**



**Boulders on an eroding slope above the Chamisal Acequia. Memphis District engineers are designing a solution that will help keep the acequia flowing freely.**

**(Photo by Josh Giannini)**