



Creating a Customized Piping Solution in Queen Creek

When custom pipes require custom repairs

BY STAN PACHOREK

Queen Creek, Ariz., is a town of approximately 26,000 located 40 miles southwest of Phoenix. The town's utility had a range of solid steel piping that was connected on one side of a booster pump for water suction and on the other side for water discharge. This piping needed to be replaced due to rusting after being in use for 20 years. The problem was that each of these connecting pipes was custom-made and varied in length. To replace each pipe, another customized pipe would have to be constructed on site with high associated costs in terms of money, time and manpower.

Brian Quill, Queen Creek's utilities supervisor for water production and compliance, was looking for a more price-effective solution to replace the rusted sections without using tailored pipes for each repair, but finding a way to create a section replacement that could be customized while minimizing costs and installation time was a challenge.

Quill had used HYMAX products before to repair Queen Creek pipes and approached Krausz to find a solution to this problem. Avi Chiproot, HYMAX's VP of engineering and R&D, consulted his engineering team to see what they could design and manufacture.

HYMAX has a 100-year history of developing repair solutions that are durable and easy to install. Most of its products are standardized solutions but the company also provides cus-

A unique eccentric dismantling joint with flange connectors on either end can be telescoped to be anywhere between 10" and 14" in length.

tom-made solutions as requested by clients. All HYMAX products have a lightweight construction featuring a simple design to enable easy and safe installations by one or two people to minimize time in the ditch.

"We were looking to not just provide Queen Creek with a product but a solution that could address [these] specific pain points," Chiproot said. "Making customized pipe repair products takes up a lot of time, and we were looking to create a telescopic product with the flexibility to make the repair regardless of the distance between the connections."

After considering the project's specifications, Chiproot's team developed a unique eccentric dismantling joint with flange connectors on either end that could be telescoped to be anywhere between 10" and 14" in length. Instead of fabricating each connection on site, a costly and manpower intensive process, the product could be adjusted exactly to match the length between the booster pumps and the discharge piping, and installed by just one person in about 30 minutes.

The two ends of the coupling could also be rotated independently of each other so that the holes of the joint's flange could match up with the holes of the connecting pipe's flanges.

Case Study



The Queen Creek utility was able to replace rusted sections of its pipeline system without using tailored pipes for each repair.

Once the design was completed, Chiproot sent the plans over to Quill, who gave the thumbs up. Within a few weeks, a prototype was shipped to the Queens Creek Utility, where a team was immediately able to install the easily adjusted product for a perfect fit and ensure a strong and solid connection.

An added benefit of the new dismantling joint was that water flow increased approximately 40–60 gallons per minute with the new installation. “We found that the design featured better hydraulic flow as the old pipe was very rough on the inside due to rusting,” Quill said. “With better water flow, less energy is required to ensure proper water movement.” With the prototype a success, Quill ordered finalized versions of the product so that future repairs could be made immediately as the need arose.

HYMAX’s engineers developed a solution to Quill’s rusting



Variations in distances made it challenging to find a connecting solution.

pipes by providing a unique adjustable joint. Because each pipe didn’t have to be customized on site, the cost, time and manpower required to make the replacement was greatly minimized.

“Avi and his team at HYMAX helped us enormously,” Quill said. “They took a very hands-on approach to solving the problem, and the results were great. Now we have a ready-made solution to replace these pipes anytime we need to.” **WW**

About the Author: Stan Pachorek is territory sales manager for Krausz USA, the creators of HYMAX.

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▲ Feb. 12-13 – International Symposium on Biological Treatment, Atlanta, GA, awwa.org/Events-Education/Biological-Treatment

▲ Feb. 17-20 – WWETT Show, Indianapolis, IN, wwettshow.com

▲ Feb. 25-28 – AWWA/WEF Utility Management Conference, Nashville, TN, wef.org/utilitymanagement

March 2020

▲ Mar. 2-4 – WEX Global, Valencia, Spain, wex-global.com

▲ Mar. 15-16 – 2020 WaterReuse California Annual conference, San Francisco, Ca, waterreuse.org

▲ Mar. 16-20 – AMTA/AWWA Membrane Technology Conference, Phoenix, AZ, awwa.org/amta/membrane

▲ Mar. 31-Apr. 3 – Texas Water, Fort Worth, Texas, txwater.org

April 2020

▲ April 6-9 – AWWA Ca-Nev Spring Conference, Anaheim, CA, ca-nv-awwa.org

▲ April 20-22 – Design -Build for Water/Wastewater Conference, Dallas, Texas, dbia.org/conferences/design-build-for-water-wastewater-conference

▲ April 29-May 1 – WWEMA Washington Forum, Washington, DC, wwema.org/washington-forum

For a comprehensive list of the events for the water industry, please visit the Events section of our website.