



# Case Study: Maintaining Irrigation Repairs at Hanging Rock Golf Club

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## The Client

Situated at the base of Fort Lewis Mountain in Virginia, Hanging Rock Golf Club offers sweeping mountain vistas that have earned it national accolades. Superintendent Brian DeWeese is constantly looking to ensure that the course lives up to its reputation. That largely means ensuring the course is consistently watered to be green and in good playing condition. The golf course's irrigation system was originally installed 27 years ago, and spans five miles of PVC pipes that are 6", 4" and 3" in diameter.

## The Situation

Brian consistently focuses on the durability of course's irrigation system, and makes every effort to quickly repair pipes to minimize play disruption. "The water pumps are the heart of the golf course," said Brian. "The course quickly deteriorates if it isn't properly irrigated and deters golfers from

returning. Maintaining the grounds is the highest priority in keeping golfers happy – especially during the summer months when the course is busiest and needs to be cared for the most."

## The Challenge

There were several challenges Brian faced to maintain the course's irrigation system. Installed 27 years ago, the piping was approaching the end of its life expectancy with pipe repairs were becoming more common. Located close to the Blue Mountain range, the ground consisted of clay and rock, making the pipes vulnerable to being punctured when the ground shifted during the winter freeze and spring thaw. The hard clay also made it difficult to perfectly align pipes when gluing on new sections of pipe to replace damaged pipe. "Digging into the rock and clay is hard work, and it takes time to return the turf to pre-repair condition," said Brian. "When you factor in labor costs,

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making the repair quickly can make a huge difference both in terms of maintenance expenses and allowing golfers to resume playing."

## The Solution

Brian found that the HYMAX coupling allowed him to make quick pipe repairs, return irrigation systems to normal, and keep the course open with minimal disruption. There were a few reasons that Brian found HYMAX advantageous.

### 1. Fast and easy installation

The coupling's two top-facing bolts meant that installers could place the coupling onto the connecting pipes without under-digging, a key advantage given the clay and rock composition of the ground. Instead of using glue to connect the PVC pipes, a time-consuming and complicated process, the HYMAX could be easily slid on to connect new sections of pipe with only two bolts to tighten. The HYMAX allowed for 4° of angular deflection that allowed even off-center pipes to be connected securely. "If the pipes weren't perfectly aligned within the clay and rock," said Brian, "we could still connect the pipes and know that the construction was strong and durable." The HYMAX also featured a radial closing design and sealing system with up to 1.3" of range, allowing pipes of different diameters and materials to be connected. With fast and easy installation of the 2-bolt couplings, Brian's team could make repairs within hours,



as opposed to an entire day, to quickly bring water service online while lowering labor costs.

**2. Strength and Reliability**

Brian knew that the HYMAX would reliably last over the long-haul. Post installation, the HYMAX can dynamically deflect up to 4°, allowing pipes to shift to reduce the risk of damage and cracking. By simply gluing pipe together, ground shifts could cause recurring stress on or near the repair,

causing the pipe to break or crack. The HYMAX, however, provided a kind of shock absorber so the water system could withstand this pressure.

The HYMAX features a one-piece design to deliver fortified strength and enhanced flexibility, and has a fusion-bonded epoxy coating that insulates against corrosion with nuts, bolts and other components made of stainless steel. Advanced Molecular Anti-Galling (MAG) provided a unique dry treatment process on nuts and bolts, based



on embedded zinc, to prevent galling and enable repeated bolt tightening. The anti-galling also eliminates the need for grease, preventing dust and dirt build-up.

**3. Cost Savings**

Brian found that the HYMAX’s fast and easy installation and long-term reliability delivered excellent value. Labor costs were minimized as fewer workers were needed to install the coupling given its two-bolt closing mechanism, wide range and dynamic deflection. Faster installation also meant that the course would be minimally disrupted, allowing more golfers to go through the course freely. “Over time, the HYMAX offered a good return on investment compared to simply using glue to fix PVC pipe,” said Brian. “The repair is very durable and we don’t have to worry about coming back to it again.”



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**Summary**

Brian found that using HYMAX couplings helped to make fast and durable pipe repairs. Even if they weren’t perfectly aligned within the ground’s rock and clay, pipes could be fixed while minimizing course disruption with lowered labor costs. Once installed, the HYMAX also allowed connecting pipes to absorb stresses caused by ground shifts due to weather and temperature changes. The course could be irrigated consistently and properly, and provide golfers good playing conditions without interruption. “At the end of the day, it’s about keeping golfers happy,” said Brian. “If that can be accomplished, then I know I’ve done my job.”