

Community Dedicates Waterfall Landmark to America's Fallen Heroes

September 1, 2010

The Village at Pine in Wexford, Pa., strategically situated residential units, businesses and amenities in close proximity to one another to facilitate an atmosphere for leisurely strolls and shopping experiences. Because the village sits high above the main road, making it barely visible from the major thoroughfare, a definite economic disadvantage for the businesses.

Click here for slideshow. Dominic Gigliotti of Gigliotti Properties contacted Scott Rudolph, owner of Fallingwaters Landscape & Aqua Design LLC in Wexford, and hired him to create a unique picturesque spot with a pondless waterfall near the development's landmark sign. Gigliotti hoped the feature would provide an impact statement for the community and act as a dedication to honor America's fallen heroes. As a native of Pine Township, Rudolph said he embraced the concept.

The Fallingwaters team faced some major challenges during installation. First, they had to stop two lanes of traffic on Route 19 for every delivery of the more than 300 tons of boulders for the project. Second, while installing new steel traffic poles, the city's project construction crew tied back antiquated wooden traffic poles with cables into the hillside location of the proposed water feature.

"Steel wire extended 13 feet above our heads," Rudolph said. "Every time we moved a boulder we had to lower our boom."

A sewer cleanout rested in the middle of the hill along with two gas lines, one of which encased a 500 psi line located within 3 feet of the pondless pit. Rudolph said his team 'laughed nervously as the PA One-Call Representative told us that if we hit that line there wouldn't be any more Village.'

Braving these circumstances and the cold winter winds, Fallingwaters began constructing a pondless waterfall with a 60-foot-run and a 30-foot-rise, making full use of the hillside's steep grade. The 12-foot-wide top waterfall cascades in sheet falls powered by two 3-phase pumps. The pumps deliver about 30,000 gph over the top falls into a bog measuring about 6-feet wide by 24-feet long, which then spills over to a third pump delivering an additional 24,000 gph of water. Last, the 54,000 gph stream splits into five independent waterfalls that drop precipitously into the pondless basin through a variety of sheeting and boulder-type falls.

Midstream through construction, Gigliotti asked the team to add a pondless pit area. A 3-foot grade difference made it impossible to get even ponding throughout the pit. As a remedy, the Fallingwaters team built a stream on top of matrix units in the area that dumps into the pondless basin.

The 11-feet-deep, 12-feet-wide and 60-feet-long pit was excavated last due to space limitations and led to the discovery of a discontinued drain that delivered a continuous stream of water under the pit. This caused hydrostatic pressure that could damage the pit liners. Fallingwaters installed a wet well and sump pump underneath the liner system to deliver the drain water into the pondless basin, eliminating the need for city water to refill the water feature.

After completion, community leaders and members of the armed forces watched a 21-gun salute during the dedication of the waterfalls to the fallen heroes of our wars.

"At that time, I shook the hand of a veteran that had a tear in his eye," Rudolph said. "He told me 'you've created a beautiful dedication here.'"

Specifications

Designer/Installer: Scott Rudolph, Fallingwaters Landscape & Aqua Design LLC

Contact Information: Wexford, Pa., 724-935-1633, www.watersfalling.com

Project Location: Village at Pine, Wexford, Pennsylvania

Components: Complete Aquatics supplied three BJM pumps, 200 matrix units, 12,000 square feet of rubber liner,

300 tons of boulders

Time to complete: 3 months

Project Cost: \$250,000