

Stanford Water Tank & Pump Station Installation

By Ken Williams, CGCS

A new water storage tank and pump station are being installed at the Stanford Golf Course. The tank and pumps are needed to serve the Siebel Varsity Golf Training Complex (SVGTC), as those additional 30 acres of turf have been irrigated with the golf course's system. The golf course's irrigation system was never designed to accommodate the current demand, and it has been a troublesome balancing act trying to adequately irrigate both facilities. It has taken 2½ years to get approvals from Santa Clara County for this project, but now the work is underway. Since most of us don't do this kind of thing everyday, I thought I'd share my experience, mostly through photographs of the construction.

Water to irrigate the turf comes from the Stanford University Lake Water System, which is a non-potable source taken from a combination of creeks and wells. It is piped to the campus in a similar fashion as a domestic water source. Since the campus' pipelines were also undersized to handle the additional demand of the SVGTC, a tank was mandated so water could be taken from the delivery pipes at low demand times (daytime.) So the tank will be filled during the daytime, and the water pumped out during the nighttime irrigation cycles. The tank was sized to provide at least two nights of water at peak demand for the SVGTC, which worked out to 315,000 gallons. It is a circular tank, 46' across and 24' high.

The site for the tank was cleared, and the soil was tested for stability. The tank rests on a reinforced concrete ring, approximately 3' wide x 3' deep. Set into the concrete were 3' x 1" bolts every 6', to which the tank would be bolted down. In the center of the ring was compacted road base, flush with the top of the concrete.

The tank was delivered in pieces and bolted together. Rubberized strips fit between the bolted sections to seal any leaks, and rubber washers help prevent divalent corrosion from the dissimilar metals. Tank walls were thickest at the bottom of the tank (1/4" steel) and thinnest at the top (1/8" steel.) Man doors were provided at both the bottom and the top of the tank. The tank has a 6" inlet and an 8" outlet. Besides the inlet and outlet openings, there were also openings for a drain, overflow port, a float, and a vent.

