

Contact: John Todd

Tesco Controls, Inc.

Phone: 916.395.8800

Fax: 916.429.2817

3409 52<sup>nd</sup> Avenue

Sacramento, CA, 95823

www.tescocontrols.com



## PROJECT PROFILE

### CASTLE OAKS GOLF CLUB, IONE, CALIFORNIA



Castle Oaks Golf Club, in the rustic and picturesque Sierra-Foothills town of Ione is one of the premier golf courses in Northern California. Studded with Valley Oaks, and entwined with Sutter and Mule Creeks, it is rated a 4-star "Place to Play" by Golf Digest.

Recently, Castle Oaks had a fire in the pump station that destroyed the core of their irrigation system. Unfortunately, there was no monitoring or alerting system in place to send notifications that the pumps had stopped running. Before anyone had been alerted, the pump station was a complete loss.

It was now clear that the course superintendant needed a much higher level of control and monitoring than was readily available by standard control systems. He had not been able to leave the system alone for any length of time, because of a lack of monitoring and alerting tools. The watering window takes place in the middle of the night and the course superintendant required a way to monitor pump station performance and critical alerts when he was away from the course.

Because of the demanding maintenance requirements of the golf course fairways and greens, the reconstruction project had to be completed very quickly and without substantial interruption to the players or the residents dotted around the edge of the course. Due to our reputation for speed and flexibility, Tesco Controls was selected to build the new system.

Tesco Controls installed and configured a stand-alone SCADA system that transmits information via a cellular data-link. This link enables secure remote access via a standard web browser from anywhere at any time for a very low monthly cost. Armed with a laptop and a wireless broadband card, the course superintendant now has full control of the system,

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day or night. The graphic user interface allows direct control and continuous, real-time data connectivity to analog and digital I/O. In addition, alarms and status notifications can be delivered by E-mail, Fax, Pager or Voice call.

Course Superintendant Mike Lahman says “As soon as it shuts down, I get a phone call on my cell phone. It’s also configured to call the office and my house, and it sends email also.”

Consistent water flow is a very high priority in order to keep the grass in championship condition on this high profile course. The golf course has no elevated or hydro-pneumatic tank to maintain pressure on the system, so a particular level of finesse is needed to maintain consistent pressure from the Variable Frequency Drive. Constant monitoring and immediate alerting is critical.

“It’s just amazing. If something shuts off in the middle of the night you can see in the report what time it shut off so you know what got watered and what didn’t. In the past we’d be out looking at the cart path and seeing what was dry and what was wet. It’ll show you if you have a pressure drop in the middle of the night, and you can see that maybe a broken pipe or a frozen head is causing poor coverage. I can always look at my laptop and see what the pressure is, see what the flow is.”

Tesco’s SCADA solution quickly proved itself to be an ideal application. Using a Tesco L2000 PLC to control the irrigation system’s pressure, consistent sprinkler coverage ensures that the entire course is watered evenly helping to prevent dead spots in some areas, and overgrowth in others. The system also uses a Tesco L2000 PLC to regulate the flow of the tertiary treated water used on the course, and generates the reports needed to maintain compliance with the State of California.

“I used to come down to the pump station and take those readings by hand every day” says Mike. “I haven’t been there in well over a week. I just print out the reports from the system every month and send them off so we can match volume with the treatment plant and account for the treated water.”

Today, the course superintendant is able to get away and take some personal time, now that Tesco’s SCADA system has given him the ability to monitor the pump station even when he’s miles away from the course.

“I was able to go to Reno and play golf for three days. I just pulled out my laptop every morning and was able to see that everything was running just fine.”

**About Tesco Controls**

Headquartered in Sacramento, CA, since 1972, Tesco Controls, Inc. is America's leading water and wastewater system integrator and control system manufacturer.

Tesco Controls' SCADA systems allow municipal water/wastewater and irrigation districts to monitor and control treatment plants, water distribution systems, and wastewater collection systems.

Our SCADA system installations, now over 300 systems nationwide, are in operation throughout California, as well as in Washington, Nevada, New Mexico, Colorado, Louisiana, Alabama, and Florida. These systems consist of multiple Programmable Logic Controllers (PLCs) that communicate between central sites and various remote sites over telephone lines, fiber optics, radio links, or dedicated cable television. Our redundant, open architecture SCADA software and hardware systems feature multi-user, multi-tasking, real time graphic user interfaces with report capability, designed specifically around the demanding needs of the water/wastewater industry.

To date, our installed base of products and control systems is in excess of \$300 million.