

## Featured Project

### Harbor Sanitary District Pump Station 14

Brookings, Oregon

ArcSine Engineering was contracted by a prominent regional civil/mechanical consultant to design electrical and instrumentation/controls systems for the replacement of the Harbor Sanitary District's primary wastewater pump station (Pump Station 14) in Brookings, Oregon. The initial buildout of this facility included two variable-frequency drive (VFD) controlled non-clog submersible pumps which pump into tandem, manually valved force mains. The design included both electrical and controls for two additional VFD controlled pumps, as well as control system upgrades to integrate automatic force main valving.

**Electrical  
Lighting Design  
Power Distribution  
Construction Services  
Water/Wastewater  
Instrumentation  
Controls**

#### Electrical/Power Distribution:

- Site electrical service upgraded from single-phase service to 480-volt, 800-amp, 3-phase service.
- Provision for future upgrade to double pumping capacity.
- State-of-the-industry surge protection on both the switchgear bus, as well as the single-phase panelboard.
- 450kW standby generator with automatic transfer switch.
- Design provisions to address NFPA Class 1, Division 1 hazardous area requirements.
- Remote-mounted pump motor disconnects/junction boxes to provide for easy servicing of pump motors.



#### Instrumentation/Controls:

- Fully automated programmable logic controller (PLC) operated control system.
- State-of-the-industry touch screen, graphic operator interface panel for station overview, and controls.
- Fully redundant hardwired backup control system for increased reliability.
- Provisions for radio telemetry to future Supervisory Control and Data Acquisition (SCADA) system.
- Redundant alarming via autodialer.
- Intrinsically safe relays for integrating hardwired level signals from classified wetwell environment.

