



## WATER/WASTEWATER CASE STUDY

# Sangamon Valley Public Water District

## Turns to FreeWave for Wireless M2M Technology

Mahomet, IL – The Sangamon Valley Public Water District (SVPWD) wanted to design a Water Treatment Plant (WTP) with a significant focus on improving operational efficiency. Mahomet is the oldest community in Champaign County, boasting a modest population of 7,955 (15,000 including the surrounding area). The community experienced significant growth in recent years and has made substantial efforts to address it with plans for new residential subdivisions, and investing millions of dollars in its water, sewer and fiber optic lines to support commercial and industrial growth.

### FreeWave Usage and Applications

In addition to the Scadata software, the technology platform was a critically important piece of the system as a whole. Without reliable communications, the system would not have access to data that drives important decisions, nor would control and monitoring be effective. A wireless M2M network designed for long range communications was ideal for connecting remote assets in this installation.

The wireless networking platform selected for this project consisted of FreeWave Technologies transmitters, receivers and transceivers that communicate with each other using jam-resistant 900 MHz Frequency Hopping Spread Spectrum (FHSS)

technology. A MM2T FreeWave radio is connected to each remotely located RTU and the Programmable Logic Controller (PLC). Scadata Input/Output (I/O) devices communicate with the central SCADA system, where it interfaces with Scadata software to provide critical data to operators. The radios feature fast data transmission and they can “talk” to each other for greater accuracy.

### Outcomes

The new SCADA system communicates directly with the Water Treatment Plant’s Programmable Logic Controller and wirelessly to the remote well(s) and booster station controls for an integrated control and access by the SVPWD operations team. SVPWD has greater flexibility to track, manage, report, trend, access, archive and control equipment and settings because they can access important updates from their fingertips. Notifications and alerts are sent to key parties immediately via cell phone as SMS/text and/ or email.

FreeWave’s high-speed wireless radios enable the communication between sites. The PLC offers more advanced user settings for WTP equipment. The SCADATA program is hosted on a PC at the WTP, allowing for access wherever an internet connection is available. The turnkey software package by Scadata

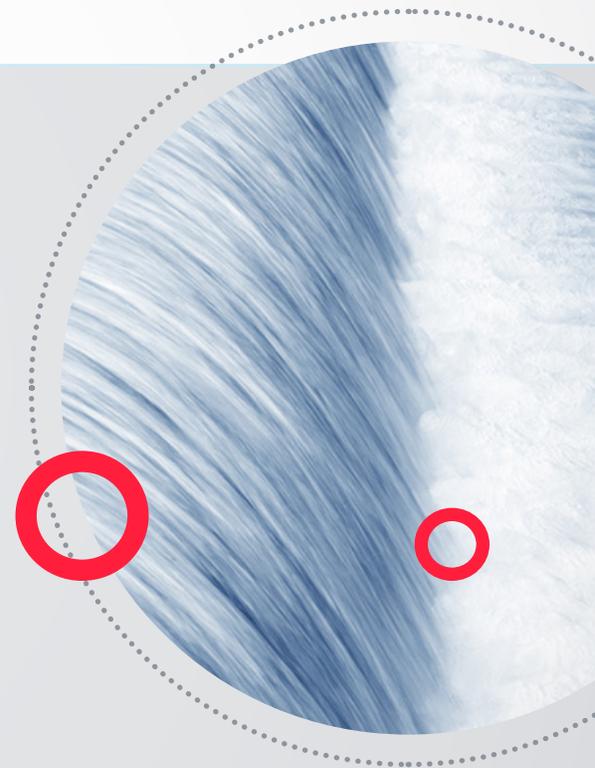
offers SVPWD operators an intuitive, user friendly setup and navigation. There is no additional or expensive programming needed with the software, and SVPWP operators can make changes to fit their needs without additional cost. The SCADA software will be continuously updated with newer operating system versions, enabling future compatibility and it is scalable for expansion to future additional sites.

and create a simpler, more cost effective and user-friendly experience. So far, the Scadata system has saved SVPWD 50 percent in costs and is expected to save more over time as operations and efficiencies are improved.

Each component of the SCADA system, from the software to the radios and RTUs in the field, was selected to help simplify the communication process and increase efficiencies. SVPWD believed they could gain more control over various aspects of the WTP

## HIGHLIGHTS

- > SVPWD is using FreeWave's wireless high-speed radio transmitters, receivers and transceivers that communicate with each other using jam-resistant 900 MHz Frequency Hopping Spread Spectrum (FHSS) technology enables the communication between the sites.
- > FreeWave's wireless M2M network designed for long range communications was ideal for connecting the remote assets in this installation.
- > Each component of the SCADA system, from the software to the radios and RTUs in the field, was selected to help simplify the communication process and increase efficiencies.
- > So far, the Scadata system has saved SVPWD 50 percent in costs and is expected to save more over time as operations and efficiencies are improved.



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