

PROJECT PROFILE



Groundwater and Surface
Water Monitoring System
Los Alamos, New Mexico

Client:

Los Alamos National Laboratory

The Water Stewardship Group (WSG) at Los Alamos National Laboratory (LANL) operates and maintains a network of 86 storm water monitoring stations that are used to collect water samples during storm events. Each station is equipped with a measurement and control unit (MCU) that measures and records data from a water level sensor and controls the collection of water samples for one or more automatic samplers during a storm event. Some of the stations also include rain gages and temperature sensors. Using either radio or cell phone telemetry, the MCU's notify WSGH personnel when samples have

been collected at a monitoring station. WSG personnel are then dispatched to these stations to retrieve the samples, which are cataloged and sent to an independent laboratory for analysis. The MCUs, cell phones and radios currently being used at the monitoring stations are out dated and becoming difficult to maintain and support.

In addition, the WSG operates and maintains a groundwater monitoring system at LANL. The system includes 90 wells which are instrumented with sensors and dataloggers. Currently, these 90 wells have no telemetry capabilities, so WSG personnel visit each well on a monthly basis to download the data to a laptop computer or palm pilot and import the data into data presentation and analysis software programs. However, several locations are difficult or time consuming to access and some locations



require data collection on more of a real-time basis. As a result, the WSG would like to add telemetry capability at selected locations to reduce the time required for personnel to collect data from these sites.



Engineered Monitoring Solutions (EMS) was responsible for recommending upgrades and improvements to the MCUs and communication links at the surface water monitoring stations, recommending telemetry solutions for the groundwater monitoring stations and recommending improvements to the software tools used for data collection and data management. As part of a pilot study, EMS is assisting LANL personnel in implementing these improvements at 3 surface water and 3 groundwater monitoring locations, as well as integrating all of the data from these locations into a single database for analysis and reporting.
