Facility Atlas Solves Data Management Needs at OCSD

By implementing its cutting-edge data management tool Facility Atlas, the Orange County, Calif., Sanitation District (OCSD) is expected to save more than $1 million annually and to improve productivity.

The Facility Atlas will gain a big chunk of these savings by reducing construction change orders and minimizing contractor extended overhead costs, OCSD Director of Engineering Dave Ludwin, P.E., says. “We estimate that we will save hundreds of thousands of dollars per year in extended overhead costs associated with unforeseen conditions, while substantially improving facility productivity and quality.”

A 1994 needs assessment determined that asset data management was critical at OCSD; finding information had become a project in itself. With a history of more than 50 years of operation, 300 construction projects at its two treatment plants (240 million gallons per day average flow), and 650 miles of trunk sewers, OCSD needed a tool to efficiently and accurately keep track of data.

As it was spending between $50 million and $100 million on capital improvements annually, OCSD also needed to provide for management of future assets. So it called on Brown and Caldwell to create the innovative tool.

The Facility Atlas is a smart map of OCSD’s surface and underground facilities. Combining web-based geographical information system (GIS) software, a document management system, and OCSD’s existing maintenance and instrumentation databases, the Atlas stores information on process piping, 85 types of equipment, surface features, and structures. The information can be sorted, filtered, and queried using different search tools. Each facility object can be queried to return a list of attributes, ranging from construction material to project contract number and name.

By using the tree-view legend on the web browser and choosing equipment and system layers on the smart map, OCSD staff can select facility information to view. Should employees decide to view a specific process system, they simply remove all other systems from the smart map and a list of system attributes is returned. Tunnel cross sections are “hot linked” to the Engineering Document Management System, providing the user with instant access to drawings and documents used to install or upgrade that section.

Brown and Caldwell employed a variety of innovative data capture methods to create highly accurate databases for OCSD’s buried utilities and pipe tunnels. Legacy data on buried utilities, for example, were converted to the database from more than 2,000 paper maps. Advanced field computers and automated data capture tools ensured an accurate and efficient database for OCSD’s more than 20,000 linear feet of pipe.

To receive a demo CD on OCSD’s Facility Atlas, contact Paul Flick at pflick@brwncald.com or (949) 260-6132.

Orange County, Calif., Approves Landmark Groundwater Replenishment Project

The Orange County, Calif., Sanitation and Water Districts have approved an ambitious plan to replenish the Orange County groundwater aquifer with treated wastewater. The Districts hired a team including Camp Dresser & McKee and Brown and Caldwell to design and construct the first phase of the project, which will cost $352 million and take about four years to complete. The team won the job after having performed predesign services for the project [Quarterly, Fall 1999].

“This is the largest and most visible such project in the nation,” explains Project Manager Bob Finn, P.E. The effort will add 70,000 acre-feet of water annually to the aquifer—enough to serve 200,000 households.

The project will pump 70 million gallons per day of water to either injection wells that control seawater intrusion or to spreading basins for recharge. It includes a 60- to 78-inch-diameter pipeline to convey treated water 14 miles up the Santa Ana River to the recharge area.