AWPCA 2005

WATER PROJECT OF THE YEAR AWARD

CITY OF YUMA – EAST MESA WATER TREATMENT PLANT INTERIM PHASE IMPROVEMENTS

The City of Yuma ultimately plans to construct a new 20-mgd initial phase East Mesa Water Treatment Plant to meet long-term water demands in the East Mesa Area. However, in order to obtain additional treatment and capacity early in the project to meet rapidly increasing demands, it was necessary to install several interim facilities before commencing design and construction of the proposed 20-mgd facility.

The challenge of designing this unique project was to facilitate a series of solutions at the existing 9E Water Treatment Plant that could be quickly and cost-effectively implemented to meet the rapidly increasing water demands. Continuing residential and industrial construction was consuming a large portion of the existing 1-mgd production from the 9E Water Treatment Plant and was forcing the City to stress their existing Main Street Water Treatment Plant to help supply the growing East Mesa area. “By increasing the available groundwater supply, providing treatment for removal of iron, manganese and odors in the groundwater, and increasing booster pump station capacity through the Interim Phase Improvements, the City was able to provide the necessary water production to allow building activities in the East Mesa area to continue without negatively impacting the water system,” said project manager Vance Lee.

Another major challenge of this project was providing a facility that minimized operational staff at the remote plant. In order to achieve this goal, the facility needed to provide treatment processes that were reliable, effective, and easy to operate. By providing highly effective and reliable treatment processes, the owner could rely on remote monitoring and control of the facility to reduce the actual on-site presence of staff.

The Interim Phase Improvements were online and operational to meet peak winter 2004/2005 demands associated with vegetable processing industry and winter visitors in the East Mesa area. The total construction cost of $4,834,525 (excluding preconstruction services) represents a capital cost of approximately 80¢ per gallon of water production capacity, providing a cost-effective solution to the City’s water production needs.