

# Karl W. Hadler

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## **Education**

*MS Environmental Engineering, University of Illinois, 1995*

*BS Civil Engineering, University of Illinois, 1993*

## **Licenses**

*Civil Engineer, Washington, California*

## **Professional**

### **Affiliations**

*American Water Works Association*

*Water Environment Federation*

Mr. Hadler, an associate with Carollo Engineers has 12 years of experience in water and wastewater treatment. Previous project experience includes water quality testing and analysis, facilities planning, preliminary and final design, construction services, and facilities operation. Recent projects include:

- Project engineer for the Brightwater Reclaimed Water System Design for King County, Washington. The project includes planning and design for treatment and distribution of up to 21 mgd of Class A reclaimed water in the Brightwater service area. The planning phase involved coordination with Brightwater treatment plant and conveyance system design, preparation of the conceptual design report, preparation of regulatory documents and background information, and preliminary design drawings. The project also includes final design of several fast-track components of the system including several miles of conveyance piping, disinfection compliance equipment and flow monitoring.
- Project engineer for planning and design of the Sammamish Valley Reclaimed Water Production Facility for King County, Washington. The planning phase involved preparation of the conceptual design report, permit applications, public involvement materials/presentations and preliminary design drawings. Final design involved preparation of drawings and specifications for the 1.5-mgd (5.0 mgd ultimate) membrane bio-reactor facility. Evaluated manufacturer qualifications and prepared prepurchase documents for the membrane system. Additional treatment processes included screenings/ grit-removal, 3-stage odor control, UV disinfection and reclaimed water pump station. Managed scope, schedule and budget for fast-track project with 12-plus subconsultants and several internal offices involved during the project. Coordinated subconsultant administrative requirements and project activities.
- Project engineer for design of the Carnation Wastewater Treatment Facility for King County, Washington. Design includes site evaluation and recommendations, preparation of drawings and specifications for the membrane bio-reactor facility, and preparation of prepurchase documents for the membrane system. The new facility includes fine and course screening, grit removal, odor control, UV disinfection, effluent pump station and chemical facilities.
- Design engineer for the \$35 million upgrade and expansion of the Fresno/Clovis, California Regional Wastewater Reclamation Facilities. Responsibilities included the design of aeration basins, secondary sedimentation basins, RAS/WAS pump station modifications, and sodium hypochlorite disinfection system. Project contributions also included design of the plant drainage system, yard piping modifications, and construction support during the 20-mgd expansion.
- Design engineer for the Winston-Green, Oregon Wastewater Treatment Plant chlorination/dechlorination control system. The compound loop chlorination system integrated a new chlorinator and residual analyzer into the existing gaseous chlorine disinfection system. The sodium bisulfite dechlorination system included sodium bisulfite storage facilities, metering pumps, and a compound loop control system.
- Performed a pilot plant study on the feasibility of suspended solids removal from pretreated industrial effluent at Bell-Carter Olive Company, Corning, California. In addition, a statistical analysis of the groundwater quality was conducted and a groundwater monitoring program established in accordance with the waste discharge requirements issued by the Regional Water Quality Control Board.
- Design engineer for the City of South San Francisco/San Bruno, California Water Quality Control Plant Sodium

Hypochlorite Facilities. Responsible for the development of design criteria, design of the sodium hypochlorite storage and feed facilities, and design of the existing gaseous chlorine system demolition.

- Revised capital cost analysis for providing potable, recycled and wastewater entitlements and infrastructure for a proposed 6,200-unit development in Dublin-San Ramon, California. Potential capital cost saving measures were analyzed including considering the value of recycled water, sharing major infrastructure with adjacent developments, and various pumping schedules. The total potential capital cost savings was \$37 million or 24 percent of the original estimated cost.
- Prepared engineering report for King County, Washington South Plant to supply reclaimed water to the City of Tukwilla. The report meets the latest regulatory requirements of the Department of Ecology and Health Water Reclamation and Review Standards.
- Project engineer for the design of tertiary treatment facilities at the North San Mateo County Sanitation District, Daly City, California. The 2.8-mgd treatment facilities include a secondary effluent pump station, continuous backwash filters, medium pressure UV disinfection, and recycled effluent pump station. The recycled water distribution system includes 11,000 feet of pipe to provide recycled water to three world-class golf courses. In accordance with Title 22 requirements, a facilities engineering report was prepared to obtain permits from the Regional Water Quality Control Board, Department of Health Services and San Francisco Public Utilities Commission for unrestricted use of recycled water.
- Project engineer for the preliminary design report on recycled water treatment for the City of Daly City, California. The report included a review of current legislation, water quality analysis, alternative treatment analysis, and preliminary design of the reclamation facilities. A follow-up report assessed the chemical constituents of the wastewater and their effect on the golf course turf grass. Potential chemical adjustment techniques were evaluated to alleviate the problems associated with sodium in the recycled water.

### ***Publications/Presentations***

Hadler, K.W., Kohler, R., Peterson, B., de Steiguer, A.L., and Schuyler, S.A. "Cleaning and Conversion of an Existing Wastewater Forcemain for Reclaimed Water Conveyance." Paper presented at the 21st Annual WateReuse Symposium, Hollywood, CA, September 11-13, 2006.

Kraska, D.J., Booth, S.D.J., Hadler, K.W., Rovanpera, S., Kerstiens, J., and Nestlerode, F. "A Comparison of Particle Removal Efficiency in Biological and Conventional Filters." Paper presented at the American Water Works Association 1999 Water Quality Technology Conference, Tampa, FL, October 30- November 3, 1999.

Hadler, K.W., Hendrey, T.D., and Bishop, W.A. "Achieving USGA Recommended Sodium Absorption Ratios for Recycled Water Irrigation." Paper presented at the WateReuse Association of California 1999 Annual Symposium, Long Beach, CA, September 15-17, 1999.

Hadler, K.W., and Oblonsky, S. "Good, Bad and Brown: Implementing Ferric Chloride at the Santa Clara Valley District." Paper presented at the American Water Works Association 1999 Annual Conference and Exposition, Chicago, IL, June 20-24, 1999.

Hadler, K.W. "Filter Backwash Testing & Design Criteria Development." Paper presented at the Water Environment Federation/American Water Works Association Joint Residuals/Biosolids Management Technical Conference, Philadelphia, PA, August 1997.

Hadler, K.W. "Stopping the Cycle: Recycle Stream Treatment to Remove Solids and Pathogens." Paper presented at the California-Nevada American Water Works Association Spring Conference, San Jose, CA, April 9-11, 1997.