



# **Brian T. Wahlin, Ph.D., P.E., D.WRE**

## ***Office Manager, Senior Hydraulic Engineer***



### **Registration**

P.E.

Arizona No. 41980  
New Mexico No. 17131

Diplomate, Water Resources  
Engineer No. 00116

### **Education**

Ph.D. (Civil Engineering)  
Arizona State University

M.S. (Civil Engineering)  
Arizona State University

B.S. (Mechanical Engineering)  
Arizona State University

### **Professional Societies**

American Society of Civil  
Engineers, Member

U.S. Committee on Irrigation  
and Drainage, Member

### **Committee Work**

ASCE Task Committee on  
Experimental Uncertainty and  
Measurement Errors in  
Hydraulic Engineering, Chair

ASCE Task Committee on  
Recent Advances in Canal  
Automation, Chair

ASCE Committee on Irrigation  
and Drainage Systems, Past  
Chair

Dr. Wahlin is Senior Hydraulic Engineer with WEST Consultants, Inc and manages the Tempe, Arizona, Office. Dr. Wahlin has over seventeen years of experience in floodplain and hydraulic studies, flow measurement techniques and hydraulic laboratory studies. Dr. Wahlin has served as project manager for the Cave Creek from CAP Canal to Loop 101 Highway Floodplain Delineation Study in which a re-study was performed of the existing Zone AE floodplain of Cave Creek from the CAP Canal downstream to the Loop 101 Highway. Dr. Wahlin served as project manager for the Lower Hassayampa River Watercourse Master Plan Hydraulic and Floodplain Analysis. In this project, a geo-referenced hydraulic model of the lower Hassayampa study reach was developed using HEC-RAS. In addition, a re-study of the existing Zone AE floodplain for Jackrabbit Wash was conducted. He served as the project manager for the Hydraulic Analysis (1-D and 2-D) and CLOMR for US 93 Crossing of Hassayampa River and Sols Wash. In this project, hydraulic and scour analyses were conducted for the design of the US 93 Interim Wickenburg Bypass. The project was located within the Hassayampa River/Sols Wash 100-year regulatory floodplain and consisted of new bridge crossings of the Hassayampa River and Sols Wash and bank protection for the roadway embankment which parallels the Hassayampa River. Dr. Wahlin was also the project manager for the Geomorphic and Sediment Yield Analysis for the Wittmann Area Drainage Master Plan Update. The geomorphic analysis was used to aid in the delineation of floodplains in the area. He has also served as program manager for a number of work orders under an on-call contract to the New Mexico Interstate Stream Commission.

Dr. Wahlin also developed a training tool for canal operators on the Central Arizona Project (CAP). In this training tool, an unsteady hydraulic model of the CAP canal was developed and linked to a copy of the existing SCADA system used by CAP. New operators could then operator the canal via the hydraulic model in a manner similar to a flight simulator. Using this training tool, the new SCADA operators are now being trained to operate the CAP system under a much wider range of flow conditions and emergency situations without endangering the actual canal system.

Dr. Wahlin spent eleven years with the U.S. Water Conservation Laboratory in Phoenix, AZ. During this time, he was deeply involved in the U.S. Water Conservation Laboratory's pioneering research in the area of automatic control of irrigation water delivery systems. He developed a methodology to modify existing control algorithms to effectively control an entire branching canal network instead of just a single inline canal. Dr. Wahlin also has extensive experience in statistical and uncertainty analysis. He has performed an uncertainty analysis on the annual inflow and outflow volumes for the Imperial Irrigation District, the Solano County Water Agency, and the State of Illinois. Currently, Dr. Wahlin is the chair of the ASCE task committee on Experimental Uncertainty and Measurement Errors in Hydraulic Engineering.

Dr. Wahlin's experience includes numerous laboratory hydraulic studies, and his software experience includes SOBEK, CanalCAD, HEC-RAS, HEC-1, HEC-2, HEC-6, DAMBRK, FLDWAVE, WinFlume, RiverWare, FlowMaster, and CulvertMaster. He serves as a lead instructor for the basic, unsteady, and dam breach ASCE HEC-RAS courses.