

STATEMENT OF QUALIFICATIONS PAUL MARSHALL

Education

M.S. in Civil Engineering, Environmental/Water Quality and B.S. in Engineering, Environmental/Water Quality, California State University, Sacramento, California.

Professional Affiliations

Registered California Civil Engineer, Number C51016

Current Experience

Bay Delta Chief, in Department of Water Resources. Responsible for research and analysis on Delta projects, drought actions, water right efforts, state and federal endangered species act projects and studies. Oversee \$60M annual budget and 90 staff reporting to a Computer Modeling Chief and two Planning Chiefs engaged in analysis, evaluation, permitting and construction of Delta facilities. Some projects maintain low salinity for more than 700,000 acres of Delta farm land, and provide water for over 25 million people. Other projects are intended to protect salmon, steelhead, smelt, sturgeon, and split-tail fish. Planned, permitted, and managed an emergency salinity drought barrier. Implemented money saving changes to a mandatory reporting procedure, Oversaw staff development and release of a new multidimensional hydraulic model. Remodeled a fish release facility and designed two others; completed construction of a \$7 million fish science building.

Previous Experience

Assistant Division Chief, Flood Management. Orchestrated Central Valley Flood Protection Plan and associated PEIR. Regional Flood Management Planning: start up and management of several stakeholder groups with state and federal agencies to produce the Lower Sacramento River Region Flood Management Plan. Urban Level of Flood Protection Refinement to describe the levee requirements for urban levees in the Central Valley in close coordination with local flood agencies and public vetting. Indirect responsibility for 350 personnel that included the State Hydrologist, the Flood Operations Chief, the Flood Maintenance Chief, and the Flood Planning Chief collaboratively improving the Central Valley Flood Control System; including maintenance and operations. Local flood agencies are better prepared to meet legislative mandates for local land uses and flood protection improving community safety. Local agencies are now able to thoroughly express their flood protection needs to legislature and congress and receive more responsive directives. Restructured division operations to better meet the anticipated needs of the public while reducing non-essential staffing costs. Lead an environmental documentation for the Central Valley Flood Plan, launched the Regional

Flood Management Planning committee, and completed the Urban Level of Flood Protection Plan working in coordination with local flood management department.

Office Chief, Flood Risk Assessment & Mitigation. Responsible for development of the Central Valley Flood Evaluation and Delineation computer model development. Used the model in SB 1278 flood mapping for the Urban Levee Evaluation and Non-Urban Levee Evaluation Program, for geotechnical assessment of all project levees in the Central Valley, and for the FEMA Floodplain Management Programs and Grants in California. Oversees \$300M in projects and 53 staff including the Flood Modeling branch, the Geotechnical Evaluation branch, and the FEMA branch engaged in developing a two dimensional flood model for the Central Valley; and evaluating the stability of thousands of miles of levees while also conducting FEMA workshops and inspections. Provided an evaluation and rating for thousands of miles of levees giving individual municipalities valuable geotechnical information about the levees protecting them. Conducted flood modeling of all municipalities in the Central Valley in compliance with a legislative mandate. Completed development of a \$120M two dimensional flood model for the Central Valley that allowed us to identify weak points of potential failure based on geotechnical studies.

Planning & Operations Manager, Habitat Conservation & Conveyance Program/Delta Conservation Plan. Responsible for operational scenario modeling, some two dimensional near field modeling of five, 3000 cfs intake structures, and a permitting strategy for a wide array of permits for the program including US Army Corps of Engineer Permits 404 and 408, Endangered Species permits for fish and wildlife agencies. Also provided oversight of the design group for the fish facility intake. Oversight of a \$16M annual program budget and four staff consisting of a chief modeler and planning specialists developing model scenarios for the most suitable sites for intake structures. Proposed operating rules and conducted public meetings to determine local concerns as part of the mitigation purposes. Systematically pared down a long list of potential intake locations to a reasonable range of alternatives. Also collaborated with environmental groups and regulators to determine operational rules to best protect salmon and smelt while ensuring project objectives were met.

Branch & Improvement Program Chief, South Delta. Supervising and Principal Engineer at various times for the development of the South Delta Improvement Program, the associated EIR, and subsequent Incidental Take Permits. Responsible for the Temporary Barriers Program and the Low Dissolved Oxygen Aeration Facility. Lead a team of design engineers, planning engineers, environmental scientists, computer modelers through the process of initiating the program, designing four Obermeyer gates with boat locks, five miles of channel dredging, a pure oxygen aeration facility, and new operating regime. Completed the final EIR/EIS and permitting applications. Successful design and construction of the first riverside pure oxygen aeration facility; and completed all required National Marine Fishery Service studies to show efficacy and safety for fish.

Other Previous Professional Experience

Department of Water Resources, Senior Engineer; CalFed Bay Delta Program., Senior Engineer; Central Valley Regional Water Quality Control Board, Associate Regulatory Engineer; City of Sacramento, Engineering Aide.