

**Resume of
CARL R. NELSON, P.E.**

Carl is a native of Los Angeles, California and attended several Los Angeles area schools before attending and graduating from Vista High School in San Diego County. He graduated from Palomar Junior College before enlisting in the United States Air Force during the Korean War. After military service Carl resumed his education at Santa Monica City College and then matriculated at the University of California, Los Angeles (UCLA) with a Bachelor of Engineering degree. He also attended the University of Southern California (USC) where he was awarded the Master of Science in Civil Engineering. His lifelong pursuit of education includes graduate studies in Public Administration at California State University, Fullerton and the Executive Management Certificate from the University of California, Irvine.

Carl's early civil engineering experience was with the California Division of Highways Bridge Department, where as a Junior Engineer he designed a single span, composite steel girder bridge for State Highway 88 crossing the West Fork of the Carson River.

Carl's next employment was with the **Orange County Flood Control District**. Early in his flood control career Carl co-authored the comprehensive report, "A Study of Flood Control and Water Conservation Deficiencies in Orange County, California". Later he supervised the preparation of flood hazard advisory letters, the approval of developers flood channel improvement plans, and the issuance of flood control permits. He co-authored the updated flood control district Hydrology Manual. He was a member of the North Orange County Coast Coordinating Committee guiding development of Huntington Harbour as a residential marina and early efforts to restore tidal continuity with the Bolsa Chica Fish and Game Reserve. He directed preparation of the Flood Control Engineers Report for countywide bond elections in 1966 and 1967. During the 1969 floods Carl supervised the district's flood fighting operations on the Santa Ana River and Santiago Creek and, he was the district's contact with FEMA and the State Office of Emergency Services for restoration of storm damages.

Carl was the district's lead coordinator with upriver counties on preliminary engineering and environmental studies for the Corps of Engineers Santa Ana River Mainstem Project. He progressed in 1971 to the position of Assistant Chief Engineer , overseeing the district's project planning, design, construction and maintenance operations.

The Flood Control District was merged with other County departments during the formation of the County's Environmental Management Agency in 1974, and Carl was selected for the position of Director of Public Works and County Surveyor. He held this position for a period of 14 years. In this leadership role, Carl directed all of the County's Flood Control, Roads, Harbors Beaches and Parks planning, design, construction and maintenance operations. With a large capital improvement budget, his project direction included (among many others):

- * Design and construction of Santa Ana River Channel Improvements from Coast Highway to Santa Ana Canyon.
- * Incident Commander for Flood Emergency operations in 1978, 1980, 1983.
- * Lead Presenter at hearings of the California Water Commission and Congressional Sub-Committees leading to Congressional authorization for the Corps of Engineers Santa Ana River Mainstem Project, including Seven Oaks Dam, reconstruction of Prado Dam and rebuilding the entire length of the Santa Ana River Channel within Orange County.
- * San Diego Creek Early Action Plan for sediment control in Upper Newport Bay
- * Design and Construction of Weir Canyon Rd. Bridge and downstream revetment of Santa Ana River levee.
- * Santa Margarita Parkway Bridge over Arroyo Trabuco Wilderness Park.
- * Sand Canyon Ave./Bee Canyon Road extension to County's Bowerman Solid Waste Landfill
- * El Toro Road widening and realignment from Trabuco Rd. to Live Oak Canyon
- * Design and construction of Caspers Wilderness Park along San Juan Creek
- * Design and Construction of Yorba Regional Park, a reclamation of former flood plain lands adjacent the Santa Ana River in Santa Ana Canyon.

Self-employed after retirement from the County of Orange, Carl has been a consultant on the Orange County Water District's, Groundwater Replenishment System, a 13 mile long pipeline project which will deliver purified wastewater for recharge of the Santa Ana River Basin aquifers. He was also a member of the design team for the water district's two Rubber Dams for conservation of post-storm flow of the Santa Ana River by diversion to off-channel spreading grounds.

Carl has also had consulting assignments with Orange County Sanitation District on erosion protection for the Santa Ana River Interceptor Sewer in Santa Ana Canyon downstream from Prado Dam.

Additionally, Carl has had consulting assignments with private attorneys defending municipalities in liability litigation.

Carl has been active in professional and community affairs as President of the Orange County Branch of American Society of Civil Engineers (ASCE), President of the Southern California Chapter of the American Public Works Association (APWA), his church and other organizations. He has chaired the Flood Control Advisory Committee of the statewide County Engineers Association of California. In 1987 he chaired the committee established by SANDAG for study of the Least Bell's Vireo in Prado Reservoir.

Carl was selected as the American Society of Civil Engineer's 1985 Western Region Government Civil Engineer of the Year. In 1988 he was honored by the American Public Works Association as one of the nation's "Top Ten Leaders of the Year". In 2004 the Orange County Engineering Council and American Society of Civil Engineers recognized Carl with their "Prestigious Engineering Achievement Award".