



N. Michael Thomas

Staff Engineer
Oscar Larson & Associates

REGISTRATION: California Engineer-In-Training

EDUCATION: B.S. Biological Engineering, Minor Civil Infrastructure, Cornell University, Ithaca, NY, 2006

A.S. Agriculture Business Management, College of the Redwoods, Eureka, CA, 2002

INTRODUCTION:

Mr. Thomas has experience in the design of water supply systems. This includes analysis of pipelines for consumer demand and fire flow, design concept and calculations for pump stations and their housings, tank design, project cost estimating. In the course of this work, structural design of multiple foundations, industrial buildings, and tanks have been created, as well as, the analysis of others' designs. Additionally, Mr. Thomas has engaged in systems design for handling, treatment, and various disposal methods for sewage treatment biosolids.

EXPERIENCE:

Lead analyst for Spring Creek Utilities Company feasibility study regarding the incorporation of the adjacent Ruby Vista Ranch development in to the water service area. Tasks included determination of the most efficient allocation of capital to integrate 3,992 new residences, a 40% increase, and 105 acres of mixed commercial and industrial development into the existing Spring Creek Utilities system. Detailed system modeling and demand estimates were required to ascertain clear projections of system impacts and required capital investments. Report provides client with a clear conceptual framework for planning that is based on real data, detailed engineering analysis, with generalized cost estimates.

Co-author for the Integrated Resource Plan submitted to the Public Utilities Commission of Nevada on behalf of Spring Creek Utilities Company. The project consists of a master plan for the utility that must address specific water and wastewater capital planning per regulation and be approved by the state. Data collection, analysis, and presentation were accompanied by in depth examination and reconstruction of a hydraulic model of the entire water distribution system consisting of 5,420 lots over 23 square miles in two locations. As a result of months of collaboration, a report was produced that saved millions of dollars in capital costs and was accepted on schedule by the State of Nevada.

Design team member for \$350,000 booster pump station with backup generator in Spring Creek, Nevada. After evaluation of water system limitations through modeling and observation an efficient and durable booster pump station was designed using three skid mounted pumps. The pump boosts up to 1,250 gpm to two distant storage tanks at different elevations; valves connected to SCADA system are used to control flows and call pumps. Two new Goulds pumps with combined capacity of 1,250 gpm were coupled with one exiting 500 gpm pump to provide redundancy. A pre-engineered insulated steel housing was specified to protect the pumps and backup power system from the harsh desert climate. The project serves as a model for the utility to replicate for future applications thereby saving money on future designs.

Design team member to revamp a sludge drying/draining bed for Pahrump, Nevada. The proposed design was reworked saving the client \$60,000 in capital costs and adequately addressing their needs to confine the malodor associated with the dewatering of sewage sludge.

Construction observation and compliance verification has been performed on over \$6,000,000 of pipeline and tank construction in Spring Creek, Nevada. The client, Spring Creek Utilities Company, was safeguarded from liability and defective workmanship by careful documentation and verification of compliance with compaction requirements and construction materials and techniques throughout the project which covered two steel storage tanks, 1.3 million gallons and 1.0 million gallons, and four water transmission/network pipelines extending over 14 miles.