

Joshua H. Reynolds, P.E.

Education

B.S., Civil Engineering,
California Polytechnic University,
San Luis Obispo, CA

M.S., Civil and Environmental
Engineering, California
Polytechnic University, San Luis
Obispo, CA (in-process)

Professional Registrations

Professional Engineer - Civil,
California, No. C65400

QSD/QSP Certificate # 24224

Professional Affiliations

American Society of Civil
Engineers, Member

Professional Experience

Mr. Reynolds has over 13 years of experience in pipeline design, hydraulic analysis, pump station design and analysis, construction administration, city engineering, and water and sewer master planning. His experience allows him to identify and analyze initial project concepts, prepare construction documents, and monitor construction of the project through project completion.

Representative Projects

Water Pipelines, Pump Stations and Tanks

City of Big Bear Lake Department of Water and Power, 2013 Water System Improvements, Big Bear Lake, CA. Senior Project Engineer. Preparing design plans and specifications for the Angel's Camp Reservoir, a 1.0 MG welded steel potable water reservoir with a 1,500 LF paved access road and 2,750 LF of 12-inch transmission main. Preparing design plans for the Arrastre Creek Well Pumping Plant, which includes the pump station, a CMU building and site improvements. The well is being drilled concurrently under separate contract and the production capacity is anticipated to be 200 gpm. The project includes 5,600 LF of 8-inch transmission main.

Park Water Company, Amantha Waterline Replacement, Compton, CA. Senior Project Engineer. Preparing design plans for 5,600 LF 8-inch pipeline and 2,520 LF 12-inch pipeline. The new pipelines will be located in street right-of-way and will replace nearly 5,000 LF of existing water mains that are aging, leaking and difficult to access due to their location in inaccessible backyard easements.

Park Water Company, Northwood Waterline Replacement, Compton, CA. Senior Project Engineer. Prepared design plans for 4,200 LF 12-inch pipeline and 7,600 LF 8-inch pipeline. The new pipelines will be located in street right-of-way and will replace nearly 11,000 LF of existing water mains that are aging, leaking and difficult to access due to their location in inaccessible backyard easements.

City of Big Bear Lake Department of Water and Power, 2010 Water System Improvements Program, Big Bear Lake, CA. Resident Engineer. Managed the construction of 6,700 LF of 8 to 10-inch PVC pipeline, drilling of two new municipal supply wells, and equipping of two new municipal supply wells. The projects are organized into three separate construction contracts that proceeded simultaneously. Oversaw the efforts of two prime contractors and three design engineers in delivering this program.

Nipomo Community Services District, Waterline Intertie Project, Nipomo, CA. Project Engineer. Prepared plans and specifications for design of water transmission, metering, pumping, and treatment facilities to deliver supplemental water from the City of Santa Maria to the Nipomo Community Services District. Project components included design of 15,800-lf of 12-in diameter PVC transmission main; 1,150-lf of 24-in diameter ductile iron pipe main with 40-ft of cover; 5,100-lf of 18-in ductile iron pipe transmission main; 2,650-lf 30-in diameter HDD under the Santa Maria River and up onto the Nipomo Mesa; 200-lf of 36-in diameter jack and bore under the levee of the Santa Maria River; 200-lf of 28-in diameter jack and bore under Highway 101; 175-lf of 36-in diameter jack and bore under the Blosser Ditch; magnetic flow metering and flow control station; five (5) pressure reduction valve stations in Nipomo to create a new pressure zone; 500,000-gallon buried concrete reservoir; transmission pump station with four (4) 100-hp vertical turbine pumps; four (4) well head chloramination systems; and a chloramine monitoring and boosting station.

Santa Ynez Band of Chumash Indians, Casino Expansion, Santa Ynez, CA. Project Engineer. Design and preparation of construction documents for all on and off-site water and waste water facility improvements. Services included the design and preparation of construction documents for an off-site 900-lf, 8-inch diameter PVC potable water main; design and preparation of construction documents for a 5,000-lf off-site potable water main comprised of 16-in diameter welded steel pipe 12-in diameter welded steel pipe, and 12-in PVC pipe including a highway crossing and a bridge crossing. Offsite waterline extensions were designed to be owned and operated by Santa Ynez River Water Conservation District ID1.

San Miguel Community Services District, River Road Bridge Waterline Crossing, San Miguel, CA. Project Engineer. Designed and prepared construction documents for a 2,100-lf waterline crossing the 1,100-lf River Road Bridge. The pipeline is comprised of 8-inch PVC and 12-inch ductile iron pipe. The project replaced the 8-inch line crossing the old bridge, which is slated for demolition by the County, and realigned the pipeline within the approach and departure roadway to accommodate future utility expansion.

City of Pismo Beach, Hollister Avenue Upgrades, Pismo Beach, CA. Project Manager/Engineer. Prepared plans, specifications and cost opinions for 500-lf of 8-in water main as well as rehabilitation of the existing concrete pavement, and curb, gutter and sidewalk upgrades.

McDonalds Corporation, Five Cities Drive Waterline Relocation, City of Pismo Beach, CA. Project Manager/Project Engineer. Designed and prepared construction documents for a 450-lf 12-inch PVC waterline relocation. The project re-aligned and upgraded the existing 8-inch pipeline to 12-inch as recommended in the City of Pismo Beach Water Master Plan, and moved the pipeline off the proposed McDonald's site. Project included construction observation and record drawing preparation.

J.H. Land Development Co., Potable Water Booster Station and Water Storage for The Woodlands Development, Nipomo, CA. Project Engineer. Designed and prepared construction documents for a 4,500-gpm peak flow capacity potable water booster station to serve a proposed 1320-unit development. The booster station contains six pumps at build-out, four 25-hp and two 50-hp. The booster station was designed to accommodate various flow conditions associated with the phased nature of the development, and is controlled by variable frequency drives.

City of Arroyo Grande, Reservoir 1 Replacement Project, City of Arroyo Grande, CA. Project Engineer. Prepared construction documents for a 2.0 million gallon buried concrete water storage tank. Duties included preparation of site grading plans, waterline alignment and details, storm drain alignment, coordination of dry utility relocation, and construction phasing documents.

City of Paso Robles, 21st Street Reservoirs, Paso Robles, CA. Project Engineer. Prepared construction documents for 2 buried concrete reservoirs with a volume of 3 million gallons each. Responsibilities included access road design, storm drainage design, water main design, sanitary sewer design, site grading, and specification preparation.

San Miguel Community Services District, Preliminary Engineers Report for San Miguel Tank and Transmission Main, San Miguel, CA. Project Engineer. Prepared Preliminary Engineer's Report evaluating project alternatives for United States Department of Agriculture loan/grant application. The report evaluated three tank configuration alternatives including development of preliminary site design for each alternative and development of preliminary probable costs for the project. The recommended project contained two 0.6-million gallon welded steel storage tanks; approximately 1,800-lf of 16-in diameter welded steel transmission main, with a crossing under US101 Freeway; and approximately 3,600-lf of 8-in diameter PVC distribution main.

Sewer Pipelines, Lift Stations and Wastewater Treatment

City of Pismo Beach, Five Cities Lift Station Replacement, Pismo Beach, CA. Project Manager/Senior Project Engineer. Preparing plans and specifications for replacement of an existing self priming solids handling pump station. The new lift station will use two 20-hp submersible solids handling pumps in pre-rotation basins and will be rated at 625-gpm each. The project includes replacement of 2,300-lf of 8-in force main with a bridge crossing over the Pismo Creek. The project will have a new chemical feed system for dosing of ferric chloride and a control building. WSC is assisting the City with obtaining a Streambed Alteration Agreement from CA Department of Fish and Game for the creek crossing work.

City of Morro Bay, On-Call Construction Management Services, Morro Bay, CA. Resident Engineer. Performing on-call construction management services for several of the City's water and wastewater infrastructure improvement projects including upgrades to two (2) of the City's sewer lift stations, installation of new forcemain, gravity sewer rehabilitation and new water distribution pipelines.

City of San Luis Obispo, Recycled Water System Assessment, San Luis Obispo, CA. Project Manager. Performing an assessment of the City's recycled water pump station including evaluation of steady-state hydraulics, pump station controls, header and valve configuration and energy use. Developing design documents to modify system controls, reconfigure pump control valves, and add bladder-style hydropneumatic tanks.

City of Paso Robles, Sulfur Spring Rehabilitation Project, Paso Robles, CA. Project Manager/ Resident Engineer. The Sulfur Spring Rehabilitation Project included the construction of 1,300-lf of 10-in HDPE pipeline, a subsurface collection field, percolation field, 1,100-lf of 12-in HDPE installed by HDD, 800-lf of 18-in storm drain, 250-lf of 24-in casing installed by jack and bore, full depth rehabilitation of 10th Street pavement section, backfilling the parking lot sink hole, and repaving the parking lot. Acted as resident engineer during construction phase of the project, services included coordination of specialty inspections, documenting the work, managing submittals, responding to RFIs, tracking change orders, preparing monthly status reports, reviewing pay request and reviewing contractor's work for general conformance to the plans and specifications. Field conditions required realignment of the pipe to avoid contaminated soil, design of a new accessible sidewalk and ramp at Pine and 10th Street, and an expanded exfiltration trench.

City of Paso Robles, Lift Station #4 Replacement, Paso Robles, CA. Project Manager/ Resident Engineer. Prepared design documents for duplex 5-hp submersible pump lift station rated at 200-gpm. Acted as resident engineer during construction phase of the project, services included documenting the work, managing submittals, responding to RFIs, tracking change orders, reviewing pay request and reviewing contractor's work for general conformance to the plans and specifications.

City of Paso Robles, River Road Sewer Upgrade, Paso Robles, CA. Project Manager/ Resident Engineer. Acted as resident engineer for replacement of the existing sewer with a 30-inch VCP and a 36-inch PVC gravity sewer interceptor. The project was 9,300-lf with sewer depth ranging from 3-ft of cover to 15-ft of cover. As part of the project the City opted to reconstruct River Road with a full depth pavement and base repair. Services provided as resident engineer included: work observation and documentation; change order management; submittal review; contract administration; and pay request review.

City of King City, Wastewater Treatment and Collection System Evaluation, King City, CA. Project Manager/Project Engineer. Managed project to evaluate the capacity of the City's 1.2 MGD treatment pond, sprayfield system, and gravity sewer trunk mains leading to the WWTP. Performed hydraulic analysis of the existing gravity sewer trunk mains.

Templeton Community Services District, Lift Station #3 Replacement, Templeton, CA. Project Engineer. Designed and prepared construction documents for a duplex submersible sewage lift station and 800-lf 8-inch diameter sewage force main. The lift station is designed to pump an average daily flow of 190,000 GPD and is capable of pumping a peak flow of 325 GPM.

The Lakes HOA, Lift Station Evaluation. Project Manager. Prepared technical memorandum documenting the deficiencies of the existing sewage lift station, which including estimating sewage flow rates, capacities of the existing pumps, assessment of wet well condition and volume and recommending improvements to the system to meet actual system demands.

Santa Ynez Band of Chumash Indians, Casino Expansion, Santa Ynez, CA. Project Engineer. Design and preparation of construction documents for all on and off-site water and waste water facility improvements. The project included a 190,000 SF casino complex with 105-room hotel and parking structures. Project responsibilities included: analysis of the existing sewage collection system capacity to serve the casino expansion including recommendations for improvements to meet the needs of the proposed casino and hotel; design of 12-in and 8-in diameter gravity sewer pipeline improvements; design of two sewage lift stations, one a duplex grinder station, the other a solids handling duplex station capable of 600-gpm; design of a 700-lf, 4-in diameter sewer force main.

Los Robles Mobile Home Estates, Sewage Force Main and Lift Station Project, Templeton, CA. Project Manager/Project Engineer. Designed and prepared construction documents for a duplex submersible sewage lift station and 700-lf 4-inch diameter sewage force main. The lift station is designed to pump an average daily flow of 31,000 GPD and is capable of pumping a peak flow of 150 GPM. The project included obtaining construction permits from the State Department of Housing and Community Development, and construction observation and administration.

City of Arroyo Grande, Lift Station # 1 Upgrade, City of Arroyo Grande, CA. Project Engineer. Designed and prepared construction documents for a retrofitting an existing dry-pit/wet-pit sewage lift station to a duplex submersible pump sewage lift station. The new lift station contains two 60-hp submersible solids handling pumps on variable frequency drives, capable of pumping a peak flow of 740-gpm. The design included the addition of a new emergency generator, and analysis of flow data to establish the lift station design flow.

Avila Beach Community Services District, WWTP Head Works Restoration, Avila Beach, CA. Project Engineer. Designed and prepared construction documents to upgrade and restore the existing plant head works. The existing head works contained a duplex self-priming solids handling pump station that lifted all incoming sewage to the primary clarifier. The existing wet well concrete had degraded due to exposure to sewage gases and required rehabilitation, and the plant operators wanted some maceration of solids entering the plant. The solution was to reinforce the existing concrete through the addition of a spray on concrete liner with corrosion resistance properties, and replace the above grade self-priming pumps with two 7.5-hp submersible chopper pumps.

Central Contra Costa Sanitary District, South Orinda Sewer Improvements. Construction Inspector. Provided Construction Observation and Inspection services for construction of \$4.5 million dollar sewer improvement project. The sewer improvements including construction of approximately 8,000-lf of 36-in diameter reinforced concrete pipe trunk line installed by microtunneling, in addition to upgrades/repairs of surrounding sewer mains. Duties included daily construction observation; review of change orders; review of time and materials billing; and inspection of RCP joints, linings, and manholes.

City of Paso Robles, WWTP Grit Chamber Air Piping Replacement, Paso Robles, CA. Project Manager/ Project Engineer/ Resident Engineer. Prepared design documents and engineering support during construction for rehabilitation and replacement of air piping for the WWTP grit chamber.

City of Paso Robles, Bar Screen Replacement, Paso Robles, CA. Project Manager/ Project Engineer. Prepared plans and specifications for replacement of one of the existing mechanical bar screens with a continuous screen and washer, compacter, bagger unit. Work included hydraulic analysis and design of weirs to control water surface upstream and downstream of the new barscreen.

City of King City, Sludge Management Recommendations, King City, CA. Project Manager. Assisted City with developing an approach for drying and hauling sludge from treatment ponds.

City of Paso Robles, WWTP Audit, Paso Robles, CA. Project Engineer. Performed hydraulic analysis of the City's 5-mgd trickling filter wastewater treatment plant.

J.H. Land Development Co., Sewage Lift Station Design for The Woodlands Development, Nipomo, CA. Project Engineer. Designed and prepared construction documents for a triplex submersible sewage lift station with an average daily flow of 410,000-gpd and capable of pumping a peak flow of 650-gpm. The lift station contains three 30-hp solids handling submersible pumps and an emergency generator.

J.H. Land Development Co., WWTP Pump Station Design for The Woodlands Development, Nipomo, CA. Project Engineer. Designed and prepared construction documents for several pump stations for the new community's wastewater treatment plant including two simplex recirculation stations, a variable frequency drive controlled triplex intermediate lift station, and a triplex effluent pump station using vertical turbine pumps.

Water and Sewer Master Planning

Apple Valley Ranchos Water Company, North Apple Valley Water System Improvement Plan, Town of Apple Valley, CA. QA/QC Engineer. Evaluated the capability and reliability of AVRWC's Bell Mountain and Stoddard Pressure Zones in north Apple Valley, which currently have low customer demands and high fire flow requirements. Spatially allocated existing demands, performed hydraulic analysis of the existing system using AVRWC's hydraulic model in InfoWater, evaluated multiple system level alternatives for each pressure zone, including changing the HGL; and developed a CIP to improve the existing system. Recommended revised pressure zone boundaries and performed a preliminary parcel screening to identify potential tank and booster stations sites needed to serve the study area as demands increase.

City of Santa Maria, 2012 Utility Master Plan Update, Santa Maria, CA. Project Manager. Preparing a Master Plan Update to assess the capacity of the City's water and wastewater collection system, and developing a prioritized, risk-based capital improvement plan for the utilities. The plan update includes development of a new water model in InfoWater and a sewer collection system model in SewerGEMS. The models were loading using actual spatially allocated water consumption data.

Templeton Community Services District, 2012 Water System Master Plan Update. Project Engineer. Prepared updated water distribution and treatment system master plan including: updated system mapping; development of GIS dataset for the distribution system; spatially allocated water demands using customer consumption records; development of land use water demand factors; creation and calibration of a new hydraulic model; estimated build-out and future demands; hydraulic capacity evaluation; development of a 20 year CIP plan; and preparation of an Integrated Resources Plan combining master plan updates for the District's water and sewer systems.

Templeton Community Services District, 2012 Sewer System Master Plan Update. Project Engineer. Prepared updated sewer collection and treatment system master plan including: updated system mapping; development of a GIS dataset for the collection system; spatially allocated sewer flows based on customer demand data and landuse; development of land use sewer flow factors; creation and calibration of a new hydraulic model; estimated build-out and future sewer flows; hydraulic capacity evaluation; development of a 20 year CIP plan; and preparation of an Integrated Resources Plan combining master plan updates for the District's water and sewer systems.

City of Arroyo Grande 2011 Wastewater System Master Plan, Arroyo Grande, CA. Project Manager. Preparing a Master Plan to assess the capacity and condition of the City's wastewater collection system, and develop a prioritized, risk-based capital improvement plan. Developing GIS risk-based model for condition assessment as well as a hydraulic model in SewerGEMS for capacity assessment. Performed detailed site evaluation of each of the City's five (5) lift stations.

City of Arroyo Grande, 2011 Water System Master Plan, Arroyo Grande, CA. Project Manager. Developing a master plan for the City's drinking water production and distribution system. Work includes development of an updated hydraulic model using WaterGEMS software, and application of GIS datasets to conduct a risk-based condition assessment of the water distribution system to recommend prioritized improvements.

Descanso Community Water District, 2011 Comprehensive Planning Study. Project Manager. Performed a comprehensive analysis of the Descanso Community Water District's water system. Investigated and evaluated integrated treatment systems for the removal of iron, manganese and radon at the District's two production wells. Reviewed demand projections, supply availability, water quality data, and production records to develop a 20 year CIP plan for the District.

City of Guadalupe, Water Master Plan, City of Guadalupe, CA. Project Engineer. Prepared a comprehensive water master plan for the City of Guadalupe, including water modeling of the distribution system. The plan included detailed recommendations for water storage and distribution system capital improvements, and a capital improvements program to serve current and 20-year build-out needs.

City of Paso Robles, 2007 Wastewater Collection System Master Plan, Paso Robles, CA. Project Engineer/ Project Manager. The City of Paso Robles wastewater collection system has pipe ranging in size from 6 inches to 36 inches in diameter. The collection system has 16 lift stations, ranging in size from 100-gpm to 9.5 million gallons per day. Total average daily sewage flow is about 2.9 million gallons per day. Effects of inflow and infiltration were also considered. Capital improvements were recommended for the collection system and lift stations to serve projected build-out flows. The City's collection system was analyzed using SewerCAD.

J.H. Land Development Co., The Woodlands Development Sewage Collection System Master Plan, Nipomo, CA. Project Engineer. Created a sewage collection system spreadsheet model for the proposed 1320-unit development, and used the spreadsheet model to master plan the sewage collection system for the development. The collection system includes 3 drainage areas, a 650-gpm sewage lift station and 15-miles of gravity sewer pipeline. Prepared the master plan report outlining the proposed collection system to serve the upcoming development.

City of Pismo Beach, Water Master Plan, City of Pismo Beach, CA. Project Engineer. Developed and calibrated a water model for the city's water distribution system. The water system is comprised of 7 pressure zones and over 277,000-lf of pipeline. The model was used to prepare a comprehensive master plan, with detailed recommendations for zone consolidation, water storage, water supply, and distribution system capital improvements, and a CIP to serve current and 20-year build-out needs.

San Miguel Community Services District, Water and Wastewater Master Plans, San Miguel, CA. Project Engineer. Created a sewage collection system spreadsheet model of the San Miguel Community Services District collection system. Used the spreadsheet to make recommendations for improvements to the existing sewage collection system. Prepared a comprehensive water master plan for the community of San Miguel, including water modeling of the distribution system. The plan included detailed recommendations for water storage and distribution system capital improvements, and a capital improvements program to serve current and 20-year build-out needs.

City of King City, Wastewater Master Plan, King City, CA. Project Engineer/Project Manager. Prepared a comprehensive Master Plan for the City's wastewater collection system and WWTP Facility. The project included analysis of the individual WWTP pond performance, monitoring of water quality at the WWTP, SewerCAD modeling of the collection system, developing demand loading rates and project sewage flows, and preparation of a comprehensive Capital Improvements Program to meet the anticipated growth in and around the City.

State of California, Kern Valley State Prison 500 Bed Expansion. Project Engineer. Prepared preliminary design report and facilities plan for the expansion of the existing prison. Responsibilities included preliminary grading, preliminary design of water, sewer and storm drainage utilities as well as preparation of a Facilities Master Plan depicting the proposed uses and control of the facility.

City / District Engineering Services and Development Review

Heritage Ranch Community Services District, District Engineering Services, Paso Robles, CA. District Engineer. Heritage Ranch Community Services District is responsible for providing domestic water and sewer service for the community of Heritage Ranch. Responsibilities as District Engineer include plan checking of improvement plans submitted by developers; consultation for operations and maintenance of water and sewer facilities; development of standard specifications and drawings; review of proposed ordinances; updating water and sewer connection fees; existing facility condition review; and the design and construction administration of a gallery well expansion.

City of King City, City Engineering Services, King City, CA. City Engineer. King City is a growing community of 14,000 people located in the Salinas Valley. Responsibilities as City Engineer include plan checking of improvement plans submitted by developers; plan checking subdivision maps; coordinating/enforcing conditions of approval for tentative tract maps and other proposed developments; consultation for operations and maintenance of sewer collection and treatment, storm drain, and street facilities; development of standard specifications and drawings; review of proposed ordinances; and existing facility condition review and capacity assessment.

Nipomo Community Services District. Development Review, Nipomo, CA. Project Manager/ Project Engineer. Performed plan reviews for proposed developments to ensure projects are conforming to District standards; updated District Standards and Specifications; designed Hetrick Avenue waterline upgrades for a 900-lf 12-in PVC potable water line; assessed capacity of the Black Lake Water Booster Station and recommended improvements to remedy existing deficiencies.

Nipomo Community Services District, Plan Check and Inspection, Nipomo, CA. Project Manager/ Project Engineer. Responsible for reviewing development plans submitted to the District seeking permits to build public improvements for housing and commercial developments. Plans are reviewed for adherence to District Standards, comments letters are delivered and tracked. Also inspect the actual improvements when installed and prepare inspection reports for the District.

San Miguel Community Services District, District Engineering Services, San Miguel, CA. Project Engineer. Assisted District Engineer by reviewing improvement plans submitted by developers, and evaluating water and sewer system capacity to serve proposed development prior to issuing will serve letters.

Professional Endeavors

Water Systems Consulting, Inc.
February 2011 to present

Boyle / AECOM
March 2005 to February 2011

Wallace Group
February 2001 to March 2005

Fehr and Peers Associates
July 2000 to February 2001

City of San Luis Obispo
1999 and 2000