

Internship Assignments by Department - Summer 2009

| Department: | Assignment: | Description: |
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| Construction: | The Construction Department strives to provide the highest quality construction at the lowest possible cost completed ahead of schedule. Typical construction projects include water treatment plant improvements (e.g. new ozone generators and seismic upgrade to sedimentation basins), pumping plant and steel reservoir rehabilitation work, pipeline installations, and open canal improvements. | |
| | Provide construction project assistance | Support and provide assistance on current construction projects by developing change orders and preparing independent construction cost estimates |
| | Conduct field engineering quality control | Gather field data to assist in verification of change order claims and assist in quality control |
| | Review contractor material submittals, cut sheets and shop drawings | Conduct a thorough review of contractor material submittals and contract documents to ensure all required submittals are provided |
| | Develop project addendums | Assist in developing addendums for projects out to bid and responses to contractors Request for Information (RFI) |
| | Develop cost estimating database | Develop a new comprehensive cost estimating database utilizing past change orders and consolidating several existing spreadsheets |
| | Assist with claims management | Document pre and post construction site conditions for claims management with photos, video, and inspection reports |
| | Perform field assignments related to the Alternative Intake Pipeline Project (project includes a new intake and pump station, 2 miles of 72-inch pipeline, and a tunnel under Old River. www.ccwater.com/aip.asp) | Augment the project team at the construction site and perform tasks including: <ul style="list-style-type: none"> • Construction observation/documentation • Verifying compliance with specifications • Reviewing contractor submittals & schedules • Downloading geotechnical instrumentation • Compiling instrumentation data • Special projects/assignments as they arise |

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| Delta Projects: | The Delta Projects Department manages CALFED-funded projects for the District, including the Los Vaqueros Reservoir Expansion Project. An Environmental Impact Report and Feasibility Studies are currently being developed for the expansion project. | |
| | Collect field data | Tasks may include water quality sampling and biological monitoring in Los Vaqueros Reservoir and the Delta. These tasks may involve working on boats. |
| | Perform data analysis | Support ongoing data analysis related to Delta water resources, including water quality, hydrodynamic, or fishery data. |
| | Provide technical project support | Tasks may include technical support for environmental or engineering feasibility studies, and working with the Water Resources Department to perform modeling analyses. |
| Engineering: | The Engineering Department provides services and technical support to the wide variety of District projects and activities. Typical projects include design of capital improvement projects (pipelines, pump stations, energy recovery projects, canal improvements, etc.), evaluations of existing facilities and technical support for dam performance monitoring. | |
| | Conduct assignments related to the Los Vaqueros Energy Recovery Project | Provide assistance in managing the design and construction of a 1 Mega-watt hydroelectric generation project, which takes advantage of excess hydraulic head in one of the District's critical water supply pipelines. |
| | Perform Hydraulic Modeling assignments | Review the hydraulic model of one of the District's critical water supply pipelines, assess the historic performance compared to expected performance and identify potential causes and remedies for deficiencies. Using H2ONet, run hydraulic models to confirm fire flows and sufficient service pressures for new and existing customers. Completion of coursework in hydraulics and proficiency in using spreadsheets programs is required. |

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| | Project Management – Review Budget and Schedule Milestones | Provide Project Management assistance by tracking project budgets and progress for in-house projects and consultant efforts. Develop projections to determine whether projects are tracking on schedule and on budget. |
| | Assist with monitoring dam performance | Assist with the development of dam performance based on field measurements and electronic tracking of foundation pressures and other dam instrumentation readings. Draft summary dam performance reports. |
| | Review design and construction submittals | Review design drawings and specifications, compile review comments and review construction submittals for consistency with design drawings and specifications and overall acceptability based on the design intent. |
| | Develop a construction cost database | Develop a database of construction bid prices to help the District develop accurate construction cost estimates. |
| Planning: | The Planning Department conducts Master Plans to identify future capital projects, Preliminary Engineering Studies to address immediate system improvements and Special Studies to develop and implement new projects such as alternative energy facilities and regional water treatment projects. Typical Department responsibilities include performing hydraulic modeling analyses and completing environmental documentation reviews. | |
| | Conduct Asset Management projects using the new Geographic Information System (GIS) | Develop a GIS-based tracking system for pipeline breaks. Proficiency in using spreadsheet, word processing and database programs is required. |
| | Perform Hydraulic Modeling assignments | Develop a new hydraulic model using GIS. Utilize the new model to develop documentation, templates and protocols for further analyses. Coursework in computer modeling software or programming is desirable. |

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| | Provide engineering support on the Regional Desalination Project | Assist with running the pilot plant, analyzing test results, and coordinating with consultants and engineers from partner agencies. This assignment requires field work. More information on this project can be found at www.regionaldesal.com . |
| | Develop Energy Management projects | Assist in the analysis and implementation of energy generation or use projects. Examples include hydropower, pump motor replacements, and software projects. |
| Water Resources: | The Water Resources Department supports the District's operations by performing real-time and future forecasting analysis of California hydrologic conditions and resulting effects on water resources, with a focus on the Sacramento-San Joaquin Delta, which is the District's source of water supply. Additionally this Department supports planning studies for future District projects, involving development and analysis of numerical modeling studies of California water operations and Delta hydrodynamics, and analysis of water supply, water quality, and fishery issues. | |
| | Conduct or assist with data analysis | Conduct independent analysis or support ongoing analysis of data related to Delta water resources, including water quality, hydrodynamic, or fishery data. |
| | Develop improvements to operations and water quality modeling tools | Tasks may include running comparative model studies, evaluating results, testing and improving model calibration. |
| | Assist in the preparation of technical documents or publications | Perform research and analysis to support document preparation. Documents may include Environmental Impact Reports, Feasibility Studies, or technical publications. |

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| Water Treatment/ Water Quality | The Water Treatment and Water Quality Divisions control the water treatment operations at three treatment plants, as well as monitoring and reporting the water quality of (1) untreated water, which consists of several water sources, (2) water as it is treated through the treatment plants, and (3) treated water in the distribution system including reservoirs, pump stations and pipelines. | |
| | Conduct daily water treatment operations tasks | Perform tasks including bench scale performance testing (jar testing), process data organization and review. Knowledge of water treatment processes is desirable. |
| | Conduct daily water quality tasks | Perform tasks including general chemical laboratory skills and participation in more detailed microbiology, inorganic, and organic analyses. General laboratory experience is desirable. |
| | Assist with bromate formation study | Organize and evaluate data obtained during a bromate formation study at one of the District's treatment facilities. Proficiency in spreadsheet programs and experience in data compilation and statistical analysis is required. |
| | Assist with filtration rate study | Organize and evaluate data obtained during a recent study to increase the filtration rate at one of the District's treatment facilities. Proficiency in spreadsheet programs and experience in data compilation and statistical analysis is required. |
| | Assist with heterotrophic plate count study | Organize and evaluate biological growth data obtained during an ongoing study. Proficiency in spreadsheet programs and experience in data compilation and statistical analysis is required. |