



ASSISTANT ENGINEER
ASSOCIATE ENGINEER
Professional/Supervisory Employee – Exempt

DEFINITION

To perform professional engineering work in the planning, design, construction and operation of water systems, facilities, and related projects.

DISTINGUISHING CHARACTERISTICS

Assistant Engineer - This is the entry level class in the Engineering series. This class is distinguished from the journey level by the performance of the more routine tasks and duties assigned to positions within this series. Employees at this level are not expected to perform with the same independence of direction and judgment on matters allocated to the journey level. Since this class is typically used as a training class, employees may have only limited or no directly related professional work experience. Employees work under general supervision while learning job tasks.

Associate Engineer - This is the full journey level class within the Engineering series. This class is distinguished from the Assistant Engineer by the assignment of the full range of professional duties and the employees acquisition of a Principal Engineer license. Employees at this level receive only occasional instruction or assistance as new or unusual situations arise and are fully aware of the operating procedures and policies within the work unit. Movement to this level is contingent on meeting performance standards established by the District and the resource management needs of the organization. Advancement from the entry level to the journey level is in accordance with District policies and procedures.

This class is distinguished from the Senior Engineer in that the latter performs engineering activities requiring a high level of skill and independent judgment and exercises direct supervision over assigned professional engineering staff.

SUPERVISION RECEIVED AND EXERCISED

Assistant Engineer

Receives general supervision from supervisory personnel, and technical or functional supervision for higher level professional engineers.

Associate Engineer

Receives direction from supervisory or management personnel.

Exercises technical and functional supervision over professional and technical staff, and may exercise direct supervision over technical staff.

EXAMPLES OF DUTIES - Duties may include, but are not limited to, the following:

Participate and/or oversee the preparation of plans and specifications for the construction of water system facilities and related public works projects, including constructability analysis.

Research and develop project design requirements, including design review; perform complex calculations and prepare estimates of time and material costs; and ensure compliance with District regulations and requirements.

Develop revised design and construction standards for water system facilities, structures and appurtenances; prepare estimates and feasibility reports for new, relocated or replacement services and structures.

Review and process necessary permits, right-of-way agreements and other instruments related to use of District property or right-of-way, or of other public lands and right-of-way that are the District's responsibility.

Participate in the plan check, review and processing of plans for private development affecting water system facilities; and ensure compliance with District requirements.

Review, analyze, and/or participate in the preparation of environmental documents; and confer with appropriate District planning staff.

Assign routing investigation, design and drafting tasks to technical support section; review completed work; and assist in the solution of difficult problems.

Administer various consulting contracts, including preparation of requests for qualifications/proposals; perform project management activities; administer contracts for construction projects; perform field inspections of various water system engineering projects and perform field survey work as necessary.

Perform facilities planning studies including reviewing land use planning activities relative to forecasting future water demands and long-term water facility needs; identify near-term and projected long-term impacts on District water facilities; and prepare alternatives and recommendations relative to system improvements.

Provide engineering support to water operations staff relative to water quality issues; prepare and update operating procedures for treatment facilities and prepare various technical reports; evaluate treatment plant performance and distribution system water quality; assist in ensuring compliance with water quality regulations; evaluate impact of new and pending legislation and regulations on treatment facilities; prepare recommendations regarding design and start-up of modified and new facilities.

Prepare special designs, plans, studies, and reports specific to area of assignment, including alternative, feasibility, and economic studies; compile engineering project data and cost estimates; prepare RFP's and RFP's to hire consultants and outside contractors to perform services for District projects; prepare staff

reports; coordinate water system planning, design, and construction activities with other departments; prepare correspondence; and establish and maintain appropriate records and files.

Coordinate activities of area of assignment with other divisions and sections and with outside agencies, including representing the District in a variety of public forums; provide technical support as appropriate to other divisions and sections within the District.

Train and lead subordinate staff as assigned.

Assist in preparation of the Capital Improvement Plan and budget.

Research publications and information sources relative to area of assignment; maintain up-to-date knowledge of current technical, policy, and legislative issues affecting area of assignment.

May approve designs, drawings and reports.

Build and maintain positive working relationships with co-workers, other District employees and the public using principles of good customer service.

Perform related duties as assigned.

MINIMUM QUALIFICATIONS

Assistant Engineer

Knowledge of:

Principles and practices of civil engineering as applied to water systems and facilities, public works, or related construction projects.

Principles and practices of environmental impact assessment and related regulatory processes.

Principles and practices of safety management

Methods, materials, and techniques used in the construction of water systems and facilities.

Basic surveying, drafting, computer-aided design techniques and technology.

Current developments and trends regarding civil engineering.

Applicable laws and regulatory codes relative to areas of assigned responsibility.

Report preparation and writing.

Computer software applications including wordprocessing, spreadsheets, graphics, databases and project scheduling and management.

English usage, spelling, punctuation and grammar.

Modern office procedures, methods, and computer equipment.

Ability to:

Perform professional engineering work.

On a continuous basis, know and understand all aspects of the job; intermittently analyze work papers, reports and special projects; identify and interpret technical and numerical information; observe and problem solve operation and technical policy and procedures; and explain regulations and procedures to contractors, developers, the general public, representatives of other public agencies, and other District staff.

On a continuous basis, sit at desk for long periods of time; intermittently bend, squat, climb, kneel and twist while performing field work; intermittently reach equipment surrounding desk; perform simple grasping and fine manipulation; use telephone, and write or use a keyboard to communicate through written means; and lift or carry weight of 30 pounds or less.

Prepare engineering computations.

Prepare and check engineering plans and specifications; and prepare and check engineering reports and studies.

Interpret and explain District regulations and engineering policies and procedures.

Use and care for engineering and surveying instruments and computer equipment; use a calculator, and photocopier machine.

Work with various cultural and ethnic groups in a tactful and effective manner.

Obtain information through interview and to deal firmly and courteously with the public.

Communicate clearly and concisely, both orally and in writing.

Prepare clear, complete, accurate, timely and concise written correspondence and reports.
Establish and maintain effective working relationships with those contacted in the course of work.

Experience and Training

Any combination of experience and training that would provide the required knowledge and abilities is qualifying. A typical way to obtain the required knowledge and abilities would be:

Experience:

Two years of responsible professional civil engineering experience performing duties similar to a Junior Engineer with the Contra Costa Water District.

Training:

Equivalent to a Bachelor's degree from an accredited college or university with major course work in civil engineering or a related field.

License or Certificate:

Possession of a California Engineer-in-Training (EIT) Certificate.

Possession of, or ability to obtain a valid California driver's license.

MINIMUM QUALIFICATIONS

Associate Engineer

In addition to the qualifications for Assistant Engineer:

Knowledge of:

Applicable District rules and regulations pertaining to area of assignment.

Budgeting techniques and project management.

Principles and practices of safety management

When assigned to design and construction: methods, materials, and techniques used in the construction of water systems and facilities.

When assigned to water planning: demand forecasting methods and relationship between land use planning and water utility demands; principles of economics, land use planning, and environmental science; and open-channel and closed circuit hydraulics to determine capacity with existing facilities and to properly size future facilities.

When assigned to water operations: principles and practices of water treatment, treatment facility design and operation.

Ability to:

Perform complex engineering work requiring a high level of independent judgement.

Prepare complex engineering computations and check, design, and oversee the preparation of various engineering plans and studies.

Train, assign, review, and evaluate subordinate personnel as assigned.

Prepare accurate estimates of costs, schedules, personnel resources, and perform other similar activities related to project management; perform project management responsibilities.

Gather, analyze, and interpret a variety of complex, technical data.

Prepare concise, understandable, and cogent reports, studies, and other written materials and documents, including requests for qualifications/proposals.

Experience and Training

Any combination of experience and training that would provide the required knowledge and abilities is qualifying. A typical way to obtain the required knowledge and abilities would be:

Experience:

Two years of responsible civil engineering experience performing duties similar to an Assistant Engineer with the Contra Costa Water District.

Training:

Equivalent to a Bachelor's degree from an accredited college or university with major course work in civil engineering or a related field.

License or Certificate:

Possession of a Certificate of Registration as a Civil Engineer in the State of California.

Possession of, or ability to obtain, a valid California driver's license.

Adopted: 04/30/82

Retitled:

Revised: 04/11/94

Revised: 09/20/04

Approved: _____ Human Resources and Risk Manager