



Marina Coast Water District

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ENGINEERING JOB FAMILY (ASSISTANT ENGINEER, ASSOCIATE ENGINEER, & SENIOR ENGINEER)

DEFINITION

Under direction (Assistant Engineer) to general direction (Associate Engineer and Senior Engineer), performs professional-level civil engineering work in the planning, hydraulic modeling, design, and construction of water, wastewater, recycled water and capital infrastructure improvement, maintenance and construction projects; reviews a diverse range of engineering plans, specifications, calculations studies, reports, and related documents; develops project budgets, engineer's estimates, construction schedules, technical specifications, and special conditions as well as engineering reports, plans, and studies; conducts site visits to monitor construction project progress; serves as project manager for complex engineering projects, as assigned; oversees the work of other engineers on smaller projects, as assigned; oversees contracted services, development project reviews, testing and inspections, as assigned; provides complex staff assistance to the District Engineer in areas of expertise; and performs related duties as assigned.

SUPERVISION RECEIVED AND EXERCISED

Assistant Engineer: Receives direction from assigned supervisory or management personnel. Exercises no direct supervision over staff.

Associate Engineer: Receives general direction from assigned supervisory or management personnel. Exercises no direct supervision over staff.

Senior Engineer: Receives general direction from assigned supervisory or management personnel. Exercises technical and functional direction over and provides training to lower-level staff.

CLASS CHARACTERISTICS

Assistant Engineer: This is the entry-level, non-registered classification in the professional Engineer series. Initially under close supervision, incumbents learn and perform routine tasks in the field of civil engineering. As experience is gained, assignments become more varied, complex, and difficult; close supervision and frequent review of work lessen as an incumbent demonstrates skill to perform the work independently. Positions at this level usually perform most of the duties required of the positions at the Associate Engineer level but are not expected to function at the same skill level and usually exercise less independent discretion and judgment in matters related to work procedures and methods. Work is usually supervised while in progress and fits an established structure or pattern. Exceptions or changes in procedures are explained in detail as they arise.

This class is distinguished from the Associate Engineer in that the latter is the first registered level within the Engineering series, performing the more complex registered level engineering work.

Associate Engineer: This is the journey-level classification in the registered professional Engineer series. Positions at this level are distinguished from the Assistant Engineer level by the performance of the full range of duties as assigned, working independently, and exercising judgment and initiative. Positions 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 of the work unit. This class is distinguished from the Senior Engineer in that the latter performs the more complex work assigned to the series, such as serving as project manager for complex engineering projects and providing complex staff assistance to the District Engineer and provides technical and functional direction over lower-level staff.

Senior Engineer: This is the advanced journey-level classification in the registered professional Engineering series responsible for performing the most complex work assigned to the series. Incumbents regularly work on tasks that are varied and complex requiring considerable discretion and independent judgment. Positions in the classification rely on experience and judgment to plan, organize, review, and personally perform professional engineering work, as well as provide professional-level support to assigned management staff in a variety of areas of expertise. Assignments are given with general guidelines and incumbents are responsible for establishing objectives, timelines, and methods to deliver services/complete assignments. Work is typically reviewed upon completion for soundness, appropriateness, and conformity to policy and requirements. Provides oversight and supervisory support to staff on projects and day-to-day activities. This class is distinguished from the District Engineer in that the latter is the highest-level class in the professional engineering series with managerial responsibility for all functions and activities of the District's Engineering Department.

EXAMPLES OF DUTIES (Illustrative Only)

Management reserves the right to add, modify, change or rescind the work assignments of different positions and to make reasonable accommodations so that qualified employees can perform the essential functions of the job.

Positions at the Assistant Engineer level may perform some of these duties and responsibilities in a learning capacity.

- Performs a variety of professional-level civil engineering work in the planning, hydraulic modeling, design, and construction of water, wastewater, and capital infrastructure improvement, maintenance and construction projects.
- Prepares letter correspondence, Board letters and related documents or exhibits; prepares presentations and graphic displays for project stakeholders.
- Prepares engineering plans, specifications, and cost estimates for capital improvement projects; troubleshoots design problems; assists with environmental reviews as assigned.
- Reviews engineering reports, plans, and specifications prepared by engineering consultants or developers; makes engineering calculations including quantity take-offs and initial cost estimates for construction; participates in the review of submittals and vendor drawings for conformance with design requirements.
- Performs project engineer tasks on various development projects or planning studies; serves as point of contact among project stakeholders including District staff, consultants, contractors, and external agencies; establishes project scope of work including schedules and cost estimates; coordinates project meetings and presentations; responds to requests for information; reviews proposed change orders; requests necessary permits; ensures compliance with regulatory requirements and interagency agreements; discusses status of projects and solutions with supervisor or higher-level staff; evaluates and recommends solutions to problems.

- Utilizes District hydraulic models to simulate and analyze the water and wastewater, systems, and hydraulic/hydrologic or various types of engineering calculations such as simple structural design, water pressure, sewer capacity, mass balance, material take-offs, water resources, basic electricity, elementary survey, and other pertinent models.
- Conducts a review of project alternatives considering financial, operational, maintenance, property/right-of-way, and constructability factors; conducts computer analysis and hydraulic modeling and evaluates results to determine project specific facility requirements and parameters.
- Participates in the Request for Proposals (RFP) process for assigned projects; prepares supporting documentation and engineer's estimates; coordinates pre-bid meetings; ensures clear communication on project among bidders and the District; assists in establishing selection criteria; reviews proposals based on technical merit and cost and provides recommendations; assists in contract negotiations; reviews contract documents and agreements and provides feedback/comments; prepares a variety of documentation such as purchase orders and tasks orders; reviews invoices and recommends action.
- Monitors and provides engineering support for construction work in progress, including field investigations, to ensure compliance with approved plans, specifications, and standards.
- Performs data analysis and map editing.
- Applies and administers grants to fund water/wastewater or recycled water activities.
- Coordinates fire flow testing program; assembles and reviews data and statistics relative to these tests.
- Monitors and provides engineering support for construction work in progress, including field investigations, to ensure compliance with approved plans, specifications, and standards.
- Provides technical support in answering design questions for walk-in customers, phone calls, emails, and other District departments and staff.
- Tracks project milestones and monitors project budgets utilizing project-scheduling software.
- Develops and maintains various databases and computer files and uses engineering software or develops programs to solve specific engineering questions.
- Reviews statutes and regulations; interprets and applies the regulations with respect to District compliance; develops compliance strategies for meeting regulations and analyzes proposed regulations.
- Observes and complies with all District and mandated safety rules, regulations, and protocols.
- Performs related duties as assigned.

In addition to duties listed above, when assigned as Senior Engineer:

- Monitors the activities of the work unit; recommends improvements and modifications and prepares reports on activities and projects; recommends and assists in the implementation of goals and objectives; implements policies and procedures.
- Participates and assists with development of water/wastewater master plans, the urban water management plan, and water supply assessments; ensures the District's compliance with federal, state and local regulations and prepares and submits major water resources regulatory reports.
- Oversees the development of consultant requests for proposal for professional and/or construction services and the advertising and bid processes; evaluates proposals and recommends project award; negotiates and administers contracts after award; ensures contractor compliance with District standards and specifications, time and budget estimates; analyzes and resolves complex problems that may arise; recommends and approves field changes as required.
- Conducts land development planning activities; provides oversight and input into conceptual designs of development projects; investigates and resolves problems with scope of work or cost issues; ensures that projects are completed on time and within budget.

- Conducts a variety of organizational studies, investigations, and operational studies; assists in developing policies and procedures such as procedure guidelines, design standards, and standard plans and specifications.
- Analyzes engineering plan design, specifications, and consultant and staff comments in accordance with design requirements and District and intergovernmental standards and regulations; recommends approval or additional engineering conditions and changes.
- Negotiates infrastructure agreements, easements, quitclaims, right-of-entry agreements and other documents and contracts.
- Performs intake and management of cost-to-connect payments and new accounts.
- Participates in the development of water supply assessments, the Urban Water Management Plan, and other master plans.
- Reviews customer provided as-built, property and easement documents, engineer's estimates, warranty bonds, and bills of sale, including the transfer ownership of infrastructure from the developer to the District; reviews for sufficiency and recommends to appropriate organization the acceptance of easements and other required legal land-related documents.
- Determines and recommends staffing needs for assigned activities and projects; prepares detailed cost estimates with appropriate justifications.
- Develops and reviews staff reports related to engineering activities and services; presents information to the Board of Directors and various commissions, committees, and boards; performs a variety of public relations and outreach work related to assigned activities.
- Serves as a liaison for assigned functional areas with other District departments, divisions, and outside agencies; attends meeting, as assigned; participates on a variety of boards, commissions, committees, and task forces; attends and participates in professional groups; stays abreast of new trends and innovations in the Engineering field.

QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill and/or ability required. Reasonable accommodation may be made to assist individuals with disabilities to perform the essential functions.

Knowledge of:

Positions at the Assistant Engineer level may possess some of these knowledge and abilities statements in a learning capacity.

- Principles of providing functional direction and training (Senior Engineer).
- Planning, design, cost estimating, construction, installation, and inspection of a wide variety of water, recycled water and wastewater developments (Senior Engineer).
- Principles and practices of contract management (Senior Engineer).
- Theory, principles, and practices of civil engineering design and construction.
- Principles and modern techniques and equipment used in the design, construction, and maintenance of water and wastewater utilities projects.
- Hydraulic system analysis applicable to civil engineering including hydraulic calculations.
- Physical design, economic, environmental, and/or social concepts that impact the planning design, procurement, and construction processes.
- Public utility governance, oversight, regulations, and land development and zoning requirements.
- Principles and practices of project management including the management of resources and budgets.
- Principles and practices of cost estimation and contract administration.
- Methods, materials, and techniques used in the construction of public utilities projects.

- Concepts of physics as they relate to civil engineering.
- Advanced mathematic principles.
- Plan check review procedures for new developments.
- Construction methods, materials, specifications and codes.
- Principles and practices of technical report and business correspondence preparation.
- Research principles and practices.
- Record keeping principles and procedures.
- Recent and on-going developments, current literature, and sources of information related to the operations of the assigned functional area.
- Applicable federal, state, and local laws, codes, and regulations as well as industry standards and best practices pertinent to the assigned area of responsibility.
- District and mandated safety rules, regulations, and protocols.
- Techniques for providing a high level of customer service, by effectively dealing with the public, vendors, contractors, and District staff.
- The structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar.
- Modern equipment and communication tools used for business functions and program, project, and task coordination, including computers and software programs relevant to work performed.

Ability to:

- Assist in developing and implementing goals, objectives, practices, policies, procedures, and work standards (Senior Engineer).
- Conduct complex research projects, evaluate alternatives, make sound recommendations, and prepare effective technical staff reports (Senior Engineer).
- Analyze, interpret, summarize and present administrative and technical information and data in an effective manner.
- Research, analyze, and evaluate new service delivery methods, procedures, and techniques (Senior Engineer).
- Serve as project manager as assigned; manage and monitor complex projects on time and within budget.
- Prepare and present engineering calculations, data analysis, modeling, and other complex engineering plans, specifications, and legal contracts.
- Prepare and evaluate engineering studies of large projects; research, analyze, and summarize data; perform accurate engineering calculations and cost estimates.
- Interpret and explain design criteria, policies, ordinances, and procedures.
- Review and assess studies or reports prepared by consultants and utilize information for project completion.
- Evaluate potential construction and operational risks, materials and project costs, and provide recommendations for mitigation measures.
- Prepare clear, concise, and accurate technical reports, drawings, maps, notes, correspondence, and other written materials.
- Research and analyze complex engineering and mathematical problems, evaluate alternatives, and recommend effective courses of action.
- Establish and maintain a variety of filing, record keeping, and tracking systems (Senior Engineer).
- Understand, interpret, and apply all pertinent laws, codes, regulations, policies and procedures, and standards relevant to work performed.
- Effectively represent the department and the Agency in meetings with governmental agencies; community groups; various business, professional, and regulatory organizations; and in meetings with individuals.

- Use tact, initiative, prudence, and independent judgment within general policy and procedural guidelines.
- Independently organize work, set priorities, meet critical deadlines, and follow-up on assignments.
- Communicate clearly and concisely, both orally and in writing, using appropriate English grammar and syntax.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.
- Effectively use computer systems, software applications relevant to work performed, and modern business equipment to perform a variety of work tasks.

Education and Experience:

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

Education:

- Bachelor's degree from an Accreditation Board for Engineering and Technology (ABET) accredited college or university with major coursework in civil engineering or a related engineering field.

Experience:

- Assistant Engineer: Professional engineering or related field/planning (including internship) experience preferably in a public utility environment desired.
- Associate Engineer: Four (4) years of increasingly responsible professional and varied engineering experience involving the design and construction of a variety of Water/Wastewater system facilities and projects, preferably in a public utility environment.
- Senior Engineer: Seven (7) years of increasingly responsible professional and varied engineering experience involving the design and construction of a variety of Water/Wastewater system facilities and projects, preferably in a public utility environment.

Licenses or Certifications:

Valid California class C driver's license with satisfactory driving record. (Assistant and Associate Engineer)

Assistant Engineer: Possession of an Engineer-in-Training (EIT) certificate, or acquired within 12 months from the date of hire.

Associate Engineer or Senior Engineer: Possession of a valid license as a Professional Engineer in Civil Engineering issued by the State of California.

PHYSICAL DEMANDS

When assigned to an office environment, must possess mobility to work in a standard office setting and use standard office equipment, including a computer; vision to read printed materials and a computer screen; and hearing and speech to communicate in person and over the telephone; ability to stand and walk between work areas may be required. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator and to operate standard office equipment. Positions in this classification occasionally bend, stoop, kneel, reach, push, and pull drawers open and closed to retrieve and file information.

When assigned to field inspection, must possess mobility to work in changing site conditions; possess the strength, stamina, and mobility to perform light to medium physical work; to sit, stand, and walk on level, uneven, or slippery surfaces; to reach, twist, turn, kneel, and bend, to climb and descend ladders; and to operate a motor vehicle and visit various District sites; vision to inspect site conditions and work in progress. The job involves fieldwork requiring frequent walking in operational areas to identify problems or hazards, with exposure to hazardous materials in some site locations. Employees must possess the ability to lift, carry, push, and pull materials and objects averaging a weight of 40 pounds, or heavier weights, in all cases with the use of proper equipment and/or assistance from other staff.

ENVIRONMENTAL CONDITIONS

Employees work in an office environment with moderate noise levels, controlled temperature conditions, and no direct exposure to hazardous physical substances. Employees also work in the field and are exposed to loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, vibration, confining workspace, chemicals, mechanical and/or electrical hazards, and hazardous physical substances and fumes. Employees may interact with upset staff and/or public and private representatives in interpreting and enforcing departmental policies and procedures.

FLSA: Assistant Engineer-Non-exempt, eligible for overtime
Associate Engineer, Senior Engineer-Exempt, not eligible for overtime

Bargaining Units: Assistant Engineer: MCWD Employees Association
Associate Engineer and Senior Engineer: Teamsters Local 856