

PRINCIPAL ENGINEER

DEFINITION

Under the general direction of the Municipal Utility Director; the Principal Engineer plans, organizes, directs and coordinates the work related to the planning, design, construction, and operation of municipal water and wastewater utility systems, and design and construction; represents the City before official bodies, regulatory agencies, subcontractors and the general public; and performs related duties as required.. The Principal Engineer must work closely with the Water & Wastewater Operations Superintendent in a combined effort to operate the City's water and wastewater facilities in a cost effective and responsible manner. The incumbent may serve as the Utility Director in his/her absence and will represent the Department at various meetings and events.

CLASS CHARACTERISTICS

Incumbents in this class exercise considerable discretion and independent judgment in the coordination and prioritization of projects including planning, design, contract administration, operation, and maintenance of mechanical, electrical and control systems for water and wastewater facilities. Incumbents spend a significant percentage of their time in the management of work performed by consultants as well as in providing professional engineering expertise in the more complex assignments. This class differs from Municipal Utilities Director which has overall management responsibility for the entire Water, Wastewater, and Electric department functions, programs, and funding.

SUPERVISION RECEIVED AND EXERCISED

General direction is provided by the Utility Director; responsibilities include direct and indirect supervision of other management, technical, maintenance, and clerical staff as assigned.

EXAMPLES OF DUTIES

Essential:

- Maintain up-to-date knowledge of complex state and federal laws and regulations pertaining to water, wastewater and recycled water utilities and industrial waste/pretreatment programs and make procedural changes necessary to keep the division in compliance. Anticipates the impacts of new or pending regulations on City facilities and operations.
- Performs a variety of advanced technical and professional engineering tasks using sound engineering judgment, including project planning, analysis, design, construction management, contract administration; special studies and report preparation for various utility construction projects.
- Provide guidance to division foremen and supervisors on all administrative, budget, personnel, and policy matters;
- Selects, supervises, reviews, and evaluates the work of staff and provides for their training in work procedures and safety practices. Ensures adherence to applicable laws, codes, regulations, and guidelines related to work standards and workplace safety. Recommends personnel actions including disciplinary, promotional and new appointments as necessary.
- Coordinates, administers and manages outside consultant contracts, including requests for qualifications/requests for proposals (RFQ/RFP), interviewing consultants, reviewing and evaluating proposals, writing contracts and issuing notices to proceed, and managing the work of the consultants.
- Serves as construction manager for various construction projects, oversees preparation of bid documents, oversees contractor performance and compliance with project plans and specifications; coordinates, schedules and oversees specialty inspections; reviews and approves payment requests,

and reviews technical submittals. Oversees the preparation of project documents including project justifications, budget analyses, preliminary cost estimates, and schedule.

- Direct and participate in the preparation of technical, operational, and administrative reports and recommendations to the Department Head. Prepares staff reports and presents these materials to the City Council for their action. Develops compliance strategies with recommendations to Department Head and/or City Council.
- Review, develop, recommend, and implement the goals, objectives, policies, procedures and work standards of the operation and maintenance of the water system production, treatment, and distribution, sanitary sewer collection system, and wastewater treatment and reclamation systems.
- Coordinate technical, administrative, and public relations activities of assigned divisions with other City departments and with outside agencies. Responds to public concerns and complaints; ensures that responses are prompt, courteous, and appropriate.
- Prepares reports, analyses, and estimates for new or modified services and facilities, as well as long-range maintenance and capital improvement needs. Justifies and recommends specific proposals and projects. Participates in the preparation of the Capital Improvement Plan and budget of the utility. Prepares the budget recommendations for water and wastewater including projecting project costs, staffing needs and anticipated expenditures by fiscal year with detailed breakdowns and justification as appropriate.

Important:

- Prepares, submits, and maintains records for State and Federal reporting.
- Assists in and/or manages the preparation of documents for compliance with the California Environmental Quality Act (CEQA), including Environmental Impact Reports, for various capital improvement and maintenance projects.
- Attends, as required, day, evening, local, and out-of-town public meetings, hearings, and workshops in representation of the Water and Wastewater Departments.
- Uses complex engineering computer applications to solve a variety of engineering-related problems, as well as common word-processing, spreadsheet applications, GIS, and system modeling tools.
- Uses standard office equipment including a computer in the course of the work. Drives a motor vehicle to attend meetings and inspect work sites in the performance of assigned duties.

QUALIFICATIONS

Knowledge of:

- The principles, practices and techniques of civil engineering; statistics and advanced mathematics including algebra and analytic geometry; topographic and construction surveying, stress analysis, analytical mechanics and the strength, properties and uses of construction materials, common methods and equipment utilized in engineering construction and of inspection methods used in reviewing such work; real property descriptions.;
- Principles and practice of economics, finance, and civil engineering as to planning, design, construction, operation, and maintenance of municipal utility;
- Modern principles, practices, and techniques of public administration and organization; municipal finance and budget systems;

- Management and leadership styles and techniques designed to train, supervise, motivate and lead a group of employees, which includes understanding employee behavior and performance standards; interviewing techniques; public speaking principles and practices and public relation styles and techniques; CEQA; and the fundamentals of specification writing;
- Applicable federal, state, and local laws, rules, and regulations pertaining to the operations of municipal government;
- Applicable laws, regulations, and prohibitions for potable water, wastewater, reclaimed water utility service activities and traffic operations;
- Common public works construction methods, materials and practices, including construction safety methods;
- California Public Contract Code and construction management and administration;
- City engineering policies, standards and procedures;
- Computer software applications related to report generation, mathematical computations, and data management; and
- Advanced terminology and practices of water and wastewater production/collection, distribution, treatment, reclamation, and maintenance activities.

Ability to:

- Analyze operational and administrative problems and to make and implement policy and procedural changes;
- Effectively plan, direct, supervise, and coordinate the operational and administrative work of the assigned division;
- Train, supervise, and evaluate assigned staff;
- Interpret governmental laws and regulations and develop working policies and procedures to comply with them;
- Understand the technical workings of water and wastewater utility, and the ability to communicate the work of the assigned division to the general public and other City departments in non-technical terms;
- Communicate clearly and concisely, orally and in writing, with other City departments, government agencies, and the public served by the Municipal Utility Department.

Skills in:

- Supervising, planning, organizing, and coordinating the broad range of potable water and wastewater utility operation functions;
- Analyzing and resolving technical operational problems, evaluating alternative solutions, recommending and implementing effective courses of action;
- Making accurate, complex engineering calculations, including estimates of time and materials costs;
- Communicating clearly and concisely, both orally and in writing; preparing accurate and complete records, notes and other written materials;
- Functioning effectively with a minimum of supervision;
- Establishing and maintaining effective working relationships with subordinates and those contacted in the course of work;
- Selecting, organizing, directing, reviewing and evaluating the work and activities of staff;
- Providing for subordinate staff training in safe work procedures and practices;
- Maintaining accurate records and files; and
- Exercising sound independent judgment within general procedural guidelines and sound engineering judgment.

Licenses and Certificates:

- Possession of a valid certificate of registration as a Professional Civil Engineer issued by the State of California Board of Registration for Professional Engineers and Land Surveyors, or ability to obtain within twelve (12) months of appointment for out of state registered civil engineers.
- Possession of a valid California driver's license at the appropriate level, including necessary special endorsements, as required by the State of California to perform the essential job functions of the position.

A typical way of gaining the knowledge and skills outlined above is:

Possession of a Bachelor of Science degree from an accredited university with major course work in Civil Engineering or a closely related field and 7 years responsible experience in water, sanitary sewer, and wastewater treatment utility planning, management, administration, coordination, and operation, including supervisory experience, to demonstrate possession of the knowledge and abilities listed above and with a minimum of two years in a supervisory or administrative capacity.

Working Conditions/Physical Demands:

Duties require sitting and standing for prolonged periods. Additionally, walking on level, inclined, uneven, wet and slippery surfaces; reaching, kneeling, bending, stooping and climbing over objects is required in the performance of routine duties when visiting field and equipment sites. The incumbent may, while monitoring projects in the field, be subjected to all weather conditions including wet, hot, and cold. During project inspections and field site visits incumbents may be exposed to dust, pollen, and loud noises. The position also requires both near and far vision when inspecting work. The nature of the work also requires the incumbent to climb ladders and be around mechanical, electrical, and/or structural hazards.