

PRINCIPAL ENGINEER

DEFINITION

Under general direction, plans, directs, and assumes responsibility for a variety of professional engineering activities related to the planning, design, construction, and commissioning of water and wastewater capital improvement projects and/or private development projects; manages major capital projects and/or development projects through all phases of the project management life cycle and/or manages multi-disciplinary wastewater systems engineering and compliance programs; serves as subject matter expert and advisor to management staff on assigned projects and/or programs; researches complex problems, conducts technical engineering-related studies, and recommends operational, compliance, and/or policy solutions; plans, schedules, assigns, reviews, and supervises the work of staff engaged in engineering activities; ensures assigned projects and programs comply with applicable codes and regulations and District policies, procedures, and standards; and performs related duties as assigned.

SUPERVISION RECEIVED AND EXERCISED

Receives general direction from assigned management personnel. Exercises direct supervision over professional and technical staff.

CLASS CHARACTERISTICS

This is the principal-level classification in the Engineer class series responsible for planning and directing the engineering activities, projects, and staff and/or consultants/contractors within assigned engineering and/or water resources program such as development services, capital improvement program, water engineering systems, and/or wastewater engineering systems. Incumbents plan, develop, recommend, implement, and evaluate programs, projects, goals, and policies and procedures for assigned area(s) of responsibility. Incumbents are responsible for performing diverse, specialized, and complex work involving significant accountability and decision-making responsibilities. Assignments at this level have significant impact on District operations. This class is distinguished from the Engineering Manager in that the latter has full management authority for all engineering programs, projects, and related functions.

EXAMPLES OF TYPICAL JOB FUNCTIONS (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 typical functions of the job.

- Provides leadership, expertise, and guidance to others on assigned programs and/or projects; as a program and/or project leader, directs, assigns, trains, supervises, and evaluates the work of assigned staff; determines work priorities; oversees quality and quantity of work performed and ensures adherence to established procedures by instructing employees accordingly; is a resource to employees by possessing specialized skills; and develops and implements work improvements.
- Manages major capital improvement projects or development projects through all phases including planning, design, construction and implementation, and close-out; leads project teams, consultants, and/or contractors in the execution of projects; develops or reviews and approves work plans including, scope of work, budget, schedules, and baseline and/or service requirements.

- Ensures compliance with engineering and District standards, District policies and procedures, regulatory and safety requirements, and engineering best practices; analyzes, interprets, and explains regulations and policies related to area(s) of assignment; oversees the creation, deletion, and revision of planning and design criteria, standard drawings, specifications, and design guidelines for developer and capital improvement projects.
- Participates in the development and implementation of program/project goals, objectives, policies, and priorities; identifies resource needs; recommends and implements policies and procedures, ensuring alignment with the District's strategic and capital improvement plans.
- Participates in short- and long-term planning of engineering programs/projects by conducting planning studies, reviewing and revising Master Plans, and coordinating with Operations and Maintenance department and other District staff to develop lists of necessary programs/projects.
- Directs and oversees the procurement process of contractors and consultants; prepares Invitation for Bid, Requests for Proposals, bid analysis, and evaluation documents; reviews proposals and provides recommendations for selection; verifies compliance with applicable codes, regulations, and/or funding agreements; prepares, negotiates, and manages contracts; directs, reviews, and reports on the work performed by consultants and/or contractors.
- Develops and monitors project/program budgets and schedules; reviews invoices to ensure compliance with contract and scope of work; manages requests for changes in scope of work for design; prepares contract addendums when needed.
- Manages multi-disciplinary water and/or wastewater systems engineering and compliance programs.
- Oversees the design, replacement, rehabilitation, and abandonment of District facilities, infrastructure, and assets; inspects, diagnoses, develops, and oversees corrective action plans for the more complex operation and maintenance problems; reviews plans and technical specifications and provides input on functional and/or safety aspects of proposed projects; reviews operational processes and trends, directs corrective action, and coordinates engineering activities to optimize operational efficiencies and safety.
- Oversees the review of, comments on, and approves engineering studies and analyses, plans, specifications, technical memorandums, and/or reports submitted for correct concept, engineering principles, and economic design for capital improvement or private development projects; reviews construction phase submittals; provides comments and makes corrections to drawings; reviews and approves project alternatives considering financial, operational, maintenance, property/right-of-way, and constructability factors; communicates with contractors and responds to requests for information.
- Oversees and conducts engineering studies, investigations, and analyses; researches, collects, and analyzes engineering data and evaluates results to determine project-specific facility requirements and parameters; prepares various engineering and/or compliance reports and engineering designs, specifications, drawings, sketches, and other supporting documentation for assigned projects/programs.
- Coordinates regulatory, environmental, and/or construction permit and right-of-way activities and processes with other District staff and outside agencies.
- Assumes responsibility for ensuring operational and administrative completion before the transferring of projects from the construction phase to operation and maintenance status; participates in examinations and field reviews of existing features with Operations and Maintenance; advises management on design deficiencies noted during both construction and operation phases and makes design recommendations.

- Attends, participates in, and/or leads a variety of meetings and/or committees; represents the District to regulatory agencies, the public, community interest groups, and contractors or consultants at meetings; prepares and provides information for meetings including agendas, minutes, Board reports, presentations, and exhibits.
- Monitors changes in regulations and technology that may affect operations; stays abreast of new trends and innovations in engineering, capital improvements and development services programs; researches emerging products and enhancements and their applicability to District needs; implements policy and procedural changes after approval.
- Receives, investigates, and responds to difficult and sensitive problems and complaints in a professional manner; identifies and reports findings and takes necessary corrective action.
- Performs related duties as assigned.

QUALIFICATIONS

Knowledge of:

- Applicable federal, state, and local laws, codes, and ordinances relevant to the area(s) of responsibility.
- Advanced principles and practices of civil engineering with emphasis on the design and construction of water and wastewater facilities.
- Administrative principles and practices, including goal setting, program/project development, implementation, management, and evaluation, budget management, and contract management.
- Principles and techniques of conducting complex engineering studies, evaluating alternatives, making sound recommendations, and preparing and presenting effective and technical engineering and regulatory reports.
- Advanced principles and practices of process, mechanical, electrical, control, and instrumentation design and construction in water and wastewater facilities.
- Advanced principles of engineering economics and their practical application to construction, water supply, and wastewater and/or water treatment projects.
- Operations and regulatory requirements of water and wastewater management systems.
- Principles and practices of employee supervision, including work planning, assignment, review and evaluation, discipline, and the training of staff in work procedures.
- Principles of leadership and techniques for working with groups and fostering effective team interaction to ensure teamwork is conducted smoothly.
- Recent developments, current literature, and sources of information related to innovation and trends in civil engineering and design, construction, and maintenance of water and wastewater facilities.
- Principles and practices of business correspondence and technical report preparation.
- 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:

- Lead and provide subject matter expertise in managing engineering projects and programs

- with internal and external agencies and individuals.
- Supervise and perform a variety of professional-level engineering work in the planning, design, and construction of capital improvement and development projects.
 - Develop and implement work plans and effectively manage engineering programs/projects, teams, and consultants/contractors.
 - Understand, interpret, and apply all pertinent laws, codes, regulations, policies and procedures, and standards relevant to work performed.
 - Gather, analyze, and compile data and prepare a variety of designs, plans, details, estimates, and specifications for construction, operation, and maintenance of capital improvement and/or development projects.
 - Plan and conduct effective engineering analyses, modeling, and studies.
 - Independently identify problems, research and analyze relevant information, and develop and present recommendations and justification for solutions.
 - Direct the preparation of and prepare clear, concise, and accurate reports, contracts, drawings, maps, notes, correspondence, and other written materials.
 - Effectively represent the District in meetings with governmental agencies, community groups, and various businesses, professional, and regulatory organizations, and in meetings with individuals.
 - Independently organize work, set priorities, meet critical deadlines and follow-up on assignments.
 - Use tact, initiative, prudence, and independent judgment within general policy and procedural guidelines.
 - Effectively use computer systems, software applications relevant to work performed, and modern business equipment to perform a variety of work tasks.
 - 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.

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:

Equivalent to a bachelor's degree from an accredited college or university in civil, mechanical, or environmental engineering or a related field.

Experience:

- Seven (7) years of increasingly responsible and diversified engineering experience including water and wastewater planning, water and sewer utility engineering design and construction, and project management experience.

Licenses and Certifications:

- Possession of a valid California Class C driver's license, to be maintained throughout employment.
- Possession of a valid Registration as a Professional Engineer (P.E.) in the State of California.

PHYSICAL DEMANDS AND WORKING ENVIRONMENT

The conditions herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential job functions.

ENVIRONMENT

Standard office setting; some exposure to temperature variations, noise, fumes, toxic agents, dust, and traffic hazards may occur while at construction sites.

PHYSICAL

• Level One

Incumbents require sufficient mobility to work in an office setting; stand or sit for prolonged periods of time; push, pull, lift, and/or carry light amounts of weight; bend, stoop, and kneel; operate office equipment including use of a computer keyboard; ability to verbally communicate to exchange information.

VISION

See in the normal visual range with or without correction; vision sufficient to read computer screens and printed documents; and to operate assigned equipment.

HEARING

Hear in the normal audio range with or without correction.