JOB DESCRIPTION
Principal Engineering Technician I (Flex)
Principal Engineering Technician II
Code Number: 22025, 22026

GENERAL PURPOSE

Under general supervision, performs a variety of routine and semi-routine professional-level civil engineering work in the research, design and construction of water, sewer and recycled water capital improvement and construction projects; and performs related duties as assigned.

DISTINGUISHING CHARACTERISTICS

This series is the non-BSCE degreed, non-registered, level in the Engineering series. Incumbents are expected to have extensive technical engineering experience that has developed the required skills, knowledge, and abilities to perform assigned professional level civil engineering work.

Principal Engineering Technician I is the first working class in the series. This class is distinguished from the lower classification of Senior Engineering Technician in that the latter is responsible for performing technical and paraprofessional engineering-related duties. As experience is gained, duties become more diversified. This class is alternately staffed with Principal Engineering Technician II, and incumbents may advance to the higher level after gaining experience and demonstrating proficiency which meet the qualifications of the higher level.

Principal Engineering Technician II is the second working level class in the series. Incumbents perform a wider range of professional level civil engineering work.

ESSENTIAL DUTIES AND RESPONSIBILITIES

The duties listed below are intended only as illustrations of the various types of work that may be performed. The omission of specific statements of duties does not exclude them from the position if the work is similar, related or a logical assignment to the class.

Performs engineering planning and design for capital construction and improvement programs.
Prepares, or causes to be prepared by consulting engineers, plans and specifications for the construction of a variety of water, wastewater and recycled water facilities, including pipelines, pumping stations, lift stations, filtration plants, water tanks, drainage facilities and roadways; researches and identifies project design requirements; conducts hydraulic water and sewer computer modeling of the system and facilities to determine design requirements and parameters; analyzes and determines hydraulic requirements and facilities using District-adopted guidelines and standards for existing and proposed projects; performs routine to difficult engineering calculations encompassing hydraulics, surveying, mechanical and structural calculations in compliance with the Project Engineering Manual.

May serve as project engineer for small facilities expansions and/or refurbishment projects designed in-house or by engineering consultants; evaluates and recommends solutions to problems; generates preliminary design reports; drafts specifications for construction of District facilities; establishes schedules and cost estimates and serves as a liaison between the District, contractors, consultants and other utilities or agencies; monitors design project progress.

Coordinates engineering design projects with other departments and agencies.

Monitors and provides engineering support for construction work in progress, including field investigations, to ensure compliance with approved plans, specifications and standards.

Researches, coordinates, and reviews proposed right-of-way and the vacation of existing rights-of-way; prepares documentation for easement acquisitions and coordinates with the District’s Right-of-Way Agent; reviews and implements permit requirements in the design of facilities.

Researches subregional development data and/or as-built files and meets with developers, consultants, and owners to discuss development processes, including but not limited to, due diligence of existing facilities; preparation or review of facilities plan of service and associated sewer tributary analysis and water hydraulic analysis; fire flow analysis, static pressure calculations, developer agreements, interim serviceability and coordination with CIP projects, conditions projects to follow EMWD’s latest master plans, and performance of a viability evaluation/demand calculation of recycled water use.

Provides unscheduled technical support in answering design questions for walk-in customers, phone calls, emails, and other District departments and staff.
Meets with EMWD Operations, Engineering, and Maintenance staff regarding coordination of CIP projects and developer projects, including but not limited to, temporary/permanent lift stations, water booster stations, water storage tanks/reservoirs, water/sewer/recycled water transmission facilities, and regional water reclamation facilities.

Assigns routine research, design and drafting tasks to technical subordinates; reviews submittals/shop drawings; assists in the solution of difficult problems; reviews plans for adherence to District standards; answers contractors’ requests for information.

Prepares a variety of correspondence, requests for proposals, Board letters, records, files, and reports.

Prepares standard and non-standard Developer Facility Agreements, evaluates potential frontage reimbursements/frontage to be paid memos, and reviews prevailing wage bids for EMWD over sizing contributions for additional facility capacity.

Conducts “start-up” and performance tests for pumping systems, electrical systems and/or instrumentation systems.

Performs related duties as assigned.

DESIRED MINIMUM QUALIFICATIONS

Knowledge of:

Theory, principles and practices of civil engineering design and construction; techniques and equipment used in design, construction, and maintenance of various public works projects; California Public Works Contract Code; hydraulic calculations; GIS applications; hydraulic system analysis; principles of physics and mathematics applicable to civil engineering and land surveying; principles and techniques of project management; principles, modern techniques and equipment used in design, construction and maintenance of various public works projects; strength, properties and uses of construction materials; legal guidelines for public works engineering; public relations; computer applications pertaining to the work, including word processing, spreadsheet analysis, computer-aided drafting and design and hydraulic modeling.

Ability to:
Review and prepare routine to difficult engineering plans, specifications and legal contracts; prepare and evaluate project engineering studies; perform technical research and analyze engineering and mathematical problems, evaluate alternatives and recommend and adopt effective courses of action; perform accurate engineering calculations and cost estimates; communicate effectively, orally and in writing; prepare clear, concise and accurate reports, drawings, maps, notes, correspondence and other written materials; handle unusual design requests; explain design criteria, policies, ordinances, and procedures to consultants; establish and maintain effective working relationships with those contacted in the course of the work; follow and apply written and oral work instructions; make sound independent judgments within established guidelines.

Training and Experience:

A typical way of obtaining the knowledge, skills and abilities outlined above is four years of civil engineering experience, preferably in a water utility or an equivalent combination of education and experience.

A Principal Engineering Technician I may be considered for advancement to Principal Engineering Technician II after demonstrating proficiency to perform the full range of duties of the latter class.

Typically, a Principal Engineering Technician I is expected to be capable of meeting the proficiency criteria within a 12–24 month period, depending on an individual’s prior experience and progression in performing the full range of Principal Engineering Technician II duties.

Licenses; Certificates; Special Requirements:

Some positions may require a valid California driver's license and the ability to maintain insurability under the District’s Vehicle Insurance Policy.

PHYSICAL AND MENTAL DEMANDS

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this class. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.
Physical Demands

While performing the duties of this job, the employee is regularly required to stand and sit; talk and hear, both in person and by telephone; use hands to finger, handle, feel objects or controls; and reach with hands and arms.

Specific vision abilities required by this job include close vision, distance vision, depth perception, color vision and the ability to adjust focus.

Mental Demands

While performing the duties of this class, the incumbent is regularly required to use written and oral communication skills; read and interpret data, information and documents; analyze and solve difficult problems; use math/mathematical skills; perform detailed work under changing, intensive deadlines, on multiple, concurrent tasks; work with interruptions; and interact with officials, outside engineers, contractors and the public.

WORK ENVIRONMENT

_The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this class. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions._

The employee usually works under typical office conditions where the noise level in the work environment is moderately quiet. Employees may occasionally be required to work outside, exposed to climatic conditions, where the noise level may be loud.

**FLSA DETERMINATION:** Non-exempt
FLEX REQUIREMENTS
Principal Engineering Technician I (Flex)
Principal Engineering Technician II

LENGTH OF TIME REQUIRED

A Principal Engineering Technician I may advance or "flex" to the Principal Engineering Technician II class after 12-24 months of experience in the Principal Engineering Technician I class.

PERFORMANCE RATING

The incumbents must receive an overall performance rating of "good" or better on their most recent annual performance evaluation in order to flex to the higher class.

COMMENTS

The Principal Engineering Technician I must also demonstrate proficiency to perform the full range of duties as described in the Principal Engineering Technician II job description, which includes having a thorough knowledge of project management, the ability to apply the theories, principles, and practices of the civil engineering discipline to specific design assignments, and the ability to work under limited supervision.