**GENERAL PURPOSE**

Under general supervision, performs technical and paraprofessional engineering-related work within an engineering or maintenance section; and performs related duties as assigned.

**DISTINGUISHING CHARACTERISTICS**

Engineering Technician I is the entry level class in the Engineering Technician series. Initially under close supervision, incumbents perform the more routine duties while learning District policies and procedures and becoming familiar with the variety of departmental systems and practices. As experience is gained, duties become more diversified and are performed under more general supervision. This class is alternately staffed with 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.

Engineering Technician II is the experienced/journey level class in the series, fully competent to independently perform duties. This class is distinguished from the lower classification of Engineering Technician I by the relative independence with which duties are performed.

Engineering Technician II is further distinguished from Senior Engineering Technician in that the latter serves as either a lead or advanced-journey level in the series.

**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. Any one position may not include all duties listed.*

Assists in or performs the preliminary design and preparation of engineering plans, sketches, layouts, graphic displays, exhibits, maps and plans for water, sewer and recycled water facilities.
Reviews water, sewer and recycled water facilities plans for conformance with District standards.

Checks water line plans for line size, hydrant type and size, available water pressure, and location of valves and fittings and right-of-way required.

Checks sewer plans for type of bedding, size, type and location of manholes, backflow or overflow devices and right-of-way required; checks recycled water line plans for line size, available pressure, location of valves and fittings and any right-of-way required.

Performs drafting of electrical control wiring diagrams/schematics from red line drawings received from Electrical Control Technicians.

Checks existing utility plans for size of lines and elevations to ensure proper connections.

Checks slopes and elevations for conformance with District requirements.

Performs calculations of water and recycled water demands and sewage generation, hydraulics and other engineering computations.

Prepares or checks easement drawings and legal descriptions; prepares quantity and cost estimates; may perform survey work and/or field verifications of existing facilities.

Compiles, analyzes and interprets red line drawings received from the District’s construction inspectors; transfers inspectors' updates to original mylar drawings.

Reviews and evaluates studies, designs, reports and records generated by other departments and outside entities.

Uses a computer to generate a variety of special and recurring reports and to update and maintain a variety of system records, reports and models.

May design traffic control plans to facilitate maintenance and repair projects.

Performs related duties as assigned.

**DESIRED MINIMUM QUALIFICATIONS**

**Knowledge of:**
Basic procedures involved in design and construction engineering and specification development work; EMWD service rules, operating policies and departmental organization structures; manual drafting techniques, terminology and equipment, including computer-aided drafting; nomenclature, symbols and techniques of mapping and surveying; engineering mathematics, including trigonometry; applicable ordinances and laws pertaining to water utility engineering.

Ability to:

Work in a variety of engineering technician applications; utilize District computer hardware and software required for assigned duties; precisely follow written and oral instructions; perform detailed work thoroughly, neatly and accurately; deal effectively with those encountered during the course of work; maintain accurate files and records.

Training and Experience:

A typical way of obtaining the knowledge, skills and abilities outlined above is graduation from high school or G.E.D. equivalent, supplemented by college-level course work in civil engineering, drafting, engineering mathematics or related fields; and one year of experience in sub-professional engineering and/or surveying work; or an equivalent combination of training and experience.

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

Typically, an Engineering Technician I is expected to be capable of meeting the proficiency criteria within a 12–18 month period, depending on an individual’s prior experience and progression in performing the full range of Engineering Technician II.

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 and mental 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 walk, stand or sit; talk or hear, both in person and by telephone; use hands to finger, handle, feel or operate standard office equipment; and reach with hands and arms. The employee is occasionally required to lift objects weighing up to 25 pounds.

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

Mental Demands

While performing the duties of this class, the employee is regularly required to use written and oral communication skills; read and interpret information and documents; analyze and solve problems; observe and interpret situations; perform highly detailed work on multiple, concurrent tasks; work with constant interruptions; and interact with officials 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 quiet. Employees may occasionally be required to work in outside conditions, exposed to climatic conditions, where the noise level may be loud.

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

LENGTH OF TIME REQUIRED

An Engineering Technician I may advance or “flex” to the Engineering Technician II class after 12-18 months of experience in the 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 Engineering Technician I must also demonstrate proficiency to perform the full range of duties as described in the Engineering Technician I/II job description. This includes demonstrating sufficient understanding of design and construction methods and a thorough understanding of drafting/design procedures.
FLEX REQUIREMENTS
Engineering Technician I (Flex)
Engineering Technician II
Maintenance

LENGTH OF TIME REQUIRED

A Maintenance Engineering Technician I may advance or “flex” to the Engineering II class after 12-18 months of experience in the 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 Maintenance Engineering Technician I must also demonstrate proficiency to perform the full range of duties as described in the Engineering Technician I/II job description. This includes demonstrating proficiency in the following areas:

- Experience in mathematics to perform calculations for water and reclaimed water demands, sewage generation, hydraulics, and other engineering computations.
- Experience with right-of-way and easement data to prepare or check easement drawings and legal descriptions, quantity and cost estimates, and to survey/field verify existing facilities.
- Familiarity with design for traffic control plans to facilitate maintenance and repair projects.
- Experience utilizing a portable computer to generate a variety of special and recurring reports and to update/maintain system records and reports.
- Capability to demonstrate civil engineering design related to computer aided drafting with specifics in ROW, surveying, grading, drainage, plans, and profile.

Two years of accredited college or technical school training in computer aided drafting, and continuing education for experience with upgraded versions of Bentley Microstation is desirable but not required.