

ENGINEERING TECHNICIAN I AND II

DEFINITION

Under general supervision, performs a variety of sub-professional office and field engineering work related to the planning and design of public works facilities; performs related work as assigned.

CLASS CHARACTERISTICS

The Engineering Technician I class (entry level) is distinguished from the Engineering Technician II class (journey level) by the latter's responsibility for duties requiring considerable knowledge of civil engineering fundamentals, mapping, and engineering drafting methods and techniques.

Work of the Engineering Technician II class is distinguished from that of the Engineering Technician I class by the greater complexity of assignments received and the greater independence with which an Engineering Technician II is expected to operate.

ESSENTIAL FUNCTIONS

These functions may not be present in all positions in multiple position classes. When a position is to be filled, the essential functions will be noted in the announcement of position availability.

Performs a variety of work involved in the preparation of construction drawings and related maps, reflecting topography, drainage, rights-of-way, structures, utility lines, roadways, construction symbols, and related information; tabulates and plots field data; uses a variety of drafting tools and equipment.

Reviews a variety of maps, drawings, tracings, notes, and engineering computations and checks for accuracy.

Assists in the preparation of specifications related to the construction and maintenance of a variety of projects in accordance with City, state, and federal guidelines; assists in the preparation of project cost estimates, quantities calculations, and materials costs.

Participates in the conduct of field surveys as survey party member and may serve as survey party chief; operates a variety of survey equipment, including transits; measures distance and establishes relative elevations; surveys streets and other construction sites.

Conducts traffic studies that may include observing traffic patterns, taking traffic counts, and turning movements.

May sample and test materials for conformance to standards or specifications; prepares records, and reports test results; takes water quality samples.

Provides assistance to the public; responds to inquiries and provides information regarding property descriptions, location, and property surveys; calculates fees.

QUALIFICATIONS GUIDELINESEducation and/or Experience

Any combination of education and/or experience that has provided the knowledge, skills, and abilities necessary for acceptable job performance. Example combinations include graduation from high school or equivalent and completion of course work in drafting, algebra, geometry, and trigonometry;

Engineering Technician I: and two years of sub-professional engineering experience.

Engineering Technician II: and three years of sub-professional engineering experience.

Knowledge, Skills, and AbilitiesEngineering Technician I:

Working knowledge of the fundamentals of civil engineering computations; nomenclature, symbols, methods, practices, techniques, and instruments used in engineering mapping; surveying equipment, principles, problems, techniques, and practices; mathematics as applied to the computation of distances, angles, areas, and traverses, including algebra, geometry, and trigonometry. Skill in the use of drafting tools.

Ability to prepare plans and specifications neatly and accurately; prepare and maintain accurate records and reports; perform all surveying tasks including instrument work; understand and follow verbal and written directions; communicate effectively both orally and in writing; utilize a computer and a variety of software programs; conduct inspections and traffic counts.

Engineering Technician II:

Considerable knowledge of the fundamentals of civil engineering; sub-division standards, nomenclature, symbols, methods, practices, techniques, and instruments used in engineering and mapping; surveying equipment, principles, problems, techniques, and practices; mathematics including algebra, geometry, and trigonometry; construction equipment, materials, and methods; methods and equipment used in testing construction materials. Working knowledge of IBM or compatible computers.

Ability to communicate clearly and concisely both orally and in writing; research and prepare analysis or summarize data for related reports; review plans and documents for conformance to regulations; gather data and perform engineering computations; prepare plans and specifications neatly and accurately; prepare and maintain accurate records and reports; understand, interpret, and prepare legal property descriptions, engineering records and maps; perform all surveying tasks and direct the work of a survey crew; understand and follow verbal and written directions; maintain effective relationships with the community.

Special Requirements

Possession of or ability to obtain a Class C California driver's license and a satisfactory driving record.

PHYSICAL PROFILE: Category I; 4, 5, 6, 7, 12, 13, 18, 19, 20.

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