



ENGINEERING TECHNICIAN I/II

DEFINITION: To perform a variety of paraprofessional engineering work on engineering projects and County facilities; perform drafting, simple design, and computations on engineering projects; and perform related duties as assigned.

ESSENTIAL JOB DUTIES: Under supervision, perform computer-aided drafting and design in preparing maps, cross-sections, profiles, and improvement plans; prepare engineering reports; prepare plans, specifications, and estimates for construction projects; perform traffic counts and prepare and submit findings; perform all aspects of pavement management; perform duties related to various lighting districts; obtain bids for purchasing and services; assist and support department staff with job related duties; and perform inspection and quality control monitoring of construction projects.

OTHER EXAMPLES OF DUTIES:

- Perform design calculations for determining alignment, quantities, and other engineering parameters.
- May be assigned to construction projects to perform various duties such as inspection of work for compliance to plans and specifications, quality control of construction materials and methods.
- Preparing records and reports for contract administration and other functions of the position.
- Acquire and maintain software and hardware in relation to the collection of data for conducting traffic studies and other duties of the position.
- Enter data into automated systems.
- Obtain permits needed to perform Department operations.
- Maintain positive working relationships with internal and external partners/agencies.
- Research projects and equipment used by the Department, obtain specifications, quantities, and cost information.
- Oversee and make repairs as needed for various lighting districts.
- Identify and maintain timelines for projects.
- Other duties as assigned.

PHYSICAL JOB FACTORS: Frequent standing, walking, and driving; occasional lifting, shoveling, carrying, bending, and fine finger and hand dexterity. Ability to lift and carry 50 pounds.

ENVIRONMENTAL JOB FACTORS: Work in the road right of way under traffic conditions; work around moving machinery; exposure to fumes and dust; exposure to excessive noises created by moving heavy equipment; exposure to slippery or uneven walking surfaces. The worker is subject to ambient weather conditions that include a high of 120 degrees and a low of -10 degrees Fahrenheit.

EMPLOYMENT STANDARDS

Education/Experience: **Tech I** - High school graduate or equivalent AND EITHER 6 months of paraprofessional engineering office and field experience OR 6 months of experience performing road construction work, making road signs, or other duties within a County public works or related agency OR 1 year of experience involving public contact. Successful completion of high school trigonometry or drafting or college algebra may be substituted for 6 months of public contact experience. **Tech II** – Additional year of experience required OR 15 semester units of college coursework in civil engineering or related field.

Knowledge of:

- Principles and uses of algebra, geometry, and trigonometry.
- Drafting and engineering principles used in the design and preparation of engineering plans.
- Engineering and surveying principles used in property location and topographic survey work.
- Properties and uses of materials employed in road and drainage construction, maintenance, and related engineering projects.

Ability to:

- Use drafting and surveying equipment.
- Prepare maps, plans, cross-sections, and profiles.
- Use computer and specialized programs, software, and hardware.
- Make complete and accurate field notes and prepare clear and concise reports.
- Learn principles and practices of civil engineering as applied to road and drainage construction, including quality control testing and closely related construction activities.
- Use proper grammar and spelling in both written and verbal communication.
- Work cooperatively with those contacted in the course of work.

Special requirements: You may be required to drive a motor vehicle in the course of employment and must possess a valid operator's license issued by the State Department of Motor Vehicles. Must successfully complete a pre-employment background investigation and physical examination. Your position may be required to serve as a Disaster Service Worker during a County emergency.