



CLASSIFICATION NO. 303  
Revised: 2/80, 11/90, 7/20, 3/23  
FLSA: Non-Exempt  
EEO: 3

## **ENGINEERING TECHNICIAN 2**

### **CLASS CHARACTERISTICS**

Under general supervision to perform journey-level technical engineering duties in the field or office; and to do other work as required.

### **DISTINGUISHING CHARACTERISTICS**

The Engineering Technician series is primarily oriented to performing technical engineering and surveying functions to assist in the design, construction and maintenance of public works projects such as roads, bridges, traffic control, street lighting, land monuments, storm drains, sanitary sewer systems and treatment facilities. Positions in this series work under the supervision or direction of an advanced level technician, supervisor, or Professional Engineer or Professional Land Surveyor. Individual assignments generally require engineering knowledge and skills gained through work experience or training programs.

This series is distinguished from professional engineering or land surveying classifications which require professional certification, registration or licensure, as well as broad general professional knowledge of engineering or surveying principles and practices applicable to a variety of complex projects or areas.

The Engineering Technician 2 is the full journey-level in this series. Incumbents perform moderately complex technical engineering assignments and may occasionally act as crew chief on temporary, well-defined projects. A supervisor, Professional Engineer, Professional Land Surveyor or higher level technician establishes project or program direction, and is available for guidance, problem solving, and periodic review during the course of the project.

This classification differs from the lower level Engineering Technician 1 which performs more routine tasks under close supervision. It also differs from the higher level Engineering Technician 3 which is assigned independent work, may lead or coordinate a process or specific on-going program, and/or lead work responsibility on designated projects.

### **TYPICAL TASKS**

Duties may include but are not limited to the following:

1. As a member of a field survey crew, operates theodolite, level rod, GNSS receivers, and other survey instruments of comparable complexity; determines angles and elevation to establish or check line, grade, and cross section; assists in monument recovery and restoration; operates electronic data collection equipment; performs moderately complex computations; may act as crew chief to ensure work is performed in a safe and efficient manner.

2. Performs advanced computer-aided drafting and design work from sketches, field notes, and verbal instructions; plots traverse and plots control points in grid coordinates; constructs topographic maps; may review the work of other drafters; may assist and train others in the operation of computer-aided drafting and design software applications.
3. Inspects construction or improvement of grading, utilities, surfacing, paving, drainage installations, bridges and other structures for adherence to established standards and specifications; conducts and supervises field and laboratory tests and analysis of construction materials; accepts or rejects inspected materials on the basis of test results; assists in preparing and adjusting construction cost estimates; prepares cost reports on completed construction projects; prepares periodic estimates of work done as a basis of payment to contractors; performs advanced computations to determine excavation quantities and material requirements for complex design projects; conducts statistical studies and research projects as needed.
4. Performs detailed research of records; under the responsible charge of a Professional Land Surveyor, assists in determining metes, bounds, and areas for preparing and compiling legal property descriptions for rights-of-way, easements, annexations, and subdivisions.
5. Conducts field studies of traffic movements, vehicle usage and traffic distribution; codes, tabulates and analyzes data; analyzes road costs and road life data; prepares transportation plan maps.
6. Prepares reports and presentations, including graphics, maps, and technical drawings to describe project or program goals and activities using manual or computer tools.
7. Under the responsible charge of a Professional Engineer, participates in the design and preparation of simple plans and specifications for public works projects.

### **REQUIRED KNOWLEDGE AND SKILLS**

Working knowledge of: Fundamentals of algebra, geometry and trigonometry for the solution of engineering problems; principles and practices of civil engineering including hydrology, hydraulics, soils, water and sewer utility design, and basic structures; computer-aided drafting techniques; principles and practices of land surveying to include operation of surveying instruments; road and drainage facility construction materials and testing procedures; principles of traffic engineering and conveyances; state and federal traffic regulations; property mapping systems; mapping coordinate systems; computer software relating to engineering drafting and designing; standard office practices and procedures for maintaining and setting up both manual and electronic files; methods and procedures for archiving and retrieving map and drawing information; data gathering and research techniques; English grammar and composition.

Skill to: Read and interpret maps, and engineering and construction plans; gather and correlate data from various sources to produce a final plan, map, or chart; execute computer applications in drafting, designing, and data collection; conduct title and property ownership and road status research and prepare legal documents; communicate effectively, both orally and in writing; read, write, and interpret legal descriptions and other legal documents; perform inspections and test construction materials; maintain records and write reports; act as crew chief for a small group of technicians; establish and maintain effective working relationships with the public, contractors and County personnel.

## **WORKING CONDITIONS**

Field activities include moderately strenuous physical work and incumbents may encounter adverse environmental conditions such as inclement weather and traffic hazards.

Within some Department of Transportation and Development (DTD) Divisions (specific workgroups), duties require frequent standing, walking, squatting, bending, kneeling, reaching, digging, balancing, fine motor control, and the ability to lift and carry up to 60 pounds, push 50 pounds, and pull 70 pounds. Duties also involve frequent exposure to loud noises, vibration, slippery and/or uneven surfaces, exhaust fumes and dust, oil and chemicals, traffic hazards, and adverse weather conditions.

Within DTD's County Surveyor's Office – Public Land Corner, duties in the field require frequent walking, stepping, squatting, kneeling, bending, twisting, digging, swinging, balancing, grasping, fine motor control, and the ability to lift and carry up to 90 pounds, including carrying 60 pounds on one shoulder. Duties also involve frequent exposure to slippery and/or uneven surfaces including steep terrain, loud noises, vibration, exhaust fumes and dust, and adverse weather conditions.

Within the DTD's Forest and Timber Management Division, duties require frequent to continuous standing, walking, squatting, kneeling, bending, twisting, digging, balancing, climbing, forward/overhead reaching, grasping, fine motor control, and the ability to lift 75 pounds, carry up to 60 pounds, and push/pull 80 pounds. Duties also involve exposure to confined spaces, loud noises, vibration, slippery and/or uneven surfaces including steep terrain, exhaust fumes and dust, chemicals, and adverse weather conditions including extreme temperatures.

## **MINIMUM QUALIFICATIONS**

Minimum qualifications are used as a guide for establishing the minimum experience, education, licensure, and/or certifications required for employment in the classification. The following minimum qualifications are established for this classification. Additional minimum qualifications and special conditions may apply to a specific position within this classification and will be stated on the job announcement.

**Experience:** A minimum of one (1) year of related experience that would provide the required knowledge and skills to perform the responsibilities of this position.

**Licenses/Certifications:** None required.

## **PRE-EMPLOYMENT REQUIREMENTS**

Some positions must successfully pass a criminal history check which may include national or state fingerprint records check.

Within varying DTD Divisions (specific workgroups), DTD's County Surveyor's Office – Public Land Corner, and Forest and Timber Management Division, employment is contingent upon passing a post-offer physical assessment. Accommodation requests will be reviewed on an individual basis in compliance with State and Federal legislation.

Within DTD's Forest and Timber Management Division, must pass a pre-employment drug test.

Driving may be necessary for County business. For position(s) with occasional/incidental driving, incumbents must possess a valid driver's license. Accommodation requests for an acceptable alternative method of transportation will be reviewed on an individual basis in compliance with State and Federal legislation. For position(s) with regular driving, incumbent(s) must also possess and maintain an acceptable driving record throughout the course of employment.