

ENGINEERING TECHNICIAN I/II

Approved: July 2016

FLSA: Non-exempt

Unit: SEIU



Definition
Under immediate (I) or general (II) supervision, performs a variety of engineering support tasks related to civil or transportation engineering assignments in the field and office, including supporting the professional engineering staff by conducting basic traffic studies, researching engineering topics, preparing basic engineering calculations including estimates and reports for the development and modification of City infrastructure, and construction services; provides technical advice to the public; reviews permit requests and plan submittals, issues permits; and performs related duties as required.
Supervision received and exercised
Receives immediate (I) or general (II) supervision from assigned supervisory or management staff. Exercises no direct supervision over staff.
Class characteristics
<p>Engineering Technician I This is the entry-level class in the paraprofessional engineering technician series. Initially under close supervision, incumbents with basic technical engineering experience perform work such as responding to inquiries and complaints, maintaining engineering records, performing basic engineering calculations, performing field observations and surveys, researching engineering topics, assisting in the review and issuance of permits, and updating maps and drawings, in addition to performing office and field work related to assigned engineering and transportation projects and programs. Positions at this level usually perform most of the duties required of the II level, but are not expected to function at the same skill level and usually exercise less independent discretion and judgment in matters related to work procedures and methods. Work is usually supervised while in progress and fits an established structure or pattern. Exceptions or changes in procedures are explained in detail as they arise. As experience is gained, assignments become more varied and are performed with greater independence.</p> <p>Engineering Technician II This is the journey-level class in the paraprofessional engineering technician series. Incumbents perform the full range of technical work in all of the following areas: field observations and surveys, researching engineering topics, review and issue of permits, and updating maps and drawings, in addition to performing office and field work related to assigned engineering and transportation projects and programs. Positions at this level are distinguished from the I level by the performance of the full range of duties as assigned, working independently, and exercising judgment and initiative. Positions at this level receive only occasional instruction or assistance as new or unusual situations arise and are fully aware of the operating procedures and policies of the work unit. This class is distinguished from the Senior Engineering Technician in that the latter is responsible for technical and functional supervision of lower-level engineering technician staff and performs the most complex duties assigned to the series.</p> <p>Positions in the Engineering Technician class series are flexibly staffed and positions at the II level are normally filled by advancement from the I level; progression to the II level is subject to management approval and is dependent on the incumbent (i) performing the full range of duties assigned to the II level, and (ii) acquiring the knowledge, skill, and experience necessary to meet the minimum qualifications for the II level of the series.</p>
Examples of typical job functions (illustrative only)
<p>Management reserves the right to add, modify, change, or rescind the work assignments of different positions and to make reasonable accommodations so that qualified employees can perform the essential functions of the job.</p> <ul style="list-style-type: none">• Assists in the preparation of specifications, plans, estimates, and reports pertaining to the construction, maintenance, and operation of a variety of engineering, land development, utility, and other Capital Improvement Program (CIP) projects, including conducting a variety of surveys for the creation of sidewalks, utility lines, and topography maps.• Performs or assists in traffic studies, including review of simple traffic control plans, accident analysis, channelization, traffic volume, and sport speed studies; sets traffic counters and conducts manual counts; repairs and maintains traffic equipment; assists the public in responding to complaints and answering questions related to traffic and traffic safety; communicates with law enforcement offices; may supervise the installation of striping and marking.• Inspects job sites to ensure work is in compliance with Federal, State, and local standards and specifications; calculates progress payments; performs permit intake, review, and issuance.• Provides customer service at the Engineering Division Counter; responds to and answers questions from the public, in person and by phone and email, regarding a variety of issues, including encroachment permits,

Federal Emergency Management Agency (FEMA) compliance, grading and drainage requirements, right-of-way projects, heritage tree removals, capital improvement projects, etc.

- Responds to and inspects traffic signal complaints and emergencies to resolve issues and coordinate repair if necessary.
- Maintains engineering and traffic/transportation files, including plans, studies, inspections, surveys, maps, and other data related to engineering and transportation projects; prepares, updates, reproduces, and distributes maps, drawings, blueprints, and other information recorded in the Geographic Information System (GIS).
- Reviews subdivision maps, parcel maps, improvement plans, records of surveys, deeds, descriptions and other private land surveyor's data for compliance with design criteria, special conditions, and State, Federal, and local laws and ordinances.
- Utilizes GIS software to draft and modify plot plans, topographic maps, improvement plans, and illustrative graphics, such as charts, illustrations, and graphs for reports, drawings for design manuals, and other projects; prepares or checks engineering reports, specifications and contract documents.
- Performs basic design and drafting duties in connection with streets, storm drains, utilities, traffic signals, and other projects.
- Performs field, office, and computer-aided studies and prepares periodic and special reports based on findings from research, studies, and surveys; and makes recommendations on findings.
- Receives, tags and logs, and reviews submitted engineering plans, maps, and related documents for plan check; routes documents to consultants or developers for preceding and following plan review; tracks status of plan checks and original documents; advises parties of revisions.
- Receives and responds to information requests for base maps, parcel maps and improvement plan information, encroachment permits, benchmarks, and other geographical data; retrieves plans, reports, permits, and files as necessary to comply with requests; responds to complaints from the public and works to resolve conflicts between owners, contractors, developers, utility companies, and others.
- Utilizes a wide variety of engineering equipment, including calculators, computers and drafting and survey tools and equipment.
- Designs and modifies drawing layers in AutoCAD and/or GIS.
- Maintains and updates department records, tracking lists, permit records, and files of engineering plans, including grading, encroachments, improvements, storm drain, landscaping, and final maps.
- Maintains parking meter machines to ensure machines are operating properly.
- Communicates information to the real estate community, property owners, and others involved in projects.
- Performs general administrative duties including preparing complex spreadsheets, copying, filing, attending meetings, etc.
- Performs other duties as assigned.

Qualifications

Knowledge of

- Principles, practices, and methods applicable to office and field work involving the design, construction, and maintenance of public works and transportation projects.
- Basic design and construction practices and methods of streets, traffic, underground facilities, and related public works infrastructure.
- Engineering plan types, review practices, permit filing, and approval procedures.
- Principles and practices of technical civil and transportation engineering drafting and surveying support.
- Drafting and surveying equipment, computers, principles, problems, techniques, and practices.
- Technical engineering mathematics.
- Applicable Federal, State, and local laws, codes, and regulations, including administrative and department policies and procedures.
- Modern office practices, and methods, including computer equipment and software programs relevant to work performed.
- Technical report writing practices and procedures.
- Principles and procedures of record keeping.
- English usage, grammar, spelling, vocabulary, and punctuation.
- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors, and City staff.

Ability to

- Perform responsible technical engineering support work with accuracy, speed, and minimal supervision.
- Read, interpret, and review engineering plans, technical drawings, specifications, and traffic control plans.
- Inspect construction work for compliance with plans and specifications.

- Perform standard engineering drawings and calculations under professional engineering supervision.
- Make mathematical calculations and accurate engineering computations and drawings.
- Make and record accurate field engineering observations.
- Use engineering, drafting, and surveying instruments and equipment.
- Prepare clear and concise reports, permit applications, correspondence, policies, procedures, and other written materials.
- Prepare a variety of plans, specifications, maps, graphic materials, and cost estimates.
- Understand and follow complex technical oral and written instructions.
- Conduct research, evaluate alternatives, make sound recommendations, and compile accurate data in areas of responsibility.
- Organize own work, set priorities, and meet critical time deadlines.
- Operate modern office equipment including computer equipment and software programs relevant to work performed.
- Use English effectively to communicate in person, over the telephone, and in writing.
- Use tact, initiative, prudence, and independent judgment within general policy, procedural, and legal guidelines.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

Education and experience

Any combination of training and experience that would provide the required knowledge, skills, and abilities is qualifying. A typical way to obtain the required qualifications would be:

- Engineering Technician I/II
- Equivalent to completion of the twelfth (12th) grade; supplemented two (2) years of college-level coursework in engineering, drafting, surveying, mathematics, or a related field.
- Engineering Technician I
- Two (2) years of paraprofessional experience in civil engineering, transportation or traffic engineering, drafting, surveying, or related field.
- Engineering Technician II
- Four (4) years of increasingly responsible paraprofessional experience in civil engineering, drafting, surveying, or related field.

Licenses and certifications

- Possession of a valid California Class C driver's license.

Physical demands

Must possess mobility to work in a standard office setting and use standard office equipment, including a computer, to inspect City and traffic development sites, traversing uneven terrain, to operate a motor vehicle, and to visit various City and meeting sites; vision to read printed materials and a computer screen; and hearing and speech to communicate in person, before groups, and over the telephone. This is partially a sedentary office classification, although the job involves field inspection work requiring frequent walking at inspection sites to monitor performance and to identify problems or hazards; standing and walking between work areas may be required. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator and to operate standard office equipment. Positions in this classification occasionally bend, stoop, kneel, reach, push, and pull drawers open and closed to retrieve and file information. Employees must possess the ability to lift, carry, push, and pull materials and objects weighing up to 25 pounds.

Environmental elements

Employees work in an office environment with moderate noise levels, controlled temperature conditions, and no direct exposure to hazardous physical substances. Employees may work in the field and occasionally be exposed to loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, vibration, mechanical and/or electrical hazards, and hazardous physical substances and fumes. Employees may interact with upset staff and/or public and private representatives in interpreting and enforcing departmental policies and procedures.