

Engineering Associate

**Purpose of the
role:**

Under direction, performs a variety of engineering work, which may include design layouts, engineering calculations and specification development for water and wastewater utilities, streets, structures and related public works projects; performs traffic engineering duties including traffic studies, signal design and timing; and performs related duties as required.

This is a broad classification and individual duties will vary depending on area of assignment.

**Distinguishing
Characteristics:**

The Engineering Associate is the experienced level in the professional Engineering series. Incumbents perform a variety of engineering work and exercise a greater latitude of independent judgment than Engineering Assistant classification. Duties require a sound knowledge of engineering principles as well as the practical application of these principles. This class is further distinguished from the Associate Civil Engineer in that the latter requires registration as a Civil Engineer and performs more complex, professional engineering work.

The following duties are typical for this classification. Incumbents may not perform all of the listed duties and/or may be required to perform additional or different duties from those set forth below to address business needs and changing business practices.

**Essential Duties
and
Responsibilities:**

- Prepares plans and specifications for the construction of water and wastewater utility and public works engineering projects; researches and identifies project design requirements; performs complex calculations and prepares estimates of time and material costs.
- Reviews plans for private developments to ensure that they meet all City-imposed requirements and ordinances; issues construction permits.
- Participates in the selection and supervision of private professional engineers for the development of plans and specifications, studies and reports.
- Monitors work in progress to ensure compliance; maintains records of approved projects; writes and updates manuals to facilitate system operations and define working procedures.
- Reviews hydrology and geotechnical soils reports; prepares special engineering studies and reports.
- Develops revised design and construction standards for public works and water and sewer utility structures and appurtenances.
- Determines annual assessment distribution for lighting and landscaping; coordinates billing with the Data Processing Department.
- Assigns routine research, design and drafting tasks to technical subordinates; reviews completed work; assists in the solution of

difficult problems.

- Investigates field problems affecting property owners, contractors and maintenance operations.
- Coordinates public works or water and wastewater utility activities with other departments and outside agencies.
- Performs surveys and analyses of traffic conditions, traffic volume, accidents, traffic hazards, parking, signing, channelization and signal coordination; prepares traffic signal timing schedules and diagrams.
- Reviews traffic and transportation elements of environmental impact reports and major developments for compliance with City policies, rules and regulations.
- Monitors the progress and installation of traffic signals including ordering of equipment, awarding bids to contractors and field inspections.
- Performs related duties as required.

The following generally describes the knowledge and ability required to enter the job and/or be learned within a short period of time in order to successfully perform the assigned duties.

***Desired
Minimum
Qualifications:***

Knowledge of:

- Principles and practices of civil engineering, including design and construction.
- Principles and applications of engineering mathematics.
- Modern methods and techniques used in the design and construction of a wide variety of public works or water and wastewater utility projects.
- Principles and practices of traffic and highway engineering.
- Principles, modern techniques and equipment used in design, construction and maintenance of various projects.
- Operation and maintenance of traffic control devices and equipment.
- Occupational hazards and standard safety practices.
- Pertinent federal, state, and local laws, codes, and regulations.

Ability to:

- Perform detailed analyses of a variety of technical engineering designs, specifications and plans.
- Apply engineering principles and techniques to evaluate and solve simple to difficult civil engineering problems.
- Make or check complex engineering computations quickly and accurately.
- Exercise sound, independent judgment in performing assigned projects.
- Deal tactfully and effectively with the public, City staff, other agencies, engineering firms, contractors, developers, manufacturers and others.
- Conduct traffic surveys and analyze traffic problems.
- Analyze traffic design problems, evaluate alternatives and recommend effective solutions.
- Utilize standard office equipment including computers and related software applications.

- Prepare clear, concise and accurate engineering reports and documents.
- Understand and follow oral and written instructions.
- Communicate clearly and concisely, both orally and in writing.
- Establish and maintain effective working relationships with those contacted in the course of work.
- Respond and perform assigned duties in the event of a City-declared emergency

Competencies:

- Effective Communicator
- Strategic Thinker
- Results Oriented
- Customer-Focused
- Problem Solver and Decision Maker
- Planner and Organizer
- Technically Knowledgeable

Any combination of education and experience that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:

Education and Experience Guidelines:

Education/Training:

A Bachelor's degree from an accredited college or university with major course work in civil or structural engineering or a related field.

Experience:

Two years of professional level engineering experience in design and or construction work at a level equivalent to the Engineering Assistant class.

Licenses; Certificates; Special Requirements:

A valid class C California driver's license.

A valid certificate as an Engineer-in-Training issued by the State of California. An additional two years of professional level engineering experience may be substituted for the EIT certificate.

The conditions herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential job functions.

Physical and Environmental Conditions:

Physical: Sufficient physical ability to work in an office setting; sit, stand, walk, reach, twist, turn, kneel, bend, squat, and/or stoop for prolonged periods of time; perform duties requiring grasping, repetitive hand movement, and fine coordination; and operate office equipment. **Vision:** See in the normal visual range with or without correction; vision sufficient to read computer screens and printed documents and to operate office equipment. **Hearing:** Hear in the normal audio range with or without correction.

Environment: Standard office setting. Employees may occasionally be required to work outside, with exposure to inclement weather conditions or elevated noise levels.

*Class specifications are only intended to present a descriptive summary of the range of duties and responsibilities associated with specified positions. Therefore, specifications **may not include all** duties performed by individuals within a classification. In addition, specifications are intended to outline the **minimum** qualifications necessary for entry into the class and do not necessarily convey the final qualifications of incumbents within the position.*

Pursuant to California Government Code Section 3100, all public employees are required to serve as disaster service workers subject to such disaster service activities as may be assigned to them by their supervisor or by law.

Date Adopted: 7/5/03

Date Revised: