

ASSOCIATE ENGINEER

DEFINITION

To perform a wide variety of difficult field and office civil engineering work involved in the design, construction and maintenance of County public works projects; to perform traffic engineering and transportation planning work; to provide technical direction to other County personnel and contractors regarding public works construction methods, materials and requirements; and to perform related duties and responsibilities as required.

SUPERVISION RECEIVED AND EXERCISED

Receives general supervision from higher-level professional civil engineers and Public Works Director.

May coordinate, assign and review the work of subordinate technical and professional engineers.

EXAMPLES OF ESSENTIAL FUNCTIONS

Performs complex office and field engineering work related to the design, construction and maintenance of County roads, bridges, sanitation facilities and drainage systems, water systems and other public works projects.

Conducts special technical studies and investigations related to public works construction projects; determines project feasibility by analyzing structures, roads, highways and other project sites for economic, environmental, engineering, legal and other considerations.

Coordinates, oversees and participates in the work of field survey parties in securing needed data and information prior to actual construction operations.

Reviews and prepares engineering plans, drawings and specifications for public works construction projects; performs technical drafting work as required.

Defines project scope, and prepares estimates of the cost and quantity of materials needed for projects.

Obtains permits, rights-of-way and easements and coordinates the purchase of properties needed for assigned projects.

Develops project budgets; performs project cost accounting.

May prepare applications for state and/or federal funding for public works projects.

Serves as lead engineer on assigned projects; coordinates, supervises and reviews the work of assigned staff or outside contractors and consultants for compliance with established engineering plans, specifications and legal standards; recommends changes in design and construction as necessary and prepares change orders.

Reviews field and laboratory tests of construction materials.

Inspects damaged structures and estimates repair costs.

Performs transportation planning functions in consultation with the Local Transportation Commission and other County staff.

Oversees and manages contract transit operators, and coordinates with the County transit program.

Monitors and corrects any visual or physical obstructions on or adjacent to County Airport approach surfaces.

Oversees landscape maintenance on project sites.

Reviews land development improvement plans for compliance with County codes, policies and standards, and provides engineering advice to County Planning and Building departments' staff.

Assists in coordinating division activities and services with other County and municipal divisions, departments and other agencies as appropriate.

Receives and responds to inquiries, requests for assistance, concerns and complaints from contractors, developers, property owners, other agencies, and other groups and individuals regarding division policies, programs and projects.

Represents the division at technical meetings and public gatherings and before the Board of Supervisors; makes other public presentations as required.

Prepares comprehensive reports and maintains accurate and up-to-date records.

Performs general administrative / clerical work as required, including preparing correspondence, entering and retrieving computer data, attending meetings, copying and filing documents, etc.

EMPLOYMENT STANDARDS

Knowledge of:

Pertinent federal, state and local laws, regulations, codes and ordinances.

County and department policies and procedures.

Theories, principles and practices of civil engineering, construction and land surveying.

Techniques and equipment used in surveying, engineering and construction work.

Strength, properties and use of engineering construction materials and methods of testing such materials.

Project management principles and practices, including cost estimation, budget preparation, bidding processes and contract administration.

Construction inspection methods and equipment.

Engineering mathematics.

Basic principles of training and supervision.

Report and business letter preparation techniques.

Modern office practices and technology, including the use of computers for word processing, computer-assisted drafting and design, spreadsheet preparation and database management.
English usage, spelling, grammar and punctuation.

Safe work practices.

Public / community relations techniques.

Ability to:

Interpret, analyze and apply pertinent federal, state and local laws, rules, regulations, codes and ordinances, and County policies and procedures.

Perform professional engineering design and calculations.

Coordinate, assign and review the work of others in a lead capacity.

Analyze problems, identify alternative solutions, determine consequences of proposed actions and implement recommendations in support of goals.

Develop and coordinate master planning for public works projects.

Provide effective project management.

Prepare and administer project budgets.

Generate designs for roadways and other public works projects, using computer-assisted and manual design techniques.

Inspect construction projects and enforce compliance with all regulations, plans and specifications.

Read, understand and interpret complex technical and legal documents, technical drawings and plans, maps and other data.

Establish priorities and work under stress to meet deadlines.
Prepare clear and concise technical and administrative reports.

Establish and maintain project files and records, including financial records.

Perform mathematical computations quickly and with accuracy.

Make effective public presentations.

Interpret complex division projects and programs to the public.

Communicate clearly and concisely, both orally and in writing.

Establish and maintain effective working relationships with those contacted in the course of work.

Meet the physical requirements necessary to safely and effectively perform assigned duties.

TYPICAL WORKING CONDITIONS

Work is performed in an office and field environment. Incumbent drives on surface streets and may be exposed to traffic hazards, construction hazards, air contaminants, adverse weather conditions, temperature and noise extremes, wetness, fumes, dusts, working at heights. Worker may be subject to fatigue from irregular working hours.

TYPICAL PHYSICAL REQUIREMENTS

Requires the mobility to work in an office and field environment. Requires the ability to sit at desk for long periods of time and intermittently walk, stand, climb, balance, bend, crouch, and reach while performing office duties and/or field inspections; traverse uneven terrain; lift and/or move light to moderately heavy weights; perform simple grasping and fine manipulation. Must be able to maintain effective audio-visual discrimination and perception needed for making observations, communicating with others, reading and writing, and operating office field equipment. Must be able to use a telephone to communicate verbally and a keyboard to communicate through written means, to review information and enter/retrieve data, to see and read characters on a computer screen.

MINIMUM QUALIFICATIONS

Experience:

Four years of increasingly responsible experience in public works engineering, including at least one year of experience in project management and in performing work in a lead capacity.

Education:

High school or GED equivalency is required. Graduation from an accredited college or university with a Bachelor's degree in civil engineering or a closely related field.

Additional Requirements:

Possession of a valid California driver's license. Under certain circumstances, the Personnel Director may accept a valid driver's license from another state if applicant acknowledges his/her intent to acquire a California driver's license within three months by signing an acknowledgement form.

Certification as an Engineer-in-Training as issued by the California Board of Registration for Professional Engineers and Land Surveyors.

Professional registration as a Civil Engineer in the State of California is desirable.

This class specification lists the major duties and requirements of the job and is not all-inclusive. Incumbents may be expected to perform job-related duties other than those contained in this document.