

ENGINEER III

NATURE OF WORK IN THIS CLASS:

This is professional and supervisory civil, mechanical, electrical, telephone, traffic, environmental, or architectural engineering work.

Employees in this class perform the full range of complex duties in the professional speciality and supervises an engineering unit or section; or supervises and coordinates a major engineering support program.

ILLUSTRATIVE EXAMPLES OF WORK: (Any one position may not include all the duties listed, nor do the examples cover all duties which may be performed.)

Supervises an engineering unit or section; or supervises and coordinates a major engineering support program.

(CIVIL ENGINEERING)

Supervises and reviews the preparation of designs, plans, estimates, and specification for major projects concerned with traffic routing and parking lots, the construction and maintenance of hydraulic structures, bridges, roads, buildings, airports, harbor channels, irrigation projects, pipelines, water and sewage system and water disposal units; analyzes engineering field data, financial data and prepares recommendations and technical reports.

Supervises and coordinates highway and building construction and maintenance engineering support programs.

Plans and conducts research or development work characterized by clear and specified objectives, investigation of limited number of variables, and self-directed work planning and carries out experiments in accordance with approaches which have been structured by superior.

Consults with public and private engineers, inspectors, contractors, property owners, utility company representatives and employees in other organizations to give and receive factual information or on problems in connection with location or construction of projects.

Conducts investigation on new materials which may require development of new test methods.

Evaluates test results, prepares reports and make recommendations for design and construction.

Supervises the application and analysis of data collection and base analysis, cost benefit considerations, goals and objectives, program and projects.

Assists in the development and presentation of information to be used as evidence in legal action.

Performs related duties as required.

(MECHANICAL)

Supervises the preparation of hydrologic requirements of a project and laying out of design; checks field recommendations and final design for engineering structures and bridges; cooperates with public officials on problems relating to adequacy, economy, and design of hydraulic structures; checks drainage and other designs as required; supervises subordinate staff on the project.

Supervises and coordinates mechanical construction and maintenance engineering support programs.

Prepares designs, plans, estimates, specifications, and oversees construction plans of irrigation, channels, conduits, and mains transport and distribute water and reservoirs, pressure valves and booster stations to obtain water pressure at all levels.

Solves problems encountered with respect to controlled maintenance program.

Designs mechanical engineering systems for complex construction and modeling projects.

Reviews complex mechanical engineering plans and specifications submitted by contractors to verify adequate design and insure compliance with requirements of all regulatory codes; prepares written critiques of all plans and specifications review.

Develops complex plans and studies; develops engineering plans and specifications.

Performs related duties as required.

(ELECTRICAL)

Supervises and participates in the preparation of electrical designs and engineering drawings for projects in the construction of high voltage transmission system such as lines, substation, switching, transformer stations and underground residential distribution facilities.

Supervises and coordinates electrical construction and maintenance engineering support programs.

Prepares detailed labor and material estimates for installation, maintenance, repair and alterations of electrical system and facilities not limited to power and light distribution systems; cathodic protection system; generators; motors, transformers, electrical control devices and instruments; wiring and supporting structures.

Plans, develops, coordinates and directs electrical engineering projects and recognizes significant variations or deviations in data or experimental conditions and reports to the supervisor, together with recommendations as to the probable reasons for their occurrence and possible means of solution.

Plans, develops, coordinates, and directs fairly large electrical engineering projects of the design section or a number of small projects with many complex features.

Examines and approves plans and specifications (electrical) on all construction projects, including the preparation of specifications for government projects.

Schedules field inspection work and directs field inspectors in enforcement activities until such projects are finally completed.

Prepares preliminary and final plans, specifications, feasibility studies on proposed projects, economic reports and cost estimates.

Prepares designs and specifications for building loads center for power and lighting.

Maintains records and prepares reports.

Performs related duties as required.

(TELEPHONE)

Supervises outside plant, projects, transmission and protection projects and major central office engineering projects.

Examines and approves plans and specifications on outside plants constructions, transmission and protection projects and central offices, traffic or electronic equipment projects.

Plans, researches and analyzes project details for basis of precedents established in related projects and devises and recommends alternative methods of standardized analysis as a basis for solving problems.

Plans and conducts research or development work characterized by clear and specified objective in the telephone engineering and administrative duties.

Maintains records and prepares reports.

Performs related duties as required.

(ENVIRONMENTAL)

Supervises and/or participates in special projects, surveys, and engineering investigations; analyzes public health and environmental quality problems; and prepares reports and recommendations for remedial actions.

Reviews and evaluates engineering reports and recommendations prepared by subordinates or consulting engineers on permit applications and environmental control investigations and makes recommendations thereon.

Recommends, reviews, presents and explains applicable laws, rules and regulations and directions to the public, industry and other interested parties.

Trains and instructs others in public health sanitation techniques and procedures, and in advanced or specialized areas of industrial and sanitary hygiene engineering.

Plans educational meetings and coordinates control functions; participates in public hearing as necessary.

Performs related duties as required.

(TRAFFIC)

Supervises and directs traffic engineering activities; directs preliminary engineering work for traffic engineering safety projects; designs traffic control plans, reviews and analyzes accident data to determine high frequency accident locations.

Develops, prepares and drafts traffic specifications, regulations, and legislation.

Supervises preparation of projected traffic data; prepares traffic analysis reports for route location studies, highway capacity analysis, traffic impact studies, and other projects requiring specialized data analyses and estimates.

Performs traffic research projects and prepares technical reports stating findings and recommendations; prepares instructional bulletin concerning criteria for traffic control devices and appropriate techniques for application and use.

Consults with public and private engineers, inspectors, contractors, property owners, utility company representatives and employees in other organizations to give and receive factual information or on problems in connection with location or construction of projects.

Performs special research review or administrative assignments engaged in such functions as design, specification development and cost estimate analyses.

Conducts investigation on new materials which may require development of new test methods.

Evaluates test results, prepares reports and make recommendations for design and construction.

Performs related duties as required.

(ARCHITECTURAL ENGINEERING)

Supervises and participates in the review of structural engineering plans and specifications submitted by consultant to verify adequate design and to ensure compliance with the requirements of all regulatory codes; prepares written critiques of all plans and specifications.

Coordinates investigations, evaluations, surveys and preparation of feasibility reports and construction cost estimates on special studies of complex design problems.

Acts as a professional consultant to field inspectors and assists in field inspection of structures.

Makes recommendations regarding the approval of change orders.

Designs structural engineering systems for small construction and remodeling projects.

Advises and consults with contract architects and consulting engineer and personnel from local agencies and institutions on state policies, standards, and technical data related to building programs.

Performs related duties as required.

MINIMUM KNOWLEDGE, ABILITIES, AND SKILLS:

Knowledge of the principles and practices of civil, mechanical, electrical, telephone, traffic, environmental, or architectural engineering.

Knowledge of the local and national building and safety regulatory codes.

Ability to supervise the work of others or supervise a major engineering program.

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Ability to make decisions in accordance with appropriate program guidelines.

Ability to interpret and apply pertinent laws, regulations, requirements and policies of the department.

Ability to analyze and evaluate proposals.

Ability to prepare, interpret, and utilize plans, designs, and specifications.

Ability to prepare comprehensive reports.

Ability to test the quality and suitability of new methods of construction and various types of materials.

Ability to work effectively with the public and employees.

Ability to communicate effectively, orally and in writing.

Ability to maintain records.

MINIMUM EXPERIENCE AND TRAINING:

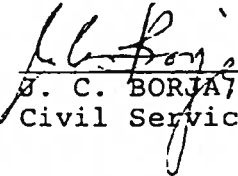
- a) Three years of progressively responsible specialized experience in the applicable field of engineering and graduation from a recognized college or university with a Bachelor's degree in the particular engineering field; or
- b) One year of specialized experience in the applicable field of engineering and current registration as a Professional Engineer by any state or territory of the United States; or
- c) Three years of progressively responsible specialized experience in the applicable field of engineering and possession of a current Engineer-in-Training (EIT) certificate from any state or territory of the United States; or
- d) Four years of progressively responsible specialized experience in the applicable field of engineering and graduation from a recognized college or university with an Associate's degree in engineering; or
- e) Three years of specialized experience in the applicable field of engineering and graduation from a recognized college or university with a Bachelor's or higher degree in engineering technology, physics, architecture or closely related field.

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Amended: April, 1986

PAY RANGE: 40

Pay Grade N Step 1: \$31,064 - Step 10: \$46,596


S. C. BORJA, Executive Director,
Civil Service Commission

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