CLASS SPECIFICATION

CLASS: Assistant Engineer / Associate Engineer / Associate Civil Engineer
ALLOCATION: Community Development & Services Agency
FLSA STATUS: Non-Exempt **ESTABLISHED:** February 2024
UNION AFFILIATION: YCEA

JOB SUMMARY:

Perform engineering work, including preparing design plans, specifications and engineering estimates related to roads, bridges, culverts and other County infrastructure; project management; assist in developing and administering professional services or construction project contracts; review plans and inspect projects; collect and present data and prepare reports; provide information and advice to the public and perform related work as assigned. This class is alternatively staffed and incumbents may advance to the next level after gaining experience, obtaining required certifications or registration and demonstrating proficiency which meet the qualifications and expectations for that higher level class.

Assistant Engineer is the entry level in the civil engineering series. Initially under close supervision, incumbents provide assistance to management staff or higher-level engineers in the areas of research, data collection, project administration, preparation of reports and preparation of engineering plans and specifications. Assignments are intended to provide background in the fundamental principles and practices of public service engineering. This class is distinguished from the Associate Engineer in that the latter performs the full range of duties and is assigned more advanced project management, design and plan review responsibilities with only minimal instruction or assistance.

Associate Engineer is the journey level in the civil engineering series. Under general supervision incumbents independently conduct design, research and construction project work and analyses for a variety of projects within the county. Responsibilities may also include providing work direction to technical support staff. This class is distinguished from the Associate Civil Engineer in that the latter is a registered engineering classification, able to perform the additional duties, including signing designs and authorizing construction changes that are permitted with State registration.

Associate Civil Engineer is the advanced journey level in the civil engineering series. Under general direction incumbents perform professional engineer work and prepare civil design plans for various Public Works projects. Responsibilities include independently conducting engineering feasibility cost, researching and designing studies and construction project work, providing analyses for varied department and agency projects and function and signing off designs and as-built changes related to roads, bridges, culverts and other County infrastructure. This class is distinguished from the Assistant Public Works Director in that the latter directs the day-to-day activities and operations of the Public Works Department and assists the Public Works Director with policy development, program and project planning and budget development and administration.

CLASS CHARACTERISTICS:

This position reports directly to Assistant Public Works Director and may receive lead direction from Associate Civil Engineer at the Assistant/Associate Engineer level.

EXAMPLES OF DUTIES:

Essential:

Assistant Engineer:

- Perform topographic surveys; analyze survey reports, drawings, blueprints, aerial photography, and other topographical or geological data to plan projects.
- Design, prepare and evaluate preliminary and final plans and specifications for a variety of roads, bridges, public works, and County building and facility design, maintenance and retrofitting projects.
- Perform project resident engineering oversight on various construction projects; coordinate daily activities, ensure compliance with plans and specifications, and administer contracts.

- Conduct feasibility and cost studies; recommend alternative approaches, including the use of contract services and the incorporation of new methods and materials.
- Provide engineering design and code information and ensure that designs meet accepted industry and legal standards.
- Conduct research studies and prepare reports and recommendations regarding traffic operations, land use applications, roadways, bridges, parks, and a variety of engineering-related community service needs.
- Make oral and graphic presentations or prepare materials for presentation to boards, commissions and community groups; answer questions and provide information and assistance to the public, in person, on the telephone and in writing.
- Use computer and software programs for various technical modeling, calculation, database, mapping, computer-aided drafting and similar engineering applications.
- Prepare a variety of written communications, including analytical reports and correspondence; direct the preparation of or prepare maps, plans and graphic materials.

Associate Engineer (in addition to the above):

- May provide work direction and instruction to less experienced engineers, technical field or office support staff on a project or day-to-day basis.

Associate Civil Engineer (in addition to the above):

- Authorize specific engineering designs in area of professional expertise; review and accept plans and as-built changes required during construction.
- Review and check structural designs, calculations, contractors' shop drawings, and engineering drawings for construction, repair and maintenance projects; review proposed projects to ensure compliance with regulatory requirements.
- Perform field inspections and testing of various projects; coordinate activities with field staff, contractors and other agencies.
- Provide responsive, accurate, and high-quality professional engineering consultation to other engineers, architects, contractors, other public agencies and other county departments to resolve problems and coordinate project activities; may represent the department to commissions, boards and regulatory agencies.
- Coordinate and perform traffic studies and topographic surveys; analyze survey reports, maps, drawings, blueprints, aerial photography, and other topographical or geological data to plan projects.
- Prepare or present public reports on topics such as bid proposals, engineering designs and technical reports, environmental impact statements, property and right-of-way descriptions, and various other department related activities.
- Prepare agreements and contracts for approval by department management.
- Procure appropriate permits, clearance and approval from other agencies; request proposals and prepare consultant agreements for special studies; direct staff members in preliminary engineering, construction inspection, and materials testing on construction jobs.
- Prepare engineering documents including structural drawings, contract proposals, material lists, reinforcements, structural specifications, maps, plans, charts or diagrams for a wide variety of road, bridge, park and structures projects.
- Assist in developing and administering professional services or construction project contracts.
- Perform complex engineering activities and calculations related to design, construction and project management, including reports, records and correspondence.
- Act as engineering project manager; direct project inspections and monitor progress; coordinate project activities and mediate problems.
- Prepare or oversee the preparation of a variety of engineering and administrative reports, including analytical reports, computations, texts, graphical data presentations, drawings, conclusions, recommendations and correspondence; direct the preparation of and prepare maps, plans and graphic materials.
- Select and use computer software to develop engineering and mathematical analysis of design problems in hydraulics and hydrology, drainage and control facilities, earthwork and grading, highway and bridge design, traffic control and operations.

Important:

- Comply with all County equipment and safety policies and procedures, and California Occupational Safety and Health Administration (CalOSHA) rules and regulations.
- Maintain a variety of plans, maps, permits and related documents.
- Use standard office equipment, including a computer, in the course of the work.
- Drive a motor vehicle to attend meetings and inspect project sites.

EMPLOYMENT STANDARDS:

Knowledge of:

Assistant Engineer:

- Engineering objectives, principles, procedures, standards, practices and information sources.
- Statistical analysis and mathematical concepts related to the engineering process.
- Terminology, symbols, methods, techniques and instruments used in engineering graphics and drafting.
- Principles and practices of materials and soils analysis and materials testing.
- Computer software applications, including word processing, spreadsheets, AutoCad, graphics, databases and project scheduling and management.
- Business letter writing and the standard format for typed materials.
- Record-keeping principles and practices.
- Safety principles and practices related to the work, including Occupational Safety and Health rules and regulations.
- The structure and content of the English language including the meaning and spelling of words, rules of composition and grammar.
- Techniques for dealing successfully with a variety of individuals from various socio-economic, ethnic and cultural backgrounds in person, in writing and over the telephone.
- Basic surveying principles and practices.

Associate Engineer (in addition to the above):

- Techniques for working successfully with other employees in a lead capacity.
- Principles and practices of technical and functional supervision and training.
- Road, bridge, facility and/or building design and construction principles, methods and materials.
- Applicable laws, codes, and regulations such as State, Federal and local statutes, ordinances, policies, standards, and practices pertaining to civil engineering.
- Project design and management principles and techniques.

Associate Civil Engineer (in addition to the above):

- Construction materials and equipment used in the building of highways, drainage and control facilities, and other structures.
- Traffic control and operations.
- County ordinances related to grading, drainage, street improvements, subdivisions, and land use regulations.
- Storm water pollution prevention best management practices.

Skill in:

Assistant Engineer

- Researching, analyzing and summarizing engineering data both manually and with computer applications.
- Interpreting maps, plans and specifications, graphs and statistical data.
- Making complex engineering calculations quickly and accurately.
- Preparing clear, concise and complete technical documents, reports, correspondence and other written materials.
- Exercising sound independent judgment within established guidelines.
- Working without close supervision in standard work situations.

- Effectively using tact, patience, courtesy, discretion and prudence in dealing with those contacted in the course of the work.
- Establishing and maintaining effective working relationships with those contacted in the course of the work.

Associate Engineer (in addition to the above):

- Planning, directing and reviewing the work of others on a project or day-to-day basis.
- Understanding and applying federal, state and local laws, regulations, policies, procedures and standards pertaining to engineering and construction.
- Performing technical, detailed engineering design, computer modeling and related project development.
- Serving as the on-site project manager for a variety of engineering field projects.
- Representing the County or agency effectively in meetings with developers, contractors, representatives of business, community and professional groups and the public.

Associate Civil Engineer (in addition to the above):

- Applying modern engineering techniques to solve a variety of engineering problems.
- Considering the relative costs and benefits of potential actions to choose the most appropriate one.
- Evaluating the work of contractors and consultants for compliance with project plans, specifications and applicable laws, ordinances and policies.
- Assessing, prioritizing multiple tasks, projects and demands.
- Data collection and analysis; and conducting impact analysis and making appropriate recommendations.
- Dealing successfully with a variety of individuals from various socioeconomic, ethnic and cultural backgrounds.

Ability to:

Assistant Engineer:

- Listen carefully to what other people are saying, take time to understand the points being made, and ask questions as appropriate for clarification.
- Give full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate and not interrupting at inappropriate times.
- Deal tactfully and effectively with the public, regulatory agencies and policy-making bodies, developers, engineering firms and contractors, and others contacted in the course of the work.
- On a continuous basis, know and understand all aspects of the job; intermittently analyze work papers, reports and special projects; identify and interpret technical and numerical information; and observe and problem solve operational situations, technical policies and procedures.
- Organize, plan and prioritize work, developing specific goals and plans to accomplish your work in a timely manner as established by regulations and local policy.
- Pay attention to detail and be thorough in completing work tasks.
- Communicate clearly and concisely, both orally and in writing.

Associate Engineer and Associate Civil Engineer (in addition to the above):

- Analyze and interpret complex data and reports and reach sound conclusions.

Physical Demands: The physical demands and work environment described here are representative of those that must be met by an employee to successfully perform the essential function of the job, with or without accommodation. Prospective employees must complete a pre-employment medical exam (Occupational Group IV) which will measure the ability to:

- See well enough to read fine print and view a computer screen; speak and hear well enough to understand, respond, and communicate clearly in person and on the telephone; independent body mobility sufficient to stand, sit, walk, stoop and bend to access the work environment and a standard office environment; manual dexterity and sufficient use of hands, arms and shoulders to repetitively operate a keyboard and to write; and the ability to sit or walk for prolonged periods of time.

- Mobility to drive a motor vehicle and inspect construction sites involving trenches, embankments and uneven terrain.

Accommodation may be made for some of these physical demands for otherwise qualified individuals who require and request such accommodation.

Work Environment:
- Generally a typical office environment.
- Work with exposure to potential hazards at various construction sites.
- May be exposed to dangerous machinery, potential physical harm, hazardous chemicals, and extreme weather conditions.

QUALIFICATIONS:
The minimum and preferred requirements are listed below. While the following requirements outline the minimum qualifications, Human Resources reserves the right to select applicants for further consideration who demonstrate the best qualifications match for the job. Meeting the minimum qualifications does not guarantee further participation in selection procedures.

Licenses and Certification:
- The ability to obtain a valid California Class C driver's license within ten (10) days of employment; maintain throughout employment.

Associate Civil Engineer:
- Possess registration as a Civil Engineer in the State of California.

Special Requirements:
- Must successfully complete an extensive and thorough background investigation, which may include Live Scan fingerprinting prior to hire.
- Must file statements of economic interest with the Yuba County Clerk/Recorder.
- DMV printout prior to hire.
- Will be required to perform disaster service activities pursuant to Government Code 3100-3109.

Education and Experience:

ASSISTANT ENGINEER:

MINIMUM: Bachelor's degree in Civil Engineering or a related field from an accredited 4-year college or university.

OR

Bachelor's degree in Civil Engineering or a related field from a foreign or non-US college or university and an evaluation of the educational units from a United States accredited college or university or an approved agency verifying the coursework is equivalent to a Bachelor's degree in Civil Engineering or a related field and a minimum of two years experience equivalent to the County's class of Engineering Technician in the United States.

PREFERRED: In addition to the minimum, possession of a California Engineer-In-Training (EIT) Certificate and up to two years of additional engineering experience.

ASSOCIATE ENGINEER:

MINIMUM: Bachelor's degree in Civil Engineering or a related field from an accredited 4-year college or university and four years of civil engineering experience in a public agency or equivalent.

OR

Bachelor's degree in Civil Engineering or a related field, possession of a California Engineer-In-Training (EIT) Certificate and two years of civil engineering experience in a public agency or equivalent.

PREFERRED: In addition to the minimum, possession of a California Engineer-In-Training (EIT) Certificate and additional years of civil engineering experience in a public agency setting.

ASSOCIATE CIVIL ENGINEER:

MINIMUM: Bachelor's degree from an accredited 4-year college or university in Civil Engineering, Surveying or a closely related field and two years professional engineering experience.

PREFERRED: In addition to the minimum, a Master's degree in Civil Engineering and three years of civil engineering experience in a public agency setting.

This class specification lists the major duties and requirements of the job. Incumbent may be expected to perform job-related duties other than those contained in this document.

Approval: Department Head

Date:

Signature: _____

Human Resources Approval: Analyst

Date:

Signature: _____

EEOC: B
WC: 9410

Established: February 2024
Revised: