MERCED IRRIGATION DISTRICT
ENGINEERING TECHNICIAN

FLSA Status – Non-Exempt

DEFINITION:

Under general supervision of the Senior Resources Planner or his/her designee, perform non-professional engineering tasks in support of research, planning, design and construction of the electric systems; operation and maintenance of electrical generation, transmission and distribution systems. Conduct field inspections and prepare reconnaissance reports, perform manual drafting, and operate AutoCAD system, drafting and mapping tasks; provide assistance to other engineering staff; customers, construction personnel, outside agencies and perform other duties as required.

ESSENTIAL FUNCTIONS OF THE POSITION:

- Prepare, maintain, and revise detailed electrical engineering designs and drawings related to the construction of a variety of electrical generation, transmission, and distribution systems.
- Prepare engineering calculations including electrical load and fuse size, pole and arm stress calculations, primary and secondary voltage drops and flicker for electrical line construction projects.
- Process applications for facility changes and overhead and underground line extensions; coordinate and schedule capital projects.
- Conduct periodic and final inspections of construction projects by outside developers and contractors.
- Participate in the preparation of a variety of drawings, specifications and material estimates related to electrical engineering projects including generation, transmission and distribution systems; update distribution maps at the completion of construction.
- Revise electrical diagrams of installation for equipment and a variety of other construction projects. Calculate estimates of relocation costs and coordinate construction projects with outside contractors and District construction crews, and monitor contracts with outside contractors and prepare billings as needed.
- Prepare a variety of studies and reports related to a specific area of assignment; conduct customer surveys; assist in the preparation of short and long-range planning.
- Determine, review, and administer requirements for service to specific plans, annexations, residential tracts, and commercial and industrial developments.
- Develop engineering construction standard; download and read research records; troubleshoot field recorder problems; identify opportunities for improving electrical system efficiency.
- Answer questions and concerns from the public regarding electrical engineering activities; provide information related to methods and standards to the public and developers.
- Make engineering calculations; draft and design District facilities.
- Prepare a variety of reports and records related to electrical engineering; update and maintain records and files related to the area of assignment.
- Coordinate electrical engineering related activities with other District administrations, departments, and outside agencies.
- Coordinate and review the work of technical staff assigned to electrical engineering; assist in training, and inspect work performed by assigned staff.
- Make field inspections ensuring District rules, regulations, and standards are adhered to.
- Utilize GIS/AutoCAD and other software, including engineering and design applications.
- Update and maintain records and files on the computer.
- Perform other duties as requested, directed, or assigned.

QUALIFICATIONS:

Any combination of experience and education that would prepare the candidate for the duties and responsibilities of the position is acceptable.

Education:
A typical way of obtaining the knowledge, skills, and abilities outlined in this job description would be graduation from high school and/or preferably an AA Degree in a related field. Some college level engineering and drafting course work highly desirable including basic electricity and mathematics at the trigonometry level.

Experience:
One (1) to three (3) years' experience executing comparable duties and responsibilities similar to those identified in this job description.

Ability to:
- Learn to perform technical engineering, including estimating, planning, surveying, and designing electrical systems.
- 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; observe, and problem solve operational and technical policies and procedures.
- Prepare, maintain, and revise detailed drawings and maps manually and with AutoCAD/CADD.
- Perform technical research and make recommendations regarding elementary engineering problems.
- Perform elementary engineering calculations with speed and accuracy.
- Use and care for engineering and surveying equipment.
- Maintain records related to work activities; prepare reports.
- Coordinate and schedule assigned tasks.
- Maintain computer databases.
- Perform technical research.
- Plan, organize, and prioritize assigned tasks and functions efficiently under time and pressure deadlines.
- Establish and maintain effective working relationships with those contacted in the course of work.
- Communicate clearly and concisely, both orally and in writing.

Knowledge of:
- Methods and techniques of engineering, surveying, drafting, and estimating.
- District funtions, policies and produres.
- Microsoft Windows® based desktop computers and software.
- AutoCAD as it relates to two-dimensional drawings and ability and desire to obtain proficiency.
- Basic algebra and trigonometry to enable an individual to use algebraic expressions and trigonometric equations to solve basic engineering problems.
- Materials, methods, and tools involved in the construction of electrical facilities.
- Pertinent local, State and Federal codes, regulations, and laws, and District standards.

Necessary Special Requirements:
A valid California Class C Driver License and the ability to maintain insurability under the District's vehicle insurance program.

ESSENTIAL MENTAL ABILITIES:
- Exercise independent judgment.
- Self-directing and organized.
- Reason objectively.
- Assess, project, and plan work activities on a daily and weekly basis.
- Interpret state/ federal/agency regulations.
- Document concisely, accurately, and timely.
- Handle a variety of duties which may be interrupted or changed by immediate circumstances.

ENVIRONMENTAL FACTORS:

- Exposure to the sun: 30% or less work time spent outside a building and exposed to the sun.
- Irregular or extended work hours: Occasionally required to change working hours or work overtime.
- Work performed in an office environment

The mental and physical demands described here 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 functions:

TYPICAL PHYSICAL DEMANDS:

- Communicate orally and in writing with District management, co-workers, outside auditors, customers, and the public in face-to-face and one-on-one settings.
- Transport, set-up, and removal of promotional equipment and materials at various public functions.
- Use of office equipment such as computer, copiers, scanners, and fax machines.
- Capable of negotiating stairways and uneven ground from time to time.

Sitting:	Remains in a seated position for up to eight (8) hours per day.
Hands/Arms:	Operates computer for up to eight (8) hours per day.
Lifting:	Raises and lowers boxes and supplies up to twenty-five (25) pounds.
Stooping:	Bends body downward and forward by bending at the knees or waist.
Talking:	Expresses ideas and shares information by means of spoken word in person and by telephone.
Hearing:	Hears well enough to receive communications in person and by telephone.
Vision:	Reads written and video messages for up to eight (8) hours per day. Operate vehicles and office equipment.

SUPERVISION:

The position receives general supervision from a Professional Engineer.