

## FRESNO IRRIGATION DISTRICT

**POSITION: ENGINEER - I, II, III & IV**

**FLSA STATUS: EXEMPT**

**CURRENT GRADE: 30, 31, 34, & 36**

**Revised: 07/2013**

### **PURPOSE**

Under varying degrees of direction, performs difficult professional engineering work in the planning, design and construction of District structures and facilities; performs a variety of office and field duties; ensures the safety of District facilities; ensures compliance with applicable regulations or contractual obligations; provides direction for technical engineering staff; serves as resident engineer on construction projects; and provides assistance to customers, construction personnel, outside agencies and others as necessary.

### **DISTINGUISHING CHARACTERISTICS**

***Engineer I***– This is the entry level class requiring independent initiative and judgment. The position works under general supervision and performs work which has some variation and which allows a moderate range of choice in the application of defined methods or procedures. The employee will receive minimal instruction when tasks are assigned and have some latitude in selecting work methods. Work is generally reviewed upon completion. The employee is expected to refer to the supervisor for instruction matters that do not fit a clear pattern. The employee must be capable of initiating, planning, and coordinating projects which may encompass staff from various departments including engineering, water, and maintenance/construction. Employees may have limited job related experience and are trained on the job. Position does not require an Engineer-in-Training (EIT) Certificate or Professional Engineer (PE) License.

***Engineer II***– This is a entry level position with the same distinguishing characteristics as the Engineer I but position requires an EIT as well as other criteria listed under Education and Experience.

***Engineer III***– This is an experienced level position requiring a high degree of technical knowledge, supervisory ability, independent initiative and judgment. The position works under general supervision and performs work which has a wider range of projects and choice in the application of defined methods or procedures. This position requires a PE in Civil, Mechanical, Agricultural Engineering or a related engineering field as well as other criteria listed under Education and Experience. If not registered, incumbent must possess an EIT, have six (6) years of related experience and be actively progressing towards obtaining a PE in Civil, Mechanical, Agricultural Engineering or a related engineering field.

***Engineer IV***– This is an experienced level position who works independently and must be capable of initiating, planning, and coordinating projects and special assignments. The position will assign and review the work of subordinate personnel engaged in drafting, surveying, or other support functions related to project management and design. Employees at this level receive

only occasional instruction or assistance as new or unusual situations arise. This position must be registered by the State of California as a Civil Engineer as well as the other criteria listed under Education and Experience.

### **EXAMPLES OF DUTIES**

- Develops designs, plans, and specifications for construction and development of District's capital projects or for outside Developer or Agency. Projects may be constructed by contract, by in-house forces, or a combination of both.
- Acts as construction inspector or works together with District's Inspector for both District and private contract work being performed on or around District facilities, to insure work is done in accordance with District standards. Offers technical advice to District's Maintenance/Construction Department and private contractors.
- Reviews plans submitted by consulting engineers or agency engineers for a Developer or Agency project. Generates comments which conform to District standards and coordinates with District's Water and Maintenance Departments.
- Ensures the safety of District facilities for both the general public and District employees. Also ensures the District operates its facilities in compliance with all applicable regulations or contractual obligations.
- Performs research into District rights-of-way, easements, deeds, etc.
- Performs complex field survey work as needed to support District construction projects, evaluations of legal land and easement descriptions, or special study projects (i.e. groundwater studies, soil borings, etc.).
- Assists office engineering personnel and participates in the drawing or plotting of various maps, topographic surveys, cross-sections, hydraulic profiles, traverses, sketches and related drafting work as needed.
- Provides project coordination and direction for technical engineering support staff.
- Prepares estimates of materials and quantities in the development of plans, profiles, maps, and drawings for construction projects.
- Participates in the development and implementation of the District's long-range master plan for future service requirements, seasonal repair projects and facility development.
- Represents the District at meetings and conferences as delegated in coordination with other agencies, governmental bodies, planning agencies, technical groups, and developers.
- Prepares correspondence related to engineering functions.
- Provides support to Chief Engineer in making presentations regarding engineering issues to the Board of Directors.
- Performs other related duties as required.

### **KNOWLEDGE AND ABILITIES**

#### **Knowledge of:**

- Principles and practices of civil engineering, engineering hydraulics, surveying, and construction techniques.

- Basic understanding of open channel and pipeline flow, including methods (formulas) required to calculate these flows.
- Advanced mathematics and physics.
- Principles of engineering economics and their practical application to water development and water distribution.
- Public interaction in addressing clients and involved agencies' needs.
- Contract development and administration.
- Project management.
- Computer programs related to engineering tasks. Basic knowledge of computer aided design (CAD), flume design, geographic information systems (GIS), word processing (MS Word), spreadsheets (MS Excel) and database management (MS Access).
- Application of business writing and reporting.
- Written and verbal presentation of technical information.
- Laws, rules, ordinances, and legislative process governing water rights and water development.

### **Skills and Ability to:**

- Plan, carry out and coordinate assigned engineering projects with District activities and services. Direct staff, construction personnel, contractors, inspectors as required.
- Produce plans and specifications, and engineering quantity and cost estimates (typically earthwork, pipelines, reinforced concrete volumes, pumps, valves and related appurtenances, and required labor).
- Appreciate and be sensitive to the political reality in a small public agency.
- Apply common sense based on best engineering practices in resolving non-standard situations, and field adjustments.
- Use computer systems and software packages related to engineering analysis and functions. Programs may include word processing, spreadsheets, CAD, flume design, and GIS. Learn new computer software when needed.
- Apply engineering principles and practices, survey, and construction techniques.
- Provide knowledgeable and professional representation of the District during interactions with the public, other agencies, contractors, developers, and engineering consultants.
- Build consensus with the public, be it on a cooperative project or District standard enforcement.
- Establish and maintain cooperative working relationships with fellow employees, other departments, and the public as required.
- Communicate clearly in writing and verbally.

### **PHYSICAL ATTRIBUTES**

- Travels frequently by motor vehicle in conducting and coordinating surveys and other conduct of District business.
- Communicates orally with District management, co-workers, and the public in face to face, one on one and group settings.
- Regularly uses a telephone and radio for communication.
- Uses office equipment such as computer terminal, copy machines and fax.

- Frequently walks on uneven terrain, in an outdoor environment, in varied weather conditions, conducting field reconnaissance, meetings, and surveys.
- Occasionally required to climb, balance, stoop, kneel, crouch, or crawl.
- Sits for extended periods of time.
- Hearing within normal ranges.
- Operates field survey instruments requiring acute vision and excellent eye-hand coordination.
- Regularly lift and/or move up to 10 pounds, frequently lift and/or move up to 25 pounds and occasionally lift and/or move up to 50 pounds.

## **INTERNAL AND EXTERNAL CONTACTS**

### **Internal Contacts:**

- Watermaster; Maintenance Superintendent; Water Supervisors, Maintenance/Construction Supervisors.
- Water Systems Operators, Maintenance/Construction Staff.
- Administration and Management.

### **External Contacts:**

- Contractor, Developers, Consulting Engineers, Agency Planners, Agency Engineers, and Agency Inspectors.
- Landowners and the General Public.
- Regulators and Attorneys.

## **EDUCATION AND EXPERIENCE**

Any combination of education and experience may satisfy the necessary minimum qualifications. A typical way to obtain the education and experience would be:

### **Education:**

High school diploma or equivalent. Bachelor of Science degree in Civil Engineering, Agricultural Engineering or related technical field from an accredited four (4) year college or university.

### **Experience:**

- Six (6) years of increasingly responsible professional engineering experience in design and construction of irrigation, flood control, water treatment and distribution, and wastewater treatment facilities or other similar engineering experience for the Engineer IV position;
- Three (3) years of increasingly responsible experience in hydraulics, civil engineering and structural design or other similar engineering experience for the Engineer III position. If not registered, incumbent must possess an EIT, have six (6) years of related

experience and be actively progressing towards obtaining a PE in Civil, Mechanical, Agricultural Engineering or a related engineering field.

- One (1) year of related technical or construction experience is desired for the Engineer I and Engineer II position.

### **Certificates, Licenses and Registrations:**

#### **Registration, Licenses and Certificates:**

- For the Engineer IV position, incumbent must be registered by the State of California as a Civil Engineer. Advanced degrees are desirable.
- For the Engineer III position, incumbent must possess a PE in Civil Engineering, Mechanical Engineering, Agricultural Engineering or a related engineering field. Advanced degrees are desirable. If not registered, incumbent must possess an EIT, have six (6) years of related experience and be actively progressing towards obtaining a PE in Civil, Mechanical, Agricultural Engineering or a related engineering field.
- For the Engineer II position, incumbent must possess an Engineer-In-Training (EIT) certificate. Advanced degrees are desirable.

**Driver License:** Possession of a valid California Class C Driver License shall be required at the time of appointment. Failure to obtain or maintain such required license(s) may be cause for disciplinary action. Individuals who do not meet this requirement due to physical disability will be considered for accommodation on a case-by-case basis.

Possession and proof of a good driving record as evidenced by freedom from multiple or serious traffic violations or accidents for the most recent two (2) years duration. The driving record must not contribute to an increase in the District's automobile rates.

The specific statements shown in each section of this job description are not intended to be all-inclusive. They represent typical elements and criteria necessary to successfully perform the job.