

GIS/CAD SPECIALIST

DEFINITION

Under the general supervision of the Engineering Manager, the GIS/CAD Specialist utilizes Geographic Information Systems and Computer Aided Design to perform a variety of activities, including the creation of maps & reports utilizing spatial & textural data and performs technical engineering. Assignments vary and work may be related to applications for operational, environmental, construction or design engineering tasks and performs other related duties as required.

CLASS CHARACTERISTICS

This is a single position class. The incumbent independently performs engineering work of average difficulty that requires a detail-oriented, highly organized individual with previous office and administrative experience; excellent Geographical Information System (GIS) knowledge and skill; well-developed skill with Computer Aided Design (AutoCAD) excellent written and oral communications skills, and good general computer skills including familiarity with the Internet and software programs related to desktop publishing. Familiarity and skill in the use of computers, software, scanners, plotters, and digital photography. The nature of the work requires the ability to identify projects, establish work priorities and manage multiple projects with overlapping deadlines with a high degree of independence.

SUPERVISION RECEIVED AND EXERCISED

Supervised by: Engineering Manager

Exercises supervision over: No supervisory responsibility

ESSENTIAL DUTIES *(Duties may include, but are not limited to, the following):*

Prepares construction plans, drawings, sketches and maps for construction or modification of water and sewer facilities, water mains and sewer collection lines.

Maintains and updates the District's GIS files and software installations.

Maintains and updates the District's facility map books.

Maintains and updates District's water and wastewater system models. Conducts appropriate modeling scenarios for engineering analysis.

Plots right-of-way alignments showing profiles, contours and topographic features; prepares base maps.

Maintains and updates District's index maps, flat files and original drawings including, meter installations, pipe repair/replacement and leak repairs.

Performs field survey work using automatic survey and data collection equipment;

performs special projects and/or collects field data; analyzes data and prepares report of findings.

Prepares legal descriptions and plans for right-of-way acquisitions; prepares easement, fee parcel and quitclaim documents; maintains right-of-way master lists and database; researches customer questions regarding right -of-way issues.

Locates district facilities; researches maps and conducts field searches to locate lines, mains, and other underground facilities.

Assists in the development of Requests for Proposals, development of bid specifications, processing of change orders and maintaining related documentation.

Performs administrative engineering work including meter application reviews, system flow and pressure requests, and document filing and organization.

Prepares staff reports and correspondence as needed.

Maintains District Standards and Specifications for construction methods and materials for water distribution and sewage collection facilities.

QUALIFICATIONS

DEMONSTRATED KNOWLEDGE OF AND PERFORMANCE IN THE FOLLOWING AREAS:

- Principles and techniques of GIS applications and database management using ArcGIS;
- Principles and techniques of drafting and map preparation using AutoCAD and WaterCAD;
- Principles and techniques of pressure and gravity system computer modeling;
- Principles, practices and terminology of field survey work including automated survey and data collection equipment and software;
- Principles and practices related to standard waterworks including piping, pumps, motors and water treatment equipment;
- Practices and methods of preparing plans, designs and specifications for water distribution and sewer line structures;
- Basic mathematics used in technical engineering;
- Safety problems and procedures.
- Use of general office applications; Microsoft Word, Excel, Outlook, and Powerpoint.

ABILITY TO:

- Read and interpret construction drawings and maps.
- Apply engineering and data processing principles to the solution of engineering problems;
- Use a variety of engineering software applications;
- Prepare drawings from existing drawings and design notes and sketches;
- Perform survey work including verification of lay out, elevations, line and grade;
- Create and maintain accurate records, databases and files;

- Prepare engineering reports and records;
- Perform mathematical computations for design and right-of-way work;
- Establish and maintain effective relationships with outside agencies, contractors, consultants, customers and staff;
- Communicate effectively both orally and in writing.

PHYSICAL AND SENSORY REQUIREMENTS

- Sufficient eyesight to read fine plans and standard text and data;
- Ability to speak and hear at normal conversational levels in person and over the telephone;
- Manual dexterity to write legibly and to use calculators, computer terminal, and field survey work and draw engineering sketches by hand;
- Ability to lift and carry up to forty (40) pounds on an occasional basis;
- Ability to reach, bend, stoop or crouch to conduct survey work or to use files and records;
- Ability to occasionally walk on uneven and slippery surfaces;
- Exposure to outdoors and high noise levels as created by large pumps;
- Ability to travel to different sites and locations.

TRAINING AND EXPERIENCE GUIDELINES

Any combination of training and experience, which demonstrates attainment of the required knowledge and ability to perform the required work (with reasonable accommodation, if needed), typically:

EDUCATION: Equivalent to graduation from high school with college level classes in GIS and AutoCAD.

EXPERIENCE: Two (2) years of experience in Geographical Information Systems, computer-aided drafting and engineering survey fieldwork.

CERTIFICATIONS, LICENSES, AND REGISTRATIONS

A valid California class C driver's license must be maintained at all times.