

ENGINEERING DRAFTER / CADD EQUIPMENT OPERATOR

Definition:

Under general or direct supervision performs drafting work, operates computer-aided design and drafting (CADD) programs to complete basic engineering construction drawings; prepares plans and maps related to public utility, construction and improvement projects; prepares documentation for storage and retrieval and performs related work as required.

Essential Duties and Responsibilities:

The responsibilities and essential duties performed on a frequent and recurring basis by an incumbent include the following:

- Operates a personal computer and uses specialized CADD software to produce, store, back up and retrieve basic civil engineering related working drawings, plans, maps, records and related documents.

- Reviews existing plans, drawings, utility locations and specifications to complete finished drawings from preliminary plans and field survey notes.

- Produces detailed layouts, finished drawings and related data from preliminary design sketches and field survey notes.

- Produces base layouts for streets, storm drains, sanitary sewers and other public works projects.

- Performs grading computations and assists in computing vertical and horizontal alignments for drawings and plans.

- Reviews and verifies CADD digital files and related databases for accuracy and format compliance.

- Participates in field inspections, verifies project layout and design specifications and compares working drawings to physical conditions.

- Makes technical and mathematical checks related to the accuracy of data and calculations.

- Computes material quantities required and prepares cost estimates.

- Operates a variety of specialized drafting and plan/map related equipment.

Maintains a variety of records and prepares reports.

Lifts and moves boxes of records and other items weighing 30 pounds or less.

Drives a vehicle on City business.

Other Duties and Responsibilities:

Performs other projects/tasks as assigned.

Class Characteristics:

Engineering Drafter / CADD Equipment Operator is a multi-incumbent technical class in the Engineering Department. Incumbents perform a variety of drafting and CADD functions and are differentiated from the Senior CADD Equipment Operator by the Senior CADD Equipment Operator's higher level of duties and responsibilities.

Contacts and Relationships:

An Engineering Drafter / CADD Equipment Operator establishes and maintains contact with staff in the Engineering Department and staff in other City departments. Contact with consultants, contractors, vendors and the public may occur during the course of some work assignments.

Qualification Guidelines:

The knowledge and abilities which are required to perform the duties and responsibilities of this class are as follows:

Knowledge of:

Basic principles, practices and techniques for operating CADD programs for civil engineering applications.

Basic knowledge of street, sewer and storm drain features and functions.

Engineering mathematics to include algebra, geometry and trigonometry.

English usage and spelling.

AND

Ability to:

Operate a personal computer and use applicable software to include CADD software.

Utilize established functions and formulas to make computations and solve basic engineering problems.

Interpret field survey notes and apply to the preparation of finished drawings, plans, profiles and topographic maps.

Determine material quantities within established guidelines and prepare basic cost estimates.

Understand and carry out oral and written instructions and work in accordance with established policies and procedures.

Communicate effectively orally and in writing.

Establish and maintain effective relationships with those contacted in the course of work.

Read and write at the level required for successful job performance.

Meet the public with courtesy and tact.

A typical way to obtain the knowledge and abilities is as follows:

Education:

Graduation from high school and two years of study at an accredited college or university with major course work in pre-engineering or mechanical drafting to include basic training in the operation of CADD software application programs.

AND

Experience: Two years of drafting or surveying experience.

Special Requirements Include:

Valid and appropriate California Drivers License and acceptable driving record at time of appointment and throughout employment in this position.

Must be able to work a flexible schedule to accommodate City needs.

Physical Tasks and Working Conditions Include the Following:

Work is performed indoors in an office environment and on-site in the field. When work is performed outdoors there is exposure to the elements. An incumbent drives a vehicle on City business, uses a computer, keyboard and related equipment, sits for extended periods of time, stands, walks, reaches, bends, kneels, twists, crouches and grasps, lifts and carries boxes of records and other items weighing 30 pounds or less. An incumbent must be able to meet the physical requirements of the class and have mobility, balance, coordination, vision, hearing and dexterity levels appropriate to the duties to be performed.

Fair Labor Standards Act Designation: Non-exempt.

Established August 2004 – Class consolidation - Engineering Drafter and CADD Equipment Operator