

CAD/GIS TECHNICIAN IDefinition:

Under direct supervision of the CAD/GIS Supervisor, perform a variety of drafting, surveying and paraprofessional engineering duties in support of professional engineering staff; create and maintain maps, other geographic source data, technical engineering drawings, tracings, charts and graphs using prescribed engineering/drafting standards and methods.

Distinguishing Characteristics:

This is the entry-level class within the CAD/GIS Technician series. Employees in this class are distinguished from the CAD/GIS Technician II level by the performance of the more routine tasks and duties assigned to positions within the series. Employees at this level are not expected to perform with the same independence of action and judgment as employees at the journey level. Work is performed under direct supervision while employees learn the job tasks. The duties of this classification require prolonged sitting, standing and walking; occasional bending, stooping and reaching; traversing irregular terrain; working outdoors in all types of weather; lifting and carrying up to 50 pounds; and, occasionally operating a motor vehicle. Employees must possess the ability to see at close distances (less than two feet) and long distances (greater than 20 feet) as well as distinguish between colors.

Examples of Duties:

- Use Computer Aided Drafting (CAD) system to prepare design drawings for construction jobs, exhibits, right-of-way plats and diagrams;
- utilize pen and ink, CAD system and related database software to complete or revise tracings, maps and drawings and their related records/databases in both a manual and/or digital format;
- post jobs to maps and databases and make field checks in relationship with mapping;
- create maps based upon verbal or written instructions, rough sketches and data collected by field personnel;
- use Geographic Information System (GIS) software programs, commands and compilation methods to generate and utilize spatial overlays;
- update and maintain the Agency's GIS database according to established policies and procedures;
- correct data and create additional data-sets integrated into GIS;
- update digital data layers and create corresponding maps;
- prepare graphic presentations for inclusion in reports or visual displays;
- conduct field inspections to assist in the graphic representation of various projects;

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- utilize GPS equipment;
- consult standard maps of cities, railroads, subdivision plots and highways in order to prepare new maps and update existing maps used for plotting water lines and facilities;
- interpret contour maps, legal descriptions of property, metes and bounds, easements, right-of-ways and assessor's maps;
- perform basic surveying activities;
- reduce field notes for the posting of as-builts and preparation of construction plans, profiles and details;
- maintain accurate records and prepare clear, concise reports;
- check drawings submitted to PCWA to ensure compliance with Agency drawing standards;
- perform related duties as required.

Qualifications:

Knowledge of:

- Drafting techniques, practices, methods, instruments and terminology;
- principles and applications of Geographic Information System (GIS) software;
- Computer Aided Drafting (CAD) software and applications;
- mapping tools and programs, including GIS;
- modern office procedures and practices;
- algebra, geometry and trigonometry as used to compute distances, angles and areas;
- construction plans and specifications;
- engineering maps and records;
- surveying principles and practices;
- map projections and scales;
- principles of GIS and GPS.

Ability to:

- Use Geographic Information System (GIS) software to analyze spatial and tabular data to produce informational maps and exhibits;
- interpret maps and legal descriptions of property;
- interpret construction plans;
- maintain, input, code, and correct shared file (GIS) data for GIS GEO database;
- produce clear and accurate maps, drawings and charts using drafting instruments and pen and ink;

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- produce maps, drawings and charts using Computer Aided Drafting (CAD) system and related database software;
- interpret technical and numerical information;
- use tools and equipment commonly used in drafting and survey work;
- identify appropriate solutions to drafting and mapping problems;
- understand, interpret and explain department policies and procedures;
- perform mathematical computations to determine distances, angles and areas;
- make simple engineering computations;
- communicate effectively, both orally and in writing;
- organize and prioritize workload;
- sit at a drafting table or computer station for extended periods of time;
- intermittently stand at a counter for extended periods of time;
- use a computer keyboard to complete design, drafting and mapping work;
- operate digitizers, plotters, printers, scanners and other office equipment;
- visually differentiate between colors on land use maps;
- lift and carry up to 50 pounds on an occasional basis;
- stoop, bend and reach;
- traverse uneven terrain;
- walk long distances;
- work outside in all types of weather;
- perform simple and power grasping, pushing, pulling and fine manipulation;
- see and hear with sufficient acuity to successfully perform all aspects of the job;
- understand and carry out oral and written instructions;
- operate a motor vehicle;
- adhere to safe work practices;
- establish and maintain cooperative working relationships with those contacted in the course of work.

Education/Experience:

Graduation from high school or equivalent and college-level course work in drafting, cartography, GIS or a related field, surveying and engineering studies.

License/Certificates:

Must possess and maintain a valid California driver's license with an acceptable driving record.