

The Maryland-National Capital Park and Planning Commission

Title: CAD/GIS Technician I
Series: Paraprofessional Engineering, Drafting

Grade: D Code: 4220
Date: 3/23/99 (Rev.)

Class Definition

Under general supervision performs traditional and computer aided drafting (CAD) techniques, and/or Geographical Information System (GIS) software to perform entry level technical work involving the production of maps, charts, drawings and related materials. Work involves updating and preparing new maps and graphics, entering data into the GIS database from digitized and non-digitized drawings, and responding to requests for maps and information from inside and outside the Commission. An employee in this class may use either CAD software or traditional drafting techniques or GIS software or both depending on the needs of the unit to which the employee is assigned. The work requires the application of modern, automated methods for producing maps and related graphics. Employees perform recurring assignments independently, but receive detailed instructions for new assignments. An employee may serve as a member of a master plan team. (Any position requiring entry level drafting skills may be assigned to this class even if the applications are not related to production of maps).

Examples of Important Duties

CAD

1. Updates and prepares new maps and graphics manually and using computer aided software (CAD) in support of departmental staff of planners, architects, engineers, landscape architects, surveyors and cartographers in the development of master plans, functional plans, site plans and project plans.
2. Prepares maps or site plans to scale using legal descriptions, ownership information, and other information pertaining to topology, variances, restrictions and closures; plots angles and closures; draws curvilinear and irregular features.
3. Posts record plats using CAD, traditional drafting media, or other appropriate technique.
4. Prepares special displays, graphics, and charts, manually and with computer software, using laser, pen, and plotters.
5. Interacts with other members of planning department staff to provide maps and graphics to support specific projects; confers with staff to clarify instructions and report progress.
6. Maintains hard copy of digitized products.
7. Uses and maintains plotters and related equipment.

Geographic Information Systems (GIS):

1. Enters record plat information (survey data) from non digitized and digitized drawings and from raw data into the database; from non-digitized drawings and raw data, enters coordinate and dimension data (property lines) and uses COGO (coordinate geometry software) to generate digital linework; from digital plat submittals (CAD generated drawings), transfers plat data isolating the linework and text that is to be reflected on the property map and importing the data into its correct location.
2. Enters attribution and annotation data elements into databases as directed.
3. Responds to public and inter-departmental requests for property information and maps; produces hard copies of computer-generated maps.
4. Interacts with other members of planning department staff to provide maps and graphics to support specific projects; confers with staff to clarify instructions and report progress.
5. Maintains hard copy of digitized products and records of work performed.
6. May transfer data between databases or formats.
7. May develop scripts following clear guidelines or instructions (using AML, Avenue or similar applications).
8. Performs (or assists in) quality control checking.

Important Worker Characteristics (Although all employees are expected to have some knowledge or experience in drafting, specific requirements vary depending on whether the employee's initial assignment is in drafting or GIS.)

Knowledge of:

CAD: 1) the standard terminology, techniques and practices of drafting (traditional and computer aided); 2) basic drafting nomenclature and symbols and cartographic design; 3) mathematics including algebra, trigonometry, and plane geometry.

GIS: 1) modern GIS programs (e.g., ArcView); Basic knowledge of drafting nomenclature and symbols and cartographic design.

Skill in:

CAD: 1) traditional drafting techniques; 2) use of computer aided drafting (CAD) and design software; 3) preparation of computer and manually generated graphics and charts; 4) use and care of mechanical drawing instruments, computers and related peripherals.

GIS: 1) entering and accessing data in a GIS data base; 2) producing maps from a GIS data base; 3) preparation of computer and manually generated graphics and charts.

Ability to:

All Assignments: 1) understand and follow oral and written instructions and sketches; 2) make mathematical computations accurately.

Minimum Qualifications:

1. A high school diploma with courses in drafting, geography, mathematics and one year of work experience in AutoCAD and/or GIS or closely related work; or
2. An equivalent combination of education and experience. Formal training through college level courses, or other equivalent training courses that can be substituted for experience.

Working Conditions

Work is performed in an office. Work requires close attention, involves pressure to meet deadlines, and requires sustained operation of a computer.