

Position: GIS Analyst	AFSCME Union
Department/Site: City Hall	FLSA: Non-exempt
Evaluated by: Community Development Director	Salary Grade: 38

Summary

Applies GIS technology to produce and perform advanced drafting and digitizing, producing documentation and the most complex, integrated maps for a variety of users. Develops GIS-based internet mapping applications, writes macros, and constructs database queries to access information and produce special map elements. Performs extended research and analysis of user mapping requirements.

Distinguishing Career Features

The GIS Analyst is the second and fully qualified level in a multi-level career path encompassing computer-aided mapping, drafting, and related data communication. The Engineering Technician is a broadly defined technical position that would serve as the first and entry level into the GIS career path. This position focuses on entering data and preparing drawings, diagrams, and maps using computer-aided drafting. Advancement to GIS Analyst requires the ability to apply GIS technology to produce and perform advanced drafting and digitizing, producing documentation and the most complex, integrated maps for users often performing advanced spatial analysis and modeling. The Analyst must also be able to write macros and construct queries to support central programming, access information, and produce certain map elements. Advancement to GIS Coordinator requires the ability to lead a small team and integrate GIS into wide-area computer networks used by the City for data communications.

Essential Duties and Responsibilities

- Digitizes and drafts, using GIS software and peripheral devices, advanced and integrated geographic information for producing complex maps that include multiple layers and features. These maps require understanding related data sources and interfaces to other land-based data and mapping systems such as roads, electrical infrastructure, buildings, and other overlaid or three-dimensional applications.
- Enters geographic data onto established geographic information systems. Documents data entry and related procedures
- Assists with development of GIS applications that enable data analysis and display, and map production using modern ESRI software (ArcGIS, ArcIMS), programming and macro languages, and advanced data base setups.
- Designs and develops tools for displaying or retrieving GIS information from relational databases using database utilities. Works with departments to plan, design, and implement procedures that enhance access and responsiveness of GIS.
- Develops web-based GIS applications using ARCIMS for local intranet and external internet access.

- Performs complex spatial analyses and modeling of a variety of GIS data layers/sources
- Determines appropriate data compression techniques, resolutions, sizes, color maps, and depths to ensure that images and synthesized graphics are delivered at a sufficient speed and quality for optimal intended media output.
- Troubleshoots and performs maintenance on multiple GIS workstation system problems that require consideration of alternative solutions and resources.
- Conducts technical research in the geographic information systems and other relational databases to produce maps and supporting documentation for use in an array of situations.
- Implements and develops time-saving program enhancements and simplifications in multiple languages including Visual Basic, macros, and query.
- May provide general technical assistance to staff, and on using networked computers and software programs including remote access and on the proper use of peripheral electronic equipment use to enhance presentations and viewing.
- Maintains up-to-date knowledge of trends for GIS applications and local and regional issues affecting GIS. Participates in cross-industry groups for GIS.
- Performs other duties as assigned that support the overall objective of the position.

Qualifications

- **Knowledge and Skills**

The position requires specialized knowledge in geography, geology, GIS, or related field. Requires working knowledge of the principles, methods and techniques of geographic information systems. Requires technical knowledge and programming skills using ArcGIS, Arc/INFO and ArcView programs and languages, Visual Basic, SQL query and other programs/tools used by the City. Requires knowledge of current trends and principles, techniques, and standards for base mapping, cadastral mapping, and GIS technologies. Requires technical knowledge of spatial analysis, data generation, and mapping. Requires sufficient human resources skill to communicate technical concepts to internal and external customers and conduct training. Requires advanced math skills at least to the level of geometry and trigonometry.

- **Abilities**

Requires the ability to perform all aspects of the position within managerial guidance. Requires the ability to apply geographic information system standards, plan and organize application development assignments, and provide technical support. Requires the ability to perform a variety of GIS steps including data entry, digitizing, advanced spatial analysis, and modeling map design and production, application development and technical documentation. Requires the ability to apply GIS techniques and geo-processing applications to design, write, and maintain GIS software from pre-established standards. Requires the ability to use manual drafting and drawing techniques and equipment. Requires the ability to work cooperatively with senior citizens. Requires the ability to work as contributing member of a team, work productively and cooperatively with other teams and external customers, and convey a positive image of the City and its services.

- **Physical Abilities**

Requires the ability to function primarily indoors in an office environment engaged in work of primarily a sedentary nature. Requires sufficient ambulatory ability to move about to office and remote locations. Requires auditory ability to carry on audience, ordinary, and telephonic conversation. Requires near and far visual acuity to read detailed maps, drawings, other printed material, computer screens, and observe multi-dimensional physical layouts. Requires manual and finger dexterity to write and to operate microcomputers and other office equipment. Requires the ability to alternatively sit and stand for sustained periods of time to perform desk and counter work.

- **Education and Experience**

The position typically requires a Bachelor's degree in Geography, Geology, Civil Engineering or Information Systems and two years of experience in programming, digitizing, and producing complex maps using GIS applications. Additional experience in mapping or industry training in GIS may substitute for some higher education.

- **Licenses and Certificates**

May require a valid driver's license.

- **Working Conditions**

Work is performed indoors where minimal safety considerations exist.

This job/class description, describes the general nature of the work performed, representative duties as well as the typical qualifications needed for acceptable performance. It is not intended to be a complete list of all responsibilities, duties, work steps, and skills required of the job.