

TITLE: GIS Analyst

IS/9-262

DEPARTMENT: Information Services, Fayette County

JOB SUMMARY:

Under limited supervision, plans, organizes, coordinates and participates in the development and implementation of the County's geographic information system (GIS). Directs and participates in the long-term development and enhancement of GIS information technology to meet the County's mapping and end user service objectives utilizing GIS theory and principles. The GIS Analyst completes standard professional level work assignments or projects. The position's duties require interacting with multiple internal and/or external units or individuals to meet the County's work requirements and objectives. Assignments are typically received in terms of expected outcomes and incumbents are expected to act independently to develop required information, including selecting approach and analytical techniques, and to provide sound analyses and recommendations. Assigned projects may include analysis, application development, database design or other areas specific to the assignment. The incumbent must have sufficient job content knowledge in the functional area to ensure County's standards are met.

MAJOR DUTIES:

- Provides GIS guidance and support to the County; acts as single point of contact for all GIS related issues. Responds to inquiries from end-users, developers, contractors, and other customers regarding GIS requirements. Works closely with County users and other departmental GIS personnel to identify GIS requirements, technical issues and training needs.
- Plans, develops, modifies and implements GIS applications for the system users and operators; making recommendations to improve performance and information security. Analyzes current business processes and recommends best practice solutions.
- Analyzes requests for a variety of new applications and modifications to existing GIS programs to determine if improved methods are possible. Participates on software selection and implementation teams, including software evaluation, requirements gathering, work flow analysis and system implementation, testing and training.
- Performs complex GIS data maintenance manipulation, analysis, and extraction. Performs data research, investigation and verification. Creates and maintains files of digital pictures of streets for department use; codes and digitizes maps and geographical feature data into various layers. Performs record keeping and inventory; documents and files data sources and map files for future reference; responds to requests from the public for mapping data; responds to emergency mapping and information requests.
- Prepares, plans, produces, maintains and updates a variety of maps, drawings, plans and other graphic representations displaying layers and attribute data from databases, using cartographic techniques to represent spatial data; develops and maintains data layers, using GIS tools, CAD tools and relational databases.
- Designs and develops GIS database models and templates. Manipulates images for

electronic mapping; enters attribute data pertaining to specific features into a relational database; incorporates maps, charts, data files, spreadsheet data, documentation and text into reports. Responsible for GIS integration and interconnection with other relevant information systems throughout the county.

- Performs formal GIS needs assessments, describes the benefits of using GIS, advises clients regarding the evaluation of feasibility of applying GIS technologies to specific work flow processes, compares various system alternatives, makes recommendations for systems procurement and implementation. Responsible for GIS integration and interfacing with other relevant information systems throughout the county.
- Analyzes digital location data to integrate and manage field data (acquired by advanced GPS techniques) within the existing data storage architecture.
- Uses digital location data for geographic processing activities such as georeferencing, re-projection, and quality control. Maintains road addressing and street data performing edits to GIS datasets, including but not limited to addresses and road centerline.
- Manages enterprise GIS Esri/SQL environment including ArcGIS online, desktop and server. Familiar with relational database concepts and writing scripts/queries. Administers GIS web based products and processes.
- As needed, transposes complex data from records maps, CAD drawings, County land base maps, demographic models and economic resources and other source documents into GIS and/or related database.
- Participates in the development, maintenance and implementation of policies and procedures to ensure that the accuracy of GIS information is maintained, developed, and implemented.

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- Performs data audits and implements quality control measures and processes to ensure data accuracy.
- Assists end-users with writing procedures for utilizing GIS software and applications.
- Performs other related duties as assigned.

KNOWLEDGE REQUIRED BY THE POSITION:

- GIS concepts and analytical techniques, including digital cartography, data conversion, manipulation and analysis, data structure types and GIS/GPS foundation concepts.
- GIS database administration and management principles, methods and techniques, including quality control methods and practices.
- Knowledge of Esri ArcGIS products and related functionality including data management, specifically ArcGIS online, desktop and server operations; Microsoft SQL and writing queries.
- Knowledge of the standard and practices of land mapping and road addressing.
- Knowledge of LiDAR and aerial photography data standards and practices.
- Knowledge of Microsoft SQL servers along with an understanding of the fundamental concepts behind a relational database system.
- Knowledge and skill in the operation of GIS equipment, computer hardware, software, plotter/printer setup, and GPS devices.
- Knowledge of Microsoft Windows, Microsoft office suite, Adobe Reader and GIS related software packages both local and web based.
- Familiar with Information Security fundamentals.
- Familiar with GIS project management, preferably in local government.
- Basic knowledge of working in a Microsoft Windows networking environment.
- Skill in oral and written communication.
- Skill in the development of project strategies.
- Skill in creating custom and standard map products.
- Skill in reading and interpreting legacy maps and engineering drawings of County facilities.
- Skill in analytical problem solving.
- Skill in data editing.

- Ability to explain complex technical concepts clearly and concisely.

SUPERVISORY CONTROLS: The Assistant Manager assigns work in terms of very general instructions. The supervisor spot-checks completed work for compliance with procedures and the nature and propriety of the results.

GUIDELINES: Guidelines include the Fayette County Employee Handbook, County policies and procedures, departmental procedures, and other industry standards and best practices used throughout the industry. These guidelines require judgment, selection, and interpretation in application.

COMPLEXITY: The work consists of varied geographic information systems, data management, mapping, and computer technical assistance duties. Frequently changing industry standards contributes to the complexity of the position.

SCOPE AND EFFECT: The purpose of this position is to design and maintain geographic information system data. Successful performance in this position contributes to the increased productivity and efficiency of County information services and personnel.

PERSONAL CONTACTS: Contacts are typically with members of the general public, other county employees, and vendors.

PURPOSE OF CONTACTS: Contacts are typically to give or exchange information, resolve problems, and provide services.

PHYSICAL DEMANDS: The work is typically performed while sitting at a desk or table or while standing, walking, bending, crouching, or stooping. The employee occasionally lifts light and heavy objects, climbs ladders, and uses tools or equipment requiring a high degree of dexterity. The employee must be able to distinguish between shades of color.

WORK ENVIRONMENT: The work is typically performed in an office or computer room.

SUPERVISORY AND MANAGEMENT RESPONSIBILITY: None.

SPECIAL CERTIFICATIONS AND LICENSES: Possession of a valid State of Georgia driver's license (Class C) and a satisfactory Motor Vehicle Record (MVR) in compliance with County Safety and Loss Control Guidelines. Completion of the State of Georgia Department of Transportation Defensive Driving Course and/or Emergency Vehicle Operation Certification within twelve (12) months of employment.

ADA COMPLIANCE: Fayette County is an Equal Opportunity Employer. ADA requires the
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County to provide reasonable accommodations to qualified individuals with disabilities. Prospective and current employees are invited to discuss accommodations.

HIPAA COMPLIANCE: The Health Insurance Portability and Accountability Act of 1996 requires employees to protect the security of Protected Health Information (PHI) however it is obtained, handled, learned, heard or viewed in the course of their work.

DRUG AND ALCOHOL COMPLIANCE: In accordance of Fayette County's Substance Abuse Policy of 1996, all job applicants offered employment will undergo testing for the presence of illegal drugs and alcohol as a condition of employment. In the course of employment, employees are subject to random, reasonable suspicion, post-accident and routine fitness for duty testing for illegal drugs and alcohol abuse. Employees are prohibited to work under the influence, to possess, to distribute or to sell illegal drugs in the work place or abuse alcohol on the job. Confirmed positive is reason for denial of employment and/or termination.

MINIMUM QUALIFICATIONS

- Graduation from a four-year college or university with a degree in geographic information systems, geography, or a closely related field; **AND**
- Minimum of three (3) years practical experience with GIS systems, preferably in a local government or utility setting
- Considerable knowledge of principles and practices of GIS relational database management
- Considerable knowledge of digital cartography and related hardware/software systems
- Knowledge of GIS data structure types and GIS/GPS foundational concepts
- Equivalent combinations of education and experience that provide the incumbent with the necessary qualifications

Preferred Qualifications:

- Certified GIS Professional (GISP)
- Experience managing enterprise GIS in Esri/SQL Server environment
- Knowledge of Esri ArcGIS online, desktop and server operations
- Familiar with Python, and other scripting languages
- General knowledge of the standards and practices of land mapping and road addressing
- Experience with LIDAR and aerial photography data standards and practices
- Familiar with Local government GIS system administration and integration
- Proven ability to effectively communicate with internal and external clients