

POSITION DESCRIPTION
LAND INFORMATION DEPARTMENT
GIS SPECIALIST –HIGHWAYS & TRANSPORTATION

Position Title: GIS Specialist -Transportation Networks
Date: October 2006

Department: Land Information
Reports To: Director of Land Information

Purpose of Position

The purpose of the position is to adapt, prepare, analyze and maintain Geographical Information Systems (GIS) and Global Positioning Systems (GPS) data as it relates to the Columbia County road network, integrate this information into the County Enterprise GIS database, perform other spatial analysis, and generate report and map products.

The position description should not be interpreted as all-inclusive. The intention is to identify major responsibilities and requirements of this position. There may be requests to perform job-related responsibilities and tasks assigned other than those stated on this description.

Essential Duties and Responsibilities

- Adapt, prepare, analyze and maintain GIS and GPS data using ESRI ArcGIS Desktop, ArcInfo Workstation, Spatial Analyst, and 3D Analyst software products and custom applications.
- Participate in development of County GIS, acting as the Land Information Department's liaison with the Highway and Transportation Department and other departments as required.
- Assist staff in the use of GIS and GPS data.
- Assist general public in obtaining public requests for spatial and other data.
- Prepare data and participate in the process of integrating road centerline and other data as appropriate into the County Enterprise GIS and Land Records System as prescribed by the Land Records Modernization Plan.
- Document GIS and GPS related projects, procedures, techniques, and methodologies to be used in creating Federal Geographic Data Committee compliant metadata and data dictionaries.
- Create complete and well-developed Enterprise GIS databases to be used for the purposes of Highway Right-of-Way management, Land Records management, Wireless 911, and other issues. GIS databases may include and/or integrate information such as, but not limited to, Right-of-Way surveys, width, and ownership; utilities location and owner (gas, electric, telephone, etc...); highway access points including locations, type; culvert location, type, and age; rural and municipal address inventory of location and images; sign inventory of type, location, and age.

Knowledge, Skills and Abilities

- Knowledge of Windows operating system, Microsoft Office, electronic mail and Internet skills.
- Advanced knowledge of the County's Enterprise GIS software (ESRI ArcGIS Desktop, ArcInfo Workstation, Spatial Analyst, and 3D Analyst).
- Knowledge of Microsoft SQL Server database management and administration for relational databases and of the geodatabase in an ArcSDE environment.
- Ability to effectively use ArcGIS software's built-in tools and scripting language to evaluate, edit, modify, and develop custom tools, interfaces, and applications.
- Ability to integrate complex GIS and non-GIS databases to support business needs.
- Ability to integrate, attribute, and organize GPS collected field data into well-organized and functional GIS databases that are to be integrated into the County Enterprise GIS system.
- Understanding of complex GIS data sets and business needs as they relate to Land Records management, road centerline management, and address management.

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- Advanced knowledge of coordinate systems, global positioning systems and standard mapping principles.
- Ability to read legal property descriptions and highway right-of-way plans.
- Ability to define problems, collect data, establish facts, and draw valid conclusions.
- Ability to setup and maintain long term GPS data collection projects.
- Ability to organize and/or participate in projects relating to GIS that are multi-departmental and/or with outside Government Agencies, Private Companies, and/or the University system.
- Ability to work independently and with minimal direction.

Minimum Training and Experience Required to Perform Essential Job Functions

- Bachelor's Degree in Geography, Cartography or related field, GIS training, one or two years GIS/automated mapping experience, or any combination of education and experience that provides the equivalent knowledge, skills and experiences.
- Minimum of two years experience using GPS equipment and data.
- Two years experience working with using ESRI ArcGIS Desktop, ArcInfo Workstation, Spatial Analyst, and 3D Analyst software.
- Experience using Microsoft SQL Server and ESRI ArcSDE for SQL Server a plus.

Language Ability and Interpersonal Communication

- Ability to analyze data and information using established criteria to determine consequences and to identify and select alternative methodologies.
- Ability to compare, count, differentiate, measure, copy, record, and transcribe data and information.
- Ability to classify, compute, tabulate and categorize data.
- Ability to advise and provide interpretation to others how to apply policies, procedures, and standards to specific situations.
- Ability to utilize a variety of advisory data and information such as transportation and other base maps, County Land Records Modernization Plan, reports, software operating manuals, technical operating manuals, procedures, guidelines and non-routine correspondence.
- Ability to communicate orally and in writing with the general public as well as other County Departments.

Physical Requirements

- Ability to operate equipment such as computers, GPS equipment, plotters, printers, scanners, digital cameras, and general office equipment.
- Ability to recognize and identify harmonious or contrasting combinations, as well as recognize individual characteristics of colors and shapes associated with job-related objects, materials, and tasks.