City of Harrisonburg, Virginia
Office of the City Manager

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Kurt D. Hodgen
City Manager

TO: Mayor Jones and Members of Harrisonburg City Council
FROM: Kurt Hodgen, City Manager *KDH*
DATE: November 22, 2016
RE: GIS Positions

Summary:
Staff is seeking Council approval to establish and fill a new position, "GIS Administrator", and downgrade an existing position, from "GIS Coordinator", to a "GIS Analyst".

Background:
Over the last several budget cycles, staff engaged in discussions about the need for this new position as city-wide GIS needs grew beyond what Community Development staff could be reasonably expected to provide while at the same time trying to meet Community Development's specific GIS needs. The departure last month of Community Development's GIS Coordinator led to focused staff discussion as to whether we should continue with the status quo or move toward the implementation of a more efficient and effective staffing and organizational structure for our city-wide GIS needs.

The GIS Administrator (job description attached) will give the City a position that is responsible for City-wide administration and support of our system versus the previous assignment of many of the Administrator's duties to an employee of Community Development. Our system has grown to more than 300 layers that have to be maintained in a coordinated fashion. There needs to be a responsible person in charge of the overall system versus a "sometimes available" Community Development position (which will now become a GIS Analyst) who has ongoing department-specific responsibilities, as well as outside field work including mapping "as built" plans, locating water valves and hydrants, entering new addresses in the base layers, etc. In addition, the City's new Work Order System, Stormwater Maintenance System, Public Works and Public Utilities Asset Management Systems, the pending CAD/Data Management System for Public Safety, and Community Development's permitting software will all require a higher level of GIS knowledge, skills, abilities, experience and coordination than the current position of GIS Coordinator could be expected to fulfill.

Downgrading the GIS Coordinator position to GIS Analyst will reduce the slightly higher costs associated with the Coordinator position and will allow that person to focus on the needs of Community Development and some of the more "hands on" and field type work partially described above as the position was originally intended to do.

Key Issues:
1. Need for adequate GIS staffing for the City that meets the needs of both internal and external users. (There is currently a backlog of 17 GIS projects that have not begun due to both staffing and experience levels relative to the desired GIS Administrator and GIS Analyst positions.)

2. An opportunity to address issue #1 has been presented by departure of GIS Coordinator.
3. There are mid-year financial implications of the proposed new GIS structure.
4. There are financial implications for beyond FY 16-17.

Fiscal Impact:
The impact for the remainder of fiscal year 2016-17 would be approximately $55,621. This amount includes salary and benefits, along with office "setup" costs (furniture, computer, software licenses). It is proposed that this amount would come from current year vacancy savings from not having had to pay for the Assistant to the City Manager position for the entire fiscal year to date (that employee is presently serving as Acting Deputy City Manager) and having the GIS Coordinator position vacant for the past three months.

Beginning with the FY 2017-18 budget, the full-year cost of the GIS Administrator position would be around $109,000, which would include salary, benefits and ongoing operating expenses. Downgrading the GIS Coordinator position to GIS Analyst would save Community Development around $8,000-10,000 per year in salary and benefits.

Alternatives:
(A) Approve new GIS Administrator position and downgrade existing position of GIS Coordinator to GIS Analyst;
(B) Approve new GIS Administrator position and not the GIS Analyst position, in which case the Administrator will need to assume some of the duties of the GIS Coordinator/GIS Analyst for a period of time and the backlog of city GIS needs will for the most part remain unaddressed and continue to grow;
(C) Maintain the status quo and hire a replacement GIS Coordinator and forego the opportunity to move the City's overall GIS program to a higher level of performance, both for internal purposes and in meeting the growing needs and demands of our citizens and customers.

Recommendation:
Staff recommends Alternative A.

Attachments:
GIS Administrator job description
GIS Analyst job description

GENERAL DEFINITION OF WORK:

Performs difficult skilled technical work with the City of Harrisonburg's Geographic Information System (GIS) including studying, analyzing, and developing data, implementing GIS systems, databases, and programs, and preparing professional maps, editing, and plotting. May assist in the overall planning, developing, maintaining, and implementing of the geographic-based information system, databases, and programs; performs related work as required. Work is performed under the general supervision of the City Engineer or other assigned supervisor. Supervision may be exercised over assigned personnel.

PHYSICAL REQUIREMENTS:

This is light work requiring the exertion of up to 20 pounds of force occasionally, up to 10 pounds of force frequently, and a negligible amount of force constantly to move objects. Work requires stooping, kneeling, crouching, reaching, lifting, fingering, grasping, and repetitive motions; vocal communication is required for expressing or exchanging ideas by means of the spoken work, and conveying detailed or important instructions to others accurately, loudly, or quickly. Hearing is required to perceive information at normal spoken word levels, and to receive detailed information through oral communications and/or make fine distinctions in sound; visual acuity is required for depth perception, color perception, preparing and analyzing written or computer data.

ESSENTIAL JOB FUNCTIONS:

- Regular, reliable attendance necessary;
- Creates, compiles, integrates, digitizes, and updates map data from many sources including but not limited to existing maps, aerial photography, satellite imagery, engineered comprehensive site plans, and other plans, data, and information;
- Maintains GIS base maps and fundamental layers such as but not limited to real estate, zoning, and land use layers;
- Performs complex data entry and configuration functions;
- Reads and interprets maps; uses coordinate systems to position and process geographic information;
- Researches and conducts miscellaneous planning project assignments;
- Responds to City departments and public requests for standard or custom maps, charts, graphs, GIS analysis, GIS projects, and related information;
- Works with departmental staff to develop GIS tools; creates maps, charts, graphs, and related information; utilizes various technical aspects associated with planning, organizing, and completing GIS projects;
- Prepares simple to complex system models, processes, methods and procedures;
- Trains system users;
- Operates a Global Positioning System (GPS) device and related surveying equipment in locating, collecting, and processing field data; performs other field work as necessary;
- Works with the GIS Coordinator in development and maintenance of data layers, programs, models, and system integrations relating to Community Development functions;
- Prepares and maintains detailed files and records;
- May serve as a liaison to vendors, consultants and other localities;
- May coordinate with other localities, ensuring uniform data exchange formats;
- Operates a City vehicle in the performance of the job duties;
- Performs related work as required.

KNOWLEDGE, SKILLS AND ABILITIES

Comprehensive knowledge of modern geographic information system theory, practice and tools. Thorough knowledge of: geographic-based information systems, programming and systems analysis and design techniques; the principles and techniques used in the preparation of computer programs, of the operations, uses and capabilities of the installed computer and related equipment and machines; administrative, project and resource management, supervisory techniques, user relations, data gathering techniques, spatial analysis, quantitative methods and budgeting and planning.

Efficient keyboarding skills.

Ability to: prepare and maintain computer-generated maps using appropriate procedures; conduct research and field work pertaining to mapping and geographic information projects, organize materials, maintain maps and other information accurately and systematically, and to retrieve and use information; develop City and mission-specific applications and uses for available technology; demonstrated troubleshooting and analytical abilities; plan and supervise the work of subordinates; communicate both orally and in writing and maintain confidentiality; establish and maintain good working relationships with the general public, outside governmental agencies, and vendors and their representatives, appropriately handling stress and interactions with others.

EDUCATION AND EXPERIENCE:

Undergraduate degree in geographic/information systems, engineering, or a related field with some experience in the use of geographic information systems, local government applications or equivalent combination of education and experience. Some experience supervising or leading the work of others. Certified Geographic Information Systems Professional (GISP) preferred.

SPECIAL REQUIREMENTS:
-Requires the possession of an appropriate driver's license valid in the Commonwealth of Virginia.

This is a classification specification and not an individualized job description. A class specification defines the general characteristics and scope of duties and responsibilities of all positions in a job classification, but it is not intended to describe and does not necessarily list the essential job functions for a given position in a classification.

FLSA status: Non-exempt
Compensation Range: Grade 16
WC Code: 8810
EEO Code: 3

GENERAL DEFINITION OF WORK:
Performs a variety of difficult, advanced technical and management functions coordinating the City of Harrisonburg Geographic Information System (GIS) administration. Work includes design, implementation and management of the GIS enterprise, including coordination with other City departments for integration with departmental applications and programs. Assists in the development and enforcement of GIS policies and standards. Position has extensive autonomy to exercise independent judgment and initiative in planning and implementing projects in a team environment. Work is performed under the general guidance of the Director of Information Technology. Supervision may be exercised over assigned personnel.

PHYSICAL REQUIREMENTS:
This is light work requiring the exertion of up to 20 pounds of force occasionally, up to 10 pounds of force frequently, and a negligible amount of force constantly to move objects. Work requires stooping, kneeling, crouching, reaching, lifting, fingering, grasping, and repetitive motions; vocal communication is required for expressing or exchanging ideas by means of the spoken work, and conveying detailed or important instructions to others accurately, loudly, or quickly. Hearing is required to perceive information at normal spoken word levels, and to receive detailed information through oral communications and/or make fine distinctions in sound; visual acuity is required for depth perception, color perception, preparing and analyzing written or computer data.

ESSENTIAL JOB FUNCTIONS:
- Regular, reliable attendance necessary;
- Designs, configures and implements GIS policies and systems in accordance with best practices;
- Coordinates with other City agencies and departments to determine their GIS needs and to develop_applications, processes and hardware and software requirements to meet those needs;
- Utilizes project management tools and techniques to complete assigned GIS projects and initiatives;
- Applies best practices for data base management, system security safeguards and quality control;
- Responsible for the integration and maintenance of GIS with other systems such as permitting and asset management;
- Coordinates and may assist the work of assigned personnel, both internal and external to the Department;
- May supervise (and evaluate) the work of others depending upon City needs and projects assigned;
- Analyzes, troubleshoots and resolves system problems and coordinates vendor support, as needed;
- Coordinates GIS planning and design activities of a cross-functional team composed of staff from various City departments;
- Serves as the City's GIS liaison to vendors, consultants and other localities;
- Coordinates the design and implementation of GIS services with other localities, ensuring uniform data exchange formats;
- Trains or arranges training for system users;
- Prepares and maintains software documentation;
- Coordinates system upgrades and maintenance;
- Communicates changes and upgrades to systems and equipment;
- Performs GIS Analyst services as required;
- Prepares and maintains detailed files and records;
- Performs related work as required.

KNOWLEDGE, SKILLS AND ABILITIES
Comprehensive knowledge of: GIS concepts and analytical techniques; geographic-based information systems, programming and systems analysis and design techniques; administration, project and resource management; supervisory techniques; user relations; data gathering techniques; spatial analysis; quantitative methods and budgeting and planning; GIS software tools and applications including but not limited to ArcGIS, AutoCAD suite, MS VISIO and applications of MS Office Suite.

Efficient keyboarding skills.

Ability to: prepare and maintain computer-generated maps using appropriate practices; conduct research and field work pertaining to mapping and geographic information projects, organize materials, maintain maps and other information accurately and systematically, and to retrieve and use information; develop applications and uses for available technology; demonstrated troubleshooting and analytical abilities; communicate both orally and in writing and maintain confidentiality; ability to establish and maintain good working relationships and to appropriately handle stress and interactions with others.

EDUCATION AND EXPERIENCE:
Undergraduate degree in geographic/information systems or a related field with significant and extensive experience in the use of geographic information systems, local government applications, or an equivalent combination of education and experience. Some experience supervising or leading the work of others. Certified Geographic Information Systems Professional (GISP) preferred.

SPECIAL REQUIREMENTS:
-Requires the possession of an appropriate driver's license valid in the Commonwealth of Virginia.

FLSA status: Exempt
Compensation Range: Grade 18
WC Code: 8810
EEO Code: 2