



JOB TITLE: Geographic Information System Analyst I and II

DATE APPROVED:

DEPARTMENT: Information Services

SUPERSEDES:

REPORTS TO: Assigned Management

EMPLOYEE UNIT: Mid-Management

FLSA: Non-exempt

DEFINITION: To perform professional level work in Geographic Information Systems (GIS) management and analysis; to create maps and reports by manual and automated means; and to create and maintain specialized GIS databases related to assigned areas of responsibility.

DISTINGUISHING CHARACTERISTICS

Geographic Information System Analyst I – This is the entry level class in the Geographic Information System Analyst series. This class is distinguished from the journey level by the performance of the more routine tasks and duties assigned to positions within this series. Employees at this level are not expected to perform with the same independence of direction and judgment on matters allocated to the journey level. Since this class is typically used as a training class, employees may have only limited or no directly related work experience. Employees work under general supervision while learning job tasks.

Geographic Information System Analyst II – This is the journey level class within the Geographic Information System Analyst series and is distinguished from the I level by the assignment of the full range of duties. Employees at this level receive only occasional instruction or assistance as new, unusual or unique situations arise and are fully aware of the operating procedures and policies within the work unit. Positions in this class are flexibly staffed and are normally filled by advancement from the I level.

SUPERVISION RECEIVED AND EXERCISED

Geographic Information System Analyst I

- Receives general direction from assigned supervisory or management personnel.

Geographic Information System Analyst II

- May or exercises direct supervision over GIS staff.

EXAMPLES OF ESSENTIAL DUTIES – Duties may include, but are not limited to, the following:

- Analyze a variety of GIS data and prepare associated reports for use by assigned department; analyze, review, and ensure accuracy of mapping and related data prepared by lower level personnel or consultants for inclusion in various reports.
- Design and/or modify GIS programming as necessary to accommodate the needs of a variety of users; verify accuracy of digitized data to ensure accuracy and quality of automated information.
- Develop and design databases related to GIS database mapping functions and mapping layers.
- Coordinate GIS functions and uses with other departments, other agencies/jurisdictions, engineers, developers, and the general public; provide support to departments, agencies, and the public regarding GIS and identify and resolve related concerns.
- Develop and document procedures for use of GIS functionalities; prepare related protocols; provide related training to a variety of GIS users.
- Participate in emergency preparedness planning and implementation activities to facilitate the work of City departments, other public and social service agencies; provide information and training regarding GIS functions related to emergency situations.
- Update a variety of maps, including utility, zoning, reference, topographic, political boundary, parcel and address maps.
- Read and interpret civil plans and specifications for extraction of data to GIS Utility system and data layers; use GIS to analyze data for engineering/planning purposes.
- Prepare maps, line drawings, color graphics, charts, graphs, architectural renderings and other documents or materials for use in brochures, reports and presentations to the City Council, boards and commissions, and other public agencies.
- Participate, as assigned, in City committees and groups to provide input to GIS planning and implementation strategies and work plans; provide technical assistance as needed.
- Determine and evaluate the positional accuracy, attribute accuracy, logical consistency, and completeness of data.
- Perform data exploration, geostatistics, and data mining; identify spatial relationships and patterns and then display those using maps, graphics, or tabular data.
- Build and analyze business cases; design and facilitate productive meetings with stakeholders to elicit requirements and use cases; create visual representations of business processes.
- Develops and customizes GIS desktop and web applications using a variety of programming and scripting languages.
- Creates internet mapping services.
- Assist in development of policies and procedures; oversee implementation and enforcement of policies and procedures.
- Build and maintain positive working relationships with co-workers, other City employees and the public using principles of good customer service.
- Perform related duties as assigned.

MINIMUM QUALIFICATIONS

Geographic Information System Analyst I

Knowledge of:

- Principles and practices of Geographic Information Systems (GIS) and computer operating systems.
- Algebra, geometry and trigonometry, especially as related to computation of distances, angles and areas.
- Use of ESRI-based ArcGIS suite of software and related applications.
- Methods and techniques used in the installation, troubleshooting and maintenance of software applications.
- Basic database administration principals, methods and techniques including ArcSDE administration.
- Python scripting language, HTML and CSS.
- Records storage and handling techniques.
- Customer service principles.

Ability to:

- Perform professional level GIS work.
- On a continuous basis, know and understand all aspects of the job. Intermittently analyze work papers, reports and special projects; identify and interpret technical and numerical information; observe and problem solve operational and technical policy and procedures.
- On a continuous basis, sit at desk for long periods of time and periodically go into the field to perform collection duties. Intermittently twist to reach equipment surrounding desk; perform simple grasping and fine manipulation; use telephone, and write or use a keyboard to communicate through written means; and lift or carry weight of 25 pounds or less.
- Design and develop sequential processing of tasks and perform spatial analysis.
- Analyze, diagnose, and troubleshoot GIS database application problems.
- Train or instruct GIS users in access to and use of the database system.
- Research sources of geographic data; collect, interpret and integrate data from various sources to prepare map manuscripts and reports.
- Prepare a variety of reports and maintain accurate records and files. Work weekends or evenings, as required.
- Communicate clearly and concisely, both orally and in writing.
- Establish and maintain effective working relationships with those contacted in the course of work.

TRAINING AND EXPERIENCE:

Any combination of training and experience that would provide the required knowledge and abilities is qualifying. A typical way to obtain the required knowledge and abilities would be

- Two years of responsible experience performing duties similar to that of a Geographic Information System Technician II with the City of Watsonville
- Equivalent to a Bachelor's degree from an accredited college or university in geographic information systems, computer science, information systems, engineering or a related field.

LICENSE AND CERTIFICATE

- May need to possess an appropriate, valid California driver's license as required by the position.

Geographic Information System Analyst II

In addition to the qualifications for the Geographic Information System Analyst I:

Knowledge of:

- Principles and practices of Geographic Information Systems (GIS) including analytical methods applied in spatial problem solving, design of analyses, techniques for graphical representation, and geodatabase design
- Methods of advanced research, analysis, and management related to GIS system applications and databases.

Ability to:

- Independently perform professional level GIS work.
- Prepare written protocols for difficult and complex GIS system and database usage.

Experience and Education

Any combination of experience and training that would provide the required knowledge and abilities is qualifying. A typical way to obtain the required knowledge and abilities would be:

- Two years of responsible experience performing duties similar to that of a Geographic Information System Analyst I with the City of Watsonville
- Equivalent to a Bachelor's degree from an accredited college or university in geographic information systems, computer science, information systems, engineering or a related field.