Midpeninsula Regional Open Space District

SENIOR GEOGRAPHIC INFORMATION SYSTEM ANALYST

DEFINITION

Under general direction, leads, oversees, reviews, and participates in the work of staff performing Geographic Information System (GIS) design, analysis and maintenance; performs the most complex tasks related to enterprise GIS architecture, system administration and integration; collaborates with other departments on geospatial technology solutions, and ensures reliable, secure, and scalable GIS infrastructure; coordinates assigned activities with other District departments and outside agencies; and performs related work as required.

SUPERVISION RECEIVED AND EXERCISED

Receives general direction from the Geographic Information System Program Manager. Exercises technical and functional direction over and provides training to lower-level staff.

CLASS CHARACTERISTICS

This is the advanced journey-level classification in the GIS Analyst series responsible for performing the most complex work assigned to the series. Incumbents regularly work on tasks which are varied and complex requiring considerable discretion and independent judgment. Positions in the classification rely on experience and judgment to ensure efficient and effective servicing function of the assigned program area. Assignments are given with general guidelines and incumbents are responsible for establishing objectives, timelines, and methods to complete assignments. Work is typically reviewed upon completion for soundness, appropriateness, and conformity to policy and requirements. This class is distinguished from the Geographic Information System Program Manager in that the latter is the full supervisory classification with responsibilities for the supervision and evaluation of assigned staff.

EXAMPLES OF TYPICAL JOB FUNCTIONS (Illustrative Only)

Management reserves the right to add, modify, change, or rescind the work assignments of different positions and to make reasonable accommodations so qualified employees can perform the essential functions of the job.

- Leads, oversees, reviews, and participates in the work of staff performing geographic information system and technology support; assumes responsibility for the workflow of an assigned work unit by making work assignments, ensuring that work is consistent with quality standards, and timeline expectations are met.
- Performs the more complex work including assignments for which there are little or no directly related policies, procedures, or past practice which requires the exercise of independent judgment and discretion in establishing work plans, identifying resources, and completing assignments.
- Provides input for personnel decisions such as performance evaluations, promotions, hiring, and disciplinary actions.
- Administers and maintains enterprise GIS infrastructure, ensuring scalability, security, and high performance; designs and implements system architecture; monitors and manages system performance; plans and executes software updates, patches and upgrades.

- Plans, coordinates, and delivers complex GIS projects; manages spatial components of large initiatives; advises on technological feasibility and compliance; prepares reports and coordinates across departments and stakeholders.
- Writes scripts in multiple programming languages to automate workflows, document processes, and perform complex technical tasks.
- Conducts advanced geospatial analysis, modeling, and data visualization to support operational decision-making; transforms data from multiple sources into actionable tools and solutions.
- Deploys and manages systems monitoring tools; optimizes system performance; conducts tuning and health checks to ensure reliability and availability of GIS services.
- Diagnoses and resolves issues within enterprise GIS and integrated systems; communicates proactively and provides documentation and training where necessary.
- Stays current with emerging AI tools and assists in evaluating, configuring, and implementing approved AI solutions.
- Develops administrative guides, user manuals, tutorials, and other technical documentation; researches laws, policies, and emerging technologies and summarizes findings for organizational use.
- Guides and mentors junior team members in system design, data modeling, cartographic principles, and application development; trains staff on GIS technology, best practices, and system integrations.
- Supports service request workflows by producing presentation-quality maps and exhibits for meetings and public engagement and fulfilling data and analysis requests of varying complexity.
- Designs and maintains relational database schemas; administers databases that serve as authoritative repositories for spatial data; ensures data integrity, interoperability, and compliance with standards.
- Participates in regional collaborative working groups; represents organizational interests and contributes to joint initiatives.
- Advises on long-term GIS strategies, policies, and governance practices; aligns technology solutions with organizational goals and industry best practices.
- Engages stakeholders to identify business needs; designs and implements geospatial solutions, applications, and supporting infrastructure; develops and maintains all stages of the web GIS ecosystem, from services through maps and applications.
- Ensures staff observe and comply with all District and mandated safety rules, regulations, and protocols.
- Performs other duties as assigned.

QUALIFICATIONS

Knowledge of:

- Principles of providing functional direction and training to assigned staff.
- Principles and practices of leadership.
- Principles and best practices for enterprise GIS architecture, system administration, and performance optimization.
- Database design, schema management, and relational database administration, including data integrity and interoperability standards.
- Data governance structures and frameworks.
- Programming and scripting languages for automation and application development, including Python, SQL, JavaScript, HTML, CSS, and evolving web and automation technologies.
- Methods and techniques for geospatial analysis, modeling, data science, cartography, and data visualization to support operational and strategic decision-making.
- Web mapping technologies, service publishing, and application deployment standards for enterprise and cloud environments.
- Principles of cybersecurity, system monitoring, and protocols for secure data and application management.
- Techniques for troubleshooting and diagnosing complex system and database issues in integrated

environments.
- Standards and practices for technical documentation, including administrative guides, user manuals, and workflow procedures.
- Project management concepts for planning, coordinating, and delivering complex technical initiatives.
- Principles of strategic planning and governance for aligning technology solutions with organizational goals and industry best practices.
- Emerging technologies, trends, and innovations in GIS, geospatial artificial intelligence (GeoAI), and related fields to ensure continuous improvement and modernization.
- Principles and techniques for working with groups and fostering effective team interaction to ensure teamwork is conducted smoothly.
- Methods and techniques of preparing technical and administrative reports, and general business correspondence.
- Applicable federal, state, and local laws, codes, and regulations as well as industry standards and best practices pertinent to the assigned area of responsibility.
- Accessible design guidelines and standards for web and digital content, including GIS maps, graphics, and applications.
- District and mandated safety rules, regulations, and protocols.
- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors, and District staff.
- The structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar.
- Modern equipment and communication tools used for business functions and program, project, and task coordination, including computers and software programs relevant to work performed.

Ability to:

- Plan, organize, and coordinate the work of assigned staff.
- Effectively provide staff leadership and work direction.
- Assist in developing and implementing goals, objectives, practices, policies, procedures, and work standards.
- Design, configure, and maintain enterprise GIS architecture and systems to ensure reliability, security, and scalability.
- Administer relational databases, manage schemas, and enforce data integrity and interoperability standards.
- Develop, test, and debug scripts and automation tools to streamline workflows and improve system efficiency.
- Perform advanced geospatial analysis, modeling, data science, cartography, and data visualization to support operational and strategic decision-making.
- Configure, deploy, and maintain web maps, services, and applications for enterprise and cloud environments.
- Diagnose and resolve complex technical issues in integrated systems and databases under time-sensitive conditions; document remediation process and recommend solutions.
- Prepare clear and comprehensive technical documentation, user guides, and workflow procedures.
- Communicate technical concepts effectively to diverse audiences and provide guidance and training to staff.
- Manage multiple projects and priorities, ensuring timely delivery of high-quality technical solutions and GIS products.
- Collaborate with cross-functional teams and external partners to define requirements and implement solutions.
- Apply strategic thinking to align technology initiatives with organizational goals and industry best practices.

- Stay current with emerging technologies, evaluate new tools, and recommend innovative solutions for continuous improvement.
- Understand, interpret, and apply all pertinent laws, codes, regulations, policies and procedures, and standards relative to the work performed.
- Effectively represent the division and the District in meetings with governmental agencies, community groups, various business, professional, and regulatory organizations, and in meetings with individuals.
- Prepare clear and concise reports, correspondence, documentation, and other written materials.
- Use tact, initiative, prudence, and independent judgment within general policy and procedural guidelines.
- Independently organize work, set priorities, meet critical deadlines, and follow-up on assignments.
- Communicate clearly and concisely, both orally and in writing, using appropriate English grammar and syntax.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.
- Effectively use computer systems, software applications relevant to work performed, and modern business equipment to perform a variety of work tasks.

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

Education:

- Equivalent to a bachelor's degree from an accredited college or university with major coursework in computer science, information technology, geography, engineering, or a closely related field.

Experience:

- Five (5) years of increasingly responsible experience with database management, systems integration, project management, and geographic information systems equivalent to the GIS Analyst II with the District.

Licenses and Certifications:

- Possession of a valid California Driver's License to be maintained throughout employment.

PHYSICAL DEMANDS

Must possess mobility to work in a standard office setting and use standard office equipment, including a computer; to operate a motor vehicle and visit various district sites; vision to read printed materials and a computer screen, as well as interpret colored warning and alarm lights on computer equipment; and hearing and speech to communicate in person and over the telephone. This is primarily a sedentary office classification although standing in work areas and walking between work areas may be required. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator and to operate standard office equipment. Positions in this classification occasionally bend, stoop, kneel, reach, push, and pull drawers open and closed to retrieve and file information. Employees must possess the ability to lift, carry, push, and pull materials and objects up to 20 pounds.

ENVIRONMENTAL CONDITIONS

Employees work primarily in an office environment with moderate noise levels, controlled temperature conditions, and no direct exposure to hazardous physical substances. Employees may be required to travel to District field sites where exposure to loud noise levels, cold and hot temperatures, inclement weather

conditions, road hazards, vibration, and mechanical and/or electrical hazards are possible. Employees may interact with upset staff and/or public and private representatives in interpreting and enforcing divisional policies and procedures.

EFFECTIVE: August 2016
REVISED: October 2026
FLSA: Exempt