DEPARTMENT OF NATURAL RESOURCES
POSITION DESCRIPTION

Working Title: Remediation and Redevelopment (RR) Program GIS Specialist
Classification: IS Systems Development Services – Specialist

Purpose of the Position:
This position is responsible for planning, implementing, upgrading, and supporting the development of the RR Program's Geographic Information Systems (GIS) mapping applications and geospatial data needs. Primary responsibilities include developing, managing and maintaining the RR Program's web-based mapping applications and all requisite map/feature services; performing advanced technical data and database design; analyzing data requirements; performing spatial data analyses; and assisting with necessary quality assurance and quality control processes to support RR Program IT operations and business needs. The position requires a strong knowledge base and experience: understanding and managing GIS data and applications in multiple environments; GIS relational database management and development in Oracle /ArcSDE; a desire and ability to create and negotiate solutions; working on development teams to integrate complex IT/GIS solutions existing in desktop, mobile and web environments.

As GIS Specialist, the position is responsible for understanding and meeting the IT and GIS business needs of department staff, government and non-government agencies and the general public. This position works closely with the RR program and other DNR IT staff. This position works on RR geospatial data, databases, web services, and mapping applications that support GIS applications and database systems across the agency. This position provides consultation, guidance and support to business program managers and staff, as well as other DNR IT and GIS professional, specialist, and consultant positions. This position also performs tasks that may involve customized geospatial data analysis, field data collection coordination, map production, document management or similar activities. This position may be a member or leader of RR and IT project teams.

Location, Geographic Scope and Travel Requirements:
This position can be stationed in any primary DNR office or service center in the state. If not stationed in Madison, occasional travel to Madison will be required as needed to coordinate with RR or IT staff. This position will report to the DNR IT Executive Program, whose management is primarily in DNR Headquarters in Madison. Occasional travel within the state may also be required.

Scope of Authority:
This position works under the general review of the DNR IT GIS Data, Analysis & Integration Section Supervisor and will work closely with the Business Relationship Manager(s) for RR, RR staff, and the RR management team, as appropriate. As requested, this position may conduct project management or lead GIS or interdisciplinary teams or initiatives.

Responsibilities and Accountabilities:

40% A: Maintenance, Enhancement and Development of Applications and Systems – Manage and maintain GIS web, mobile, and desktop mapping and data collection applications for the RR Program.

   A1.   Interface with managers and management teams, presenting information about new or changed applications, changes in data architecture, potential new business opportunities due to technical advances, and impacts on business rules and processes.
   A2.   Design, develop, test, and maintain ArcGIS for Server (AGS) web/feature services using ArcGIS Desktop and AGS tools.
   A3.   Design, develop, test and maintain ArcGIS Portal and ArcGIS Online (AGOL) datasets, web maps, and mobile and web mapping applications.

A4.   Create and/or modify software and application designs as business needs or technologies change. This may include the need to improve performance, security, and reliability of applications when in use.

A5.   When requested, assist in the testing and debugging of IT applications, using a variety of professional tools, to meet needs and specifications.

A6.   Develop, maintain and document RR Program GIS web and mobile applications and GIS data architecture. Troubleshoot, identify, and resolve development, testing, and production application problems. Work independently to resolve problems with RR GIS data and applications when necessary.

A7.   Work with RR IT team to develop technical documentation for GIS applications and processes.

A8.   Ensure that information systems developed by contractors or internal staff will integrate well with other RR and other DNR information systems, assist with IT technical quality assurance reviews when requested, provide sufficient training enabling current or future RR program staff to utilize and/or maintain the information systems.

A9.   Utilize standards, procedures, and system development framework guidelines to ensure the success and quality of GIS projects.

A10.   Lead and participate in application user design and post-implementation reviews.

35% B: Geospatial Data Development, Collection, Analysis & Maintenance – Manage and maintain GIS data for the RR Program, ensuring compliance with all necessary statutes, rules and agency policies.

B1.   Lead or assist with GIS data collection, assessment and integration of GIS layers with Oracle data tables.

B2.   Responsible for RR program ArcSDE, GIS map services, ArcGIS Online (AGOL) and Portal GIS data and GIS application management and maintenance.

B3.   Acquire/develop, QA/QC, enhance, and maintain RR Program geospatial data.

B4.   Evaluate and document geospatial data structure and content using appropriate GIS software and tools, and apply relevant data standards, best practices, standard operating procedures, etc.

B5.   Develop automation processes for operational geospatial data and repository maintenance and management activities, as applicable.

B6.   Perform geospatial analyses as needed using applicable software, tools, and techniques.

B7.   Provide geospatial data guidance and support to RR program managers, RR and DNR staff, and customers.

B8.   Design detailed map products for use by RR Program staff, partners and the public as needed.

B9.   Develop and manage of GIS Oracle/SDE database components required for RR program needs.

B10.   Development of queries to facilitate various program reporting needs.

B11.   Serve as data custodian/steward of RR's statewide GIS data layers by performing the following tasks: update, maintain, create, organize and grant access to statewide vector and raster datasets and maintain metadata consistent with DNR's GIS standards.

B12.   Respond to open records requests by extracting GIS and tabular data and sending it to requesters, then documenting per DNR procedures.

B13.   Develop and facilitate systems for GIS data collection using mobile, web, and desktop systems, assess and integrate GIS information with data in spatial or tabular Oracle tables.

B14.   Provide training to office and field staff on mobile, desktop, and web-based GIS solutions.

20% C: GIS Project Management

C1.   Help collect and write user stories and acceptance criteria for GIS-related needs.

C2.   Work with the business relationship manager (BRM), RR IT team, business sponsor and managers to estimate and prioritize user stories in conjunction with non-GIS needs.

C3.   Participate in sprint planning, daily scrums, sprint reviews and retrospectives. Communicate GIS project progress, problems and/or shortfalls to RR Business Relationship Manager, GIS IT Section Chief, and RR Program staff and leadership as requested.

C4.   As required, draft project plans, track progress and report on status.

C5.   Present at meetings, workshops, conferences, and Departmental briefings as requested.

C6.   Lead project or task teams to complete implementation of GIS applications or systems integration.

5%   D: Organizational Responsiveness

D1.   Manage data and GIS systems in compliance with all applicable DNR data, application, and documentation standards.

D2.   Manage public records applicable to job duties following all applicable agency policies.

D3.   Review and keep abreast of changes in knowledge and practices of position-related activities in responsibilities.

D4.   Participate in job-related training and organizational meetings as assigned by supervisor.

D5.   Prepare forms and reports as necessary for personnel and budget accounting purposes in a timely manner.

D6.   Perform other position-related duties as assigned.

D7.   Follow all general and position-related safety requirements.

Knowledge, Skills and Abilities:

1. Knowledge of customer service concepts and strategies with strong problem-solving skills.
2. Knowledge of web technologies for serving software and mapping system applications to customers.
3. Knowledge of relational database management, creation and maintenance including knowledge of Oracle and SQL.
4. Knowledge and skills relating to complex GIS spatial database management, creation and maintenance.
5. Knowledge of electronic document capture, storage and management.
6. Knowledge of spatial and tabular data collection procedures.
7. Ability to communicate highly technical information effectively to a range of audiences (e.g., managers, other IT staff, program customers)
8. Ability to be detail oriented and perform tasks with a high level of accuracy, while keeping an eye on the big picture.
9. Ability to demonstrate good prioritization and organizational skills, and to work independently on multiple tasks/projects at one time.
10. Proficient with Microsoft office products including Access, Excel, Word, Teams, Power Point, and SharePoint.
11. Skill in business analysis and project management.
12. Ability to communicate effectively to both technical staff and non-technical staff, including managers, both verbally and in writing.
13. Knowledge of Environmental Systems Research Institute (ESRI) technologies, including: ArcGIS Desktop software (ArcGIS Pro); ESRI desktop extensions and tools (e.g., Spatial Analyst, 3D Analyst, Model Builder); ESRI ArcSDE database structure and management; and ArcGIS Online (AGOL), and ESRI Portal data, map, and application development and management.

14. Knowledge of ESRI ArcGIS for Server (AGS) web map and feature service development and maintenance.
15. Skilled in creating web and/or mobile mapping applications in AGOL, Portal, VertiGIS Studio, Geocortex Essentials, or similar environments.
16. Knowledge of fundamental methodologies to perform technical geospatial data collection, processing, coordinate conversion, QA/QC, distribution, management, etc.
17. Knowledge of fundamental methodologies of mapping sciences and cartographic design.
18. Knowledge of SQL, Python, Arcade, R and/or other scripting languages useful to support or automate GIS processes.
19. Knowledge of electronic document capture, storage and management.
20. Knowledge of application testing protocols and best practices.
21. Knowledge and skill working with developers to create technical specifications for use by programmers for coding.
22. Skill determining the data analysis needed to support decisions and aid in designs; also doing data analysis, including analyzing database structures, writing queries, and developing reports, documents, and/or communications.
23. Skill working with subject matter experts, business analysts and other IT professionals in the development of technical specifications for use by programmers developing complex applications.
24. Ability to implement quality assurance/quality control practices with other IT professionals.
25. Ability to develop, maintain, and enhance relational databases with spatial components.
26. Skilled in leading project and interdisciplinary task teams, being able to navigate team dynamics, team conflicts and delegating responsibilities as necessary.

Physical Requirements and Environmental Factors:

Physical requirements include talking in front of groups, sitting for long periods of time, lifting and carrying 5 to 30 lbs. Environmental factors include working indoors in an office setting and independently traveling to offices around the state.

Equipment Used:
Computers, tablets, smartphones, field data recorders, GPS devices, projectors, virtual meeting software/hardware, calculator, copy machine, and telephone.

Telework Evaluation:

Telework may be an option, following DNR policies. Regular travel to DNR central office in Madison is expected.