

## STATE OF SOUTH DAKOTA CLASS SPECIFICATION

**Class Title: GIS Analyst**

**Class Code: 11461**

**Pay Grade: GH**

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### **A. Purpose:**

Develops Geographical Information System (GIS) projects by working with requestors to analyze their needs and by recommending development of products that fulfill their requests.

### **B. Distinguishing Feature:**

The GIS Analyst uses GIS capabilities to develop databases, queries, and reports as requested by managers.

### **C. Functions:**

*(These are examples only; any one position may not include all of the listed examples nor do the listed examples include all functions which may be found in positions of this class.)*

1. Develops and maintains GIS projects to enhance and facilitate department planning, processes, and project development.
  - a. Interviews stakeholders to gather information and determine projects' scope.
  - b. Conducts research to determine availability of data and determines further data needs.
  - c. Creates additional data elements that are not currently available.
  - d. Converts compiled data into spatially-enabled data.
  - e. Creates and designs GIS projects.
  - f. Demonstrates end-products and teaches stakeholders how to use and maintain them.
2. Assists managers and staff in decision-making by converting current systems and procedures into GIS products that make data and other information more accessible and up-to-date.
  - a. Identifies data sources.
  - b. Updates data tables to ensure most current data is available.
  - c. Creates event tables.
  - d. Develops queries and expressions to initiate reports.
  - e. Creates charts, graphs, spreadsheets, tables, maps, etc., to display results.
3. Develops, creates, and maintains GIS metadata and data dictionaries to define the data contained in databases, and provide key words related to the data.
  - a. Researches GIS data sources for content, accuracy, completeness, and timeliness.
  - b. Creates metadata in compliance with Federal Geographical Data Committee (FGDC) guidelines for identification, extents, quality, spatial reference, and distribution in order to enable data to be used both internally and externally.
  - c. Creates XML metadata templates for future metadata entities.
4. Provides GIS training and assistance to help users understand how to use and maintain their products.
  - a. Programs and sets up products initially, and performs data updates and routine maintenance.
  - b. Shows users how to turn layers on and off and use the data.
  - c. Assists in conducting group training and conducts one-on-one training.
  - d. Maintains an on-line procedures manual and distributes it as requested.

- e. Educates clients about GIS capabilities that relate to their products, and how to access information and run reports.

5. Performs other work as assigned.

#### **D. Reporting Relationships:**

Reports to a Program Manager. Does not supervise.

#### **E. Challenges and Problems:**

Challenged to develop the scope of requested projects. This is difficult because requestors often have limited knowledge of the potential of GIS which requires the incumbent to understand their diverse business needs; it requires determining, locating, and obtaining necessary data which may not exist in electronic format so may have to be developed from research; and it requires relating technology capabilities with requestors' needs.

Further challenged to create metadata, the who, what, where, when, and why of the resource. This is difficult because it requires a complete understanding of the information being described as metadata is only useful if the end user can retrieve the necessary information and make an informed and valued judgment based on the contents, accuracy, timeliness, and value of the data.

Problems encountered include providing assistance to those with minimal or no experience using GIS software; and providing quality service while working on time-sensitive projects.

#### **F. Decision-making Authority:**

Decisions include spatial database architecture, methods or tools used for conversion of paper or other non-electronic data, whether available data meets project needs, style and layout best suited to represent information in an easily interpreted manner, whether metadata needs to be created, what supplemental data is needed beyond minimum standards, and detail and level of training necessary to fit individuals' experience levels.

Decisions referred include prioritization of projects, and whether or not final products are acceptable.

#### **G. Contact with Others:**

Daily contact with managers and staff to coordinate GIS projects, and provide database and product assistance.

#### **H. Working Conditions:**

Typical office environment.

#### **I. Knowledge, Skills, and Abilities:**

Knowledge of:

- geographic information systems;
- database design and maintenance;
- Structured Query Language (SQL) formats;
- computer-aided drafting, Microstation (preferred but not required);

- cartographic procedures;
- spreadsheet software

Ability to:

- use GIS technology and analytical methods;
- organize, analyze, and interpret geographic data;
- communicate information clearly and concisely;
- organize and prioritize work;
- determine most effective layouts for graphic representations.