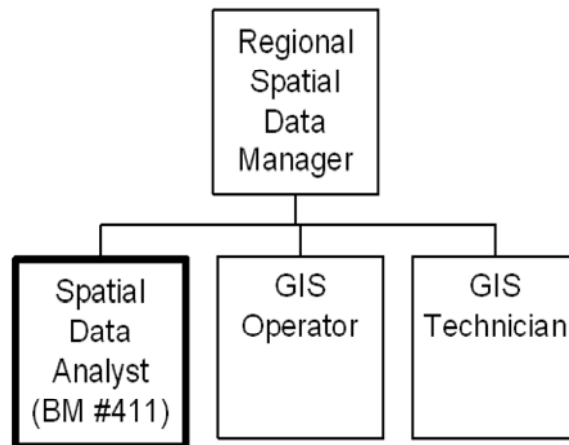|	
Position:	**Benchmark Job #411**
Ministry:	Various
Working Title:	**Spatial Data Analyst**
Branch:	Various
Level:	Range 21
Location:	Regional Office
NOC Code:	2255

PRIMARY FUNCTION

To conduct advanced spatial data analysis for use in resource planning and decision making.

JOB DUTIES AND TASKS

1. Supports research and planning activities by conceptualizing, designing, developing and executing advanced spatial analysis and presentation that integrates data from a diverse range of sources
    a. prioritizes, coordinates and evaluates spatial analysis projects by consulting with resource professionals, sets terms of reference, estimates time and costs, determines project methodology, specifies deliverables, participates in strategic and operational planning
    b. reviews progress of projects for consistency with the project management plan and delivery schedule, compliance with Ministry policy and standards, and prepares reports for clients
    c. applies subject matter knowledge of scientific/technical areas in the design of specific spatial analysis applications
    d. provides advice and consultation to clients in the initiation, design, and specifications of projects, types of source data that is required and available, data base structure, limitations and specialized applications in relation to project goals
    e. performs integrated spatial analysis from multiple combinations of spatial and attribute data
    f. develops spatial analysis procedures and techniques for customized applications, queries and models
    g. designs and develops spatial analysis applications using Geographic Information System (GIS) programming languages, Structured Query Languages (SQL), system specific languages, as well as other languages and tools to create custom program code
    h. conducts quality control checks to ensure end-user product reliability and validity
    i. participates in the investigation, recommendation, selection, testing, evaluation and implementation of spatial analysis platforms, platform components and applications
2. Develops spatial and attribute data bases used in spatial analysis processes
    a. prepares, plans and coordinates the acquisition, processing and analysis of all types of resource and data used to support spatial analysis processes
    b. ensures that the integrity of ministry spatial data sets is maintained and protected
    c. develops new data sets based on queries and models against existing data bases using a combination of spatial and Relational Data Base Management system (RDBMS) tools such as Oracle and Access
    d. writes advanced custom program code integrating multiple functions and types of software to reformat data to ministry standards
    e. contributes to the establishment of spatial technology standards and procedures to support the integrity,

security and transferability of data and coordinates processes for quality assurance and archiving

    f. applies corporate data models where appropriate and creates custom data models for local data sets

    g. establishes regional protocols and methodologies for the development and analysis of data sets

3. Coordinates contracts for spatial analysis services

    a. adapts standardized language and outlines specifications for spatial analysis contracts

    b. interacts with contractors to resolve problems, provide technical guidance, monitor contract progress, conduct quality assurance checks and ensure contract deliverables meet specifications

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                    │   Regional  │
                    │   Spatial   │
                    │    Data     │
                    │   Manager   │
                    └──────┬──────┘
         ┌─────────────────┼─────────────────┐
    ┌────┴─────┐      ┌─────┴────┐      ┌─────┴─────┐
    │ Spatial  │      │   GIS    │      │    GIS    │
    │  Data    │      │ Operator │      │ Technician│
    │ Analyst  │      │          │      │           │
    │(BM #411) │      │          │      │           │
    └──────────┘      └──────────┘      └───────────┘
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FACTOR	REASON FOR CLASSIFICATION	DEGREE	POINTS
1	**JOB KNOWLEDGE** Understand the theory of geography and/or a related resource management discipline combined with principles of advanced spatial data analysis to integrate a diverse range of data sets in support of resource planning activities, create output products in various formats, and develop spatial and attribute data sets for application to resource related issues.	H	280
2	**MENTAL DEMANDS** Judgement to apply structured study and analysis to identify and examine data conflicts and choose and approach requiring the precise review and manipulation of sophisticated scientific and technical data that is integrated through multiple phases to conceptualize data and resource relationships, develop data models, determine the application and validity of data sets in relation to resource based issues, and create end-user products.	F	175
3	**INTERPERSONAL COMMUNICATION SKILLS** Discretion required to exchange information needing explanation to determine and clarify spatial analysis requirements with resource professional.	C	30
4	**PHYSICAL COORDINATION AND DEXTERITY** Significant coordination and dexterity required to use a computer to prepare cartographic products that require precise manipulation with a computer mouse with no tolerance for error.	D	22.5
5	**RESPONSIBILITY FOR WORK ASSIGNMENTS** Guided by spatial analysis standards and resource planning needs, applies accepted work practices in a different way to design and develop customized spatial data applications, determine limitations of data bases, write program code, conduct queries on data sets, and establish regional protocols and methodologies.	E	120
6	**RESPONSIBILITY FOR FINANCIAL RESOURCES** Significant financial responsibility to adapt standard or pre-approved contract language for the collection of field and resource data that must comply to various formats and qualitative standards.	E	33

FACTOR	REASON FOR CLASSIFICATION	DEGREE	POINTS
7	**RESPONSIBILITY FOR PHYSICAL ASSETS/INFORMATION** Considerable responsibility to control processes used to resolve discrepancies with input data and format translations to ensure accuracy in resource modelling and product deliverables.	E	33
8	**RESPONSIBILITY FOR HUMAN RESOURCES** Responsibility to explain contract standards and requirements relating to the collection of resource data from the field.	B	9
9	**RESPONSIBILITY FOR WELL BEING/SAFETY OF OTHERS** Responsibility for own well-being and safety in a low risk environment.	A	5
10	**SENSORY EFFORT/MULTIPLE DEMANDS** Focused attention to detail to frequently integrate multiple data sets and create products where a high degree of accuracy is required.	C	12
11	**PHYSICAL EFFORT** Moderate physical effort to frequently focus visual attention to view computer screens and printed material.	C	12
12	**SURROUNDINGS** Exposure to office setting with minimal disagreeable elements.	A	2
13	**HAZARDS** Limited exposure to hazards from frequently keyboarding and using a mouse.	B	4

Total Points: 737.5

Level: Range 21