New

Ministry

Public Safety and Emergency Services

Describe: Basic Job Details

Position

Position ID

Position Name (30 characters)

Geospatial Analyst

Requested Class

Technologies 6

Job Focus

Operations/Program

Supervisory Level

00 - No Supervision

Agency (ministry) code

Cost Centre

Program Code: (enter if required)

Employee

Employee Name (or Vacant)

Vacant

Organizational Structure

Division, Branch/Unit

SSII, MIR, Data Analytics & GIS

[✓] Current organizational chart attached?

Supervisor's Position ID

Supervisor's Position Name (30 characters)

Supervisor's Current Class

Manager (Zone 2)

Design: Identify Job Duties and Value

Job Purpose and Organizational Context

Why the job exists:

Public Safety and Emergency Services (PSES) has a mandate to keep Alberta communities safe and secure, and ensure our province is prepared for and resilient to the impacts of disasters. Within the ministry, the Strategy, Support and Integrated Initiatives (SSII) Division, partners with stakeholders to translate broad ministry priorities into meaningful plans and strategies, which are supported by evidence-based and forward-thinking approaches. The SSII's Modernization, IMT & Research branch provides high-quality data, research, evaluation, and analytics to support strategic decision-making, policy development, forecasting, service design, and resource allocation across government and to the public.

Reporting to the lead, this position supports the technical operations of the team by providing for the collection, analysis, development, and aggregation of both geospatial and tabular datasets using a variety of data management and visualization tools. The candidate will provide analytical and technical support to assimilate the data requirements of diverse stakeholder groups, and provide innovative solutions that build the geospatial data competencies unique to the Public Safety and Emergency Services sectors in the Government of Alberta (GoA).

Responsibilities

Job outcomes (4-6 core results), and for each outcome, 4-6 corresponding activities:

DATASET INTEGRATION
Advance the maintenance and creation of foundational GIS datasets like jurisdictional boundaries in accordance with applicable legislation, regulations, policies, standards, and processes to ensure trustworthy geospatial data by:
- applying appropriate geometric/mathematical adjustments and calculations to integrate boundaries with other legal

and statistical boundaries;
- documenting methodologies and processes used in creating/updating geospatial datasets and creating/updating metadata records;
- following up with requests and concerns regarding geospatial boundaries and population estimates;
- exploring and selecting appropriate methods and boundaries for tabulating geospatial statistics and analyzing their relationships with other administrative boundaries in the province.

ENHANCED ANALYSIS
Execute the processing of aggregation and collection of datasets received from data authorities, administrative data systems, and external stakeholders to ensure data driven analysis by:
- reviewing submissions for completeness, conflicts, and approval conditions;
- creating dashboards, maps, and other visualizations to help portray integrate and aggregate datasets to provide support data driven decision-making;
- advise the supervisor of any potential deviations from established objectives, policies and advise of any major integration issues or conflicts;
- provide advice and/or direction to other technologists or consultants involved in using ministry datasets.

CLIENT SUPPORT
Assist the lead in meeting the needs of PSES and other GoA ministry partners on issues related to boundaries, geospatial analysis and data visualization to ensure the ministry has access to appropriate expertise by:
- maintaining awareness of impactful initiatives underway in other ministries;
- providing advice to the lead on best practices for working with geospatial data for ministries (e.g., what boundaries already exist that may be suitable for reuse);
- building supports to help clients understand geospatial analysis;
- participating in technical working groups involved in the creation of new boundaries and geographies;
- investigating and recommending options for resolving mathematical discrepancies and disagreements on boundaries selected for analysis.

PROGRAM TECHNICAL ADVANCEMENT
Following direction from the lead to evaluate and assess research and best practices for creating, analyzing and visualizing geospatial datasets to ensure efficiency and optimization of the analysis and processes leveraged by:
- researching guidance and maintaining currency on analysis taking place in other jurisdictions;
- participating in knowledge sharing projects/pilots with groups like the Open Geospatial Consortium or Canadian Counsel on Geomatics, and Public Safety Canada
- scripting aggregation of datasets and ensuring cross-jurisdictional integration to ensure interoperability of geospatial datasets;
- recommending and testing new methodologies and processes to streamline analysis;
- creating and documenting new methods, visualizations, and presentations on aspects of geospatial analysis for clients and leadership.

PROGRAM CAPACITY
Provide operational support to ensure time lines and schedules for existing projects are met and augment capacity to meet demand for new project requests within the team by:
- maintaining a familiarity with other foundational datasets;
- assisting with audits and quality control of incoming data deliverables;
- supporting data loading and cataloging of products;
- providing back up for clean-up and organizing of data assets in accordance with existing standards and structures;
- providing back up support for data requests and the team's support email address as required.

Problem Solving

Typical problems solved:

The challenges faced by the role require analysis, reasoning, evaluation, judgment and problem-solving skills. Significant interpretive, evaluative and developmental thinking is required, along with the ability to understand complex relationships and facilitate decision-making processes involving stakeholders.

Challenges of this position include:
- Solving problems relating to project management, data quality, and development in support of analytics or business intelligence solutions.

- Solving problems related to missing, poor or incomplete data, often requiring the use of alternative data source

as proxies or the development of tools to improve data visualization.

- Identifying the best methodological approach to the analysis of data that is relevant accurate and understandable.

- Delivering timely analysis in-step with shifting time lines and requirements to provide insight on current trends.

In addition, this position faces the challenge of maintaining the online mapping applications and dashboard while balancing requests for new analysis, products, and services to support PSES as well as Modernization, IMT & Research branch.

Types of guidance available for problem solving:

Minimal direction is provided relating to the provision of ongoing services, with the position undertaking and recommending responsibilities on its own initiative. General direction is received at the beginning of significant projects, with objectives and time lines agreed to with the lead.

The position requires an understanding of problem-solving tools and techniques, including risk-based decision making processes, consultation, collaboration, and consensus-seeking processes. Solving problems requires a collaborative approach and needs to draw on a wide network of contacts and subject matter experts. The position also needs a strong understanding of stakeholder interests, as well as the perspective of the ministry to ensure the dataset development meets the requirements. This position requires a strong analytical and technical understanding to identify issues and create innovative solutions.

Direct or indirect impacts of decisions:

The incumbent supports the development of geospatial datasets that provide internal and external clients and stakeholders with convenient and efficient access to ministry data leveraged or a variety of applications and analysis.

The Modernization, IMT & Research team, as well as the PSES ministry will rely on results and datasets developed by the analyst. If not done with attention to detail, as well as timely problem solving and technical precision, the ministry is at risk for using unreliable or incomplete information to make decisions, system trends or investments, timely and effective emergency preparedness and response, and potentially harming justice, public safety participants and stakeholders, including offenders, victims, the legal community, the police, and Albertans.

Key Relationships

Major stakeholders and purpose of interactions:

INTERNAL
Director - As required - To receive feedback and provide updates
Manager - Regularly - Consults and obtains direction on projects, priorities and initiatives
Lead - Daily - Collaborate on project development, analysis, and upcoming milestones within the team's projects

EXTERNAL
Cross-Government - As Required - Participates on projects and teams.
Contractors - As Required - Providing feedback and consultation on projects.
Public - As Required - Provide insight and advice.

Required Education, Experience and Technical Competencies

Education Level	Focus/Major	2nd Major/Minor if applicable	Designation
Diploma (2 year)	Other		

If other, specify:

A degree or diploma in a relevant discipline (Technology, Sciences (GIS), Engineering, Business)

Job-specific experience, technical competencies, certification and/or training:

Extensive knowledge of geographic information systems is required necessitating a diploma or degree in GIS, geography, data analysis or a combination of 6 years of progressively responsible work experience and education in a related field to ensure there is a basis for providing sound decision-making, analysis, support, and guidance for clients regarding appropriate methodologies and processes. In addition, a strong knowledge of statistical & administrative boundaries, standards, and analytical methodologies, and familiarity in working within an emergency response setting is required to perform the duties of this position.

The position requires a superior skills with ESRI software, tools, including ArcPro and the Portal for ArcGIS environment, FME, and scripting and programing in Python, Arcade, R, or other languages to facilitate data cleaning, scraping, transformation, analysis, and automation. Experience with building models for data analysis, assessing existing data sources

for project suitability, and an interest and awareness of the goals of the ministry.

This position requires excellent communication, project management, time management, leadership and staff development skills, as well as analytical skills to track and resolve outstanding issues, identifying solutions, and provide support by collecting requirements, completing research, and recommending options for unique issue analysis.

Behavioral Competencies

Pick 4-5 representative behavioral competencies and their level.

Competency	Level A B C D E	Level Definition	Examples of how this level best represents the job
Creative Problem Solving	○ ◉ ○ ○ ○	Focuses on continuous improvement and increasing breadth of insight: • Asks questions to understand a problem • Looks for new ways to improve results and activities • Explores different work methods and what made projects successful; shares learning • Collects breadth of data and perspectives to make choices	-Engages in ministry learning and networking opportunities and additional training to expand knowledge of Justice and Public Safety systems. -Actively explores new technologies and methodologies to automate and improve delivery and development of products. -Seeks feedback and insight on projects.
Agility	○ ◉ ○ ○ ○	Works in a changing environment and takes initiative to change: • Takes opportunities to improve work processes • Anticipates and adjusts behaviour to change • Remains optimistic, calm and composed in stressful situations • Seeks advice and support to change appropriately • Works creatively within guidelines	-Coordinate multiple projects with competing and strict deadlines. -Work in a dynamic environment with shifting priorities. -Proactively anticipates and plans for program area requirements.
Systems Thinking	○ ○ ◉ ○ ○	Takes a long-term view towards organization's objectives and how to achieve them: • Takes holistic long-term view of challenges and opportunities • Anticipates outcomes and potential impacts, seeks stakeholder perspectives • Works towards actions and plans aligned with	-Strong strategic orientation, including ability to conceptualize and support a common vision/direction. - Apply their understanding of justice system data in order to create innovative, accurate and timely data analytics products to support the strategic

		APS values • Works with others to identify areas for collaboration	goals of the ministry.
Develop Networks	○ ◉ ○ ○ ○	Works on maintaining close relations with all stakeholders: • Identifies key stakeholder relationships • Has contact with range of interested parties • Actively incorporates needs of a broader group • Influences others through communication techniques	-Develop and maintain collaborative working relationships with GIS colleagues from across the government and ministry subject matter experts. -Works to locate diverse stakeholders to inform dataset and project development and system modernization.

Benchmarks

List 1-2 potential comparable Government of Alberta: Benchmark

Assign

The signatures below indicate that all parties have read and agree that the job description accurately reflects the work assigned and required in the organization.

_____   _____   _____
Employee Name   Date yyyy-mm-dd   Employee Signature

_____   _____   _____
Supervisor / Manager Name   Date yyyy-mm-dd   Supervisor / Manager Signature

_____   _____   _____
Director / Executive Director Name   Date yyyy-mm-dd   Director / Executive Director Signature