

Working Title Base Access Specialist		Name Vacant	
Position Number	Reports to Position No., Class & Level NR8	Division, Branch/Unit Strategy and Governance Division, Operational Services Branch, Provincial Geospatial Centre	Ministry Environment and Protected Areas
Present Class Technologies 4		Requested Class Technologies 6	
Dept ID	Program Code	Project Code (if applicable)	

PURPOSE:

The Base Access Specialist is responsible for providing direction and technical oversight to the acquisition and management of new and existing geospatial data related to human activities on the land for Environment and Protected Areas (EPA) as well as other ministries within the Government of Alberta (GOA). Anthropogenic data includes roads, cutlines, trails, pipelines, power lines, railways and facilities. These datasets are input into programs and initiatives directed toward the protection and management of Alberta’s ecosystems. The base data created in this unit encompasses the province of Alberta and is acquired from a variety of sources including data capture from orthophotography, regional updates and existing data from other ministries and agencies. Anthropogenic data is essential for resource management, impact assessment and human footprint input into planning and land management within the province. Many other geospatial datasets used by the Alberta government and in the private sector are registered to this base. The position maintains specifications and processes that allow stakeholders to efficiently access and utilize the geospatial data. This position liaises with numerous internal and external stakeholders and subject matter experts. The Base Access Specialist provides expert advice, guidance and consultation on the development of applications and processes related to the Base access dataset. The position is expected to develop an understanding and knowledge regarding the use of the data and associated software applications; develop, maintain and improve processes and metadata specifications for the synchronization of datasets and to contribute to the maintenance and enhancement of an enterprise database in order to provide credible and trusted data for integrated resource and cumulative effects management.

This is a senior technical position within Land Cover / Land Use Program that requires advanced knowledge of Geographic Information System (GIS) concepts and applications as well as excellent project, contract management and team leadership skills. The activities associated with this position include co-ordination with other land cover inventories. Updates to the existing data are usually conducted through contracts with audits being performed by unit staff. The Base Access Specialist is responsible for managing the flow of new and updated data into, and out of, the Alberta Geospatial Services Platform (AGSP) system, which is based on ESRI ArcGIS Enterprise. Update requires co-ordination with contract-acquired data and data acquired from other ministries as well as input from regional staff. Data management requires co-ordination with other business areas and agencies to ensure that the data can be utilized directly or as input into other processes. Co-ordination with various business areas associated with data delivery is a priority.

RESPONSIBILITIES AND ACTIVITIES:

1. The Base Access Specialist will execute production for both in-house and contracted geospatial data

RESPONSIBILITIES AND ACTIVITIES:

capture according to the Data Management Operations Plan, using expert knowledge and skills and appropriate standards, procedures and specifications. This involves the creation, management and provisioning of data of defined quality and currency to clients within AEP and other government departments. These activities will be conducted under supervision of the Land Cover Lead and in co-operation with other Geospatial Program unit leads and includes:

- Co-ordinating and participating as the technical expert in the acquisition and update of province wide base data and providing support and training for contractors and in-house staff to ensure that data adheres to established standards and project requirements
 - Managing and troubleshooting capture, update, audit and publication of anthropogenic data within a multi-user enterprise geodatabase environment using versioning and replication to facilitate distributed and disconnected editing
 - Establishing, co-ordinating and executing quality control processes to ensure data quality and integrity for display and analysis in GIS software
 - Compiling contracting specifications, developing Requests for Proposal / Quote / Information (RFX), assessing bids, managing contracts for data delivery, auditing contract deliverables, approving invoices
 - Converting, processing and reformatting anthropogenic data according to standards, specifications and client needs
 - Creating and updating status maps that reflect data currency and making these available in a timely manner
 - Creating and updating metadata using the appropriate standards for distribution portals and to clients outside of GOA.
2. The position will implement and contribute to the development and/or improvement of standards, processes and products that result in cost effectiveness, efficiency and data usability through the following means:
- Developing, documenting and refining standards, procedures, specifications and quality control processes for the acquisition, management and provisioning of new and existing anthropogenic base data in collaboration with Geospatial Programs and Services staff, data authorities, custodians and clients
 - Providing input into the development of process models, standards, contract specifications and evaluations, best practices and guidelines and metadata
 - Implementing and maintaining standards and best practices for geospatial data and metadata repository and warehouse management, particularly with respect to synchronization of the edit and publication environments
 - Supporting the automation of processing through existing tools and the development of custom scripts where possible
3. The Base Access Specialist is responsible for data co-ordination for internally and externally sourced data, particularly with respect to streamlining data capture and improving currency. This involves:
- Researching new and existing data sources, incorporating existing data where possible and redesigning the workflow to improve the quality, currency and cost-effectiveness of data capture
 - Co-ordinating with the incoming data for provincial highways, Municipalities, Geographical Names System, National Road Network, Utilities
 - Co-ordinating data acquisition with other Land Cover sub-programs such as Grassland Vegetation Inventory (GVI), Alberta Vegetation Inventory (AVI), Primary Land and Vegetation Inventory (PLVI) and the Alberta Merged Wetland Inventory (AMWI) as well as Geo-administrative Areas boundaries and the Base Hydrography for the province
 - Building and maintaining working relationships that facilitate new data sharing agreements and practices including participating in the development and maintenance of partnerships for source data acquisition
4. The position will engage in ongoing consultation with business areas as part of the development,

RESPONSIBILITIES AND ACTIVITIES:

management and update of anthropogenic base geospatial databases inside of the AGSP corporate repositories and warehouses. This activity includes:

- Liaising with internal clients and external agencies such as Alberta Biodiversity Monitoring Institute (ABMI) and the Alberta Energy Regulator (AER) to ensure client business requirements are being met and to ensure that clients are informed about the status of individual requests or projects
 - Responding to queries and providing advice to other units within the Geospatial Programs and Services, their clients and regional colleagues on collection, use and availability of data as well as operational techniques and methodologies; ensuring that the needs of internal clients are met
 - Facilitating and delivering workshops, presentations and training sessions as required to disseminate awareness of the products and services available
 - Participating in the development of internal processes and practices regarding data and information sharing
 - Providing support to initiatives and programs such as the Human Footprint, and applications, such as the Landscape Analysis Tool (LAT) and Mobile GIS, as well as the implementation of new initiatives and the development of new applications
5. As a member of Geospatial Programs and Services, the Base Access Specialist will participate in activities such as:
- Consulting and collaborating with other units to ensure that the acquisition, loading, storage, management, retrieval and dissemination of departmental data follow an efficient path
 - Developing operations plans and business cases, prioritizing projects.
 - Developing plans, monitoring and reporting on progress for projects that provide data and services to internal and external users to ensure that resources are being properly applied and projects are completed in a timely and cost-effective manner
 - Participating in the design, development, packaging installation, testing, evaluation, implementation and maintenance of new and upgraded GIS applications

SCOPE:

The Base Access Specialist is a senior staff member who provides technical oversight, workflow management support and problem resolution to facilitate the collection of new, and update of existing, anthropogenic geospatial data. Partnerships have been developed to share data that will eliminate duplication of effort and will enhance the reliability of the data, and this position is expected to support these initiatives. The Base Access Specialist is responsible for the management of integrated databases to enable internal (particularly regional) and external users to fulfill their business needs. This involves working in the AGSP geospatial data environment managing versioning, replication, validation and the flow of data into, and out of, the editing and publication environments for all geospatial data related to human activity. The Base Access Specialist will also provide input into the development of storage and retrieval strategies and the provisioning of geospatial data through a number of different portals with significantly different requirements. This position is expected to provide solutions when technical issues arise and engage in testing to prevent issues that may accompany new installations and upgrades. This position is also expected to contribute to the design of new anthropogenic geodatabases, provide support for any associated web mapping sites and to provide support for automation as part of the workflow modernization process.

The work of the position impacts the availability, consistency, usability, currency and accuracy of the base anthropogenic geospatial data utilized in the Ministry and GOA. These geospatial datasets from the EPA repositories are utilized in planning, regulation and emergency management by all ministries within the GOA, particularly where emergency management and human disturbance are important. Other governments at all levels including the federal and other provincial governments, non-government organizations, industry and

SCOPE:

colleges and universities also use the data which are in this position's custodianship.

KNOWLEDGE, SKILLS & ABILITIES:

This position requires a two-year technical diploma in a related field supplemented with a minimum of six years of progressively responsible experience (or equivalent) with emphasis on GIS, cartography, remote sensing and environmental and natural resource information management. Demonstrated proficiency in enterprise geospatial data management with an understanding of acquisition and provisioning is mandatory. Expertise in ArcGIS, air photo interpretation and anthropogenic (roads, cutlines, trails, pipelines, power lines, railways and facilities) data is also required. Supervisory and contracting experience would be an asset.

This position requires knowledge and understanding in the following areas:

- Expert knowledge of GIS and associated software, particularly ArcGIS and ArcSDE
- Expert knowledge of ESRI GIS products including the ArcGIS suite of tools to create, edit, process and analyze digital geospatial data
- Expert knowledge of enterprise geospatial data management in a multi-user environment
- Expert understanding of risk management where government datasets are concerned

- Good knowledge of satellite and remote sensing techniques, particularly multi-spectral imagery and LiDAR
- Good knowledge of geospatial data processing and analysis as applied to environmental and natural resource information
- Good understanding of geomatics and survey science
- Good knowledge of metadata standards and construction
- Good understanding of cartography and cartographic techniques
- Good knowledge of the Windows operating environment, office software and project management software
- Good knowledge of relational database management including development, implementation and maintenance
- Good understanding of emerging trends in geospatial data acquisition, management and distribution
- Good understanding of the use of geospatial information on mobile devices
- Good knowledge of file transfer and compression formats and techniques
- Good understanding of Alberta Township System, projections and related geographic referencing systems
- Good knowledge of web mapping techniques and applications

- Working knowledge of programming languages and geospatial systems architecture
- Working knowledge of Unmanned Aerial Vehicles (UAVs) and Global Positioning System (GPS)

This position requires the following skills and abilities:

- Database management system data entry, editing and manipulation
- Strong air photo interpretation skills using orthophotography
- Strong collaboration, leadership, and mediation skills
- Strong contract management skills
- Strong planning and project management skills
- Strong motivational skills
- Excellent organizational skills and the ability to meet deadlines

KNOWLEDGE, SKILLS & ABILITIES:

- Strong analytic, creative thinking and problem solving skills
- Ability to work both independently and as part of a team
- Strong verbal and written communication skills

CONTACTS:

Supervisor, Unit and Branch Staff: To develop plans, strategies standards and initiatives to meet program objectives and provide technical support for spatial data acquisition, management and distribution

Ministry staff, agencies and partners: To provide expert advice, guidance and consultation in support of ministry business.

GOA Ministries: To provide expert advice, guidance and consultation in support of ministry business.

Non-Government Organizations (NGOs), industry, academic and public agencies: To provide expert advice, guidance and consultation in support of datasets that are being acquired or delivered externally in order to facilitate government business. To respond to data and technology queries and to discuss opportunities to facilitate the sharing of data and information.

SUPERVISION EXERCISED:

This position occasionally supervises one Technologies 4 position on a project-by-project basis. This position is responsible for overseeing the work of external consultants under contract to PGC and may be required to supervise wage staff.

CHANGES SINCE LAST CLASSIFICATION REVIEW:

The responsibilities associated with this position have changed significantly. In order to fulfill the Provincial Geospatial Centre's core mandate, additional technical expertise, contract management knowledge and skills as well as subject matter expertise are now required. The business areas and their associated needs have changed and greater collaboration with a larger geospatial community has become an integral part of this position.