Job Class Profile: Cartographic Technician I (Draughting)

Pay Level: CG-27 Point Band: 534-577

Factor	Knowledge	Interpersonal Skills	Physical Effort	Concentration	Complexity	Accountability & Decision Making	Impact	Development and Leadership	Environmental Working Conditions	Total Points
Rating	4	2	4	6	3	3	3	1	3	
Points	187	33	25	29	90	65	62	21	32	544

JOB SUMMARY

Performs extensive data capture, editing and translation of digital mapping files using ArcGIS software. Work involves the operation of Geographic Information Systems (GIS) for the production of digital maps by editing digital data, conducting data conversion processes, geo-referencing and cataloguing raster images as required. Work may also include performing quality control procedures, computer file management in the cataloguing and maintenance of extensive digital map files and databases and filling client orders in the distribution of digital products.

Key and Periodic Activities

- Creates, reformats and maintains digital map components (data) using GIS software and the Custom Road Network Management System (RNMS).
- Operates GIS software to perform quality control procedures on contract work and divisional projects.
- Compiles and edits digital maps using GIS software.
- Develops and tests data capture, data editing, data manipulation, and data conversion processes.
- Determines optimal geo-processing functions to complete assigned tasks based on established standards.
- Performs computer file management in the cataloguing and maintenance of extensive holdings of digital data and computer databases by following the prescribed organization of file directories.
- Creates and edits metadata in accordance with departmental standards and specifications.
- Maintains files supporting internet mapping services.
- Scans and edits aerial photography for public distribution: operates graphic scanners; edits photography using image manipulation software; calibrates and cleans scanning machine to maintain quality.
- Distributes digital information to division clients; takes and fills orders; maintains digital map licenses; responds to client inquiries.
- Assists geodetic surveyors in field work activities.
- Reformats digital map files between various interchange formats.
- Assists with public outreach displays and demonstrations.

SKILL

Knowledge

General and Specific Knowledge:

— Knowledge of digital mapping and GIS applications software.

Formal Education and/or Certification(s):

— Minimum: Diploma in Geographic Information Systems, Computerized Mapping or Geomatics.

Years of Experience:

— Minimum: 1-2 years.

Interpersonal Skills

— Interpersonal skills are used mainly to listen for instructions and obtain guidance and asking questions to gain information for work processes. Occasionally provides routine information, promotes products or service and may communicate complex ideas to others.

— There is some contact with employees in different branches of the department, government employees outside the department and municipal or federal government representatives.

— Most significant interactions are with co-workers/employees in the immediate work unit to share ideas, and collaborate on work processes and immediate supervisor for guidance and instructions. There is occasional contact with customers/clients to take and fill orders for maps.

EFFORT

Physical Effort

— Constantly sitting at a computer for long periods and constant use of a mouse and keyboard creates for editing digital data, conducting data conversion processes, geo-referencing and cataloguing.

— Occasional fieldwork may require lifting objects ranging from 10-25 lbs. (survey equipment, rocks).

— Requires fine finger precision work when using a computer.

Concentration

— **Visual** concentration or alertness is required when digitizing features of photos, while inspecting work for Quality Control and when conducting a visual analysis of digital data and fine detail on hard copy maps.

— Field work requires the use of precision technology and equipment that uses various levels of **eye/hand coordination**.

— Tasks are often **repetitive and require alertness** to ensure high quality, exact results and precision while working with spatial data.

— There are **time pressures and interruptions** as work is project based with a specific deadline. Interruptions occur with priorities changing, customers coming in and ordering maps and phone calls.

— **Exact results and precision** are also required when digitizing features, inspecting work for Quality Control and conducting a visual analysis of digital data.

Complexity
— Tasks are regularly repetitive/well defined or different but related and allow for the use of similar skills and knowledge. — Typically, work is performed with defined and standard work processes, have obvious or limited solutions and/or can be addressed by following procedures or guidelines. — The most typical issues to solve are highly technical with regards to the use of GIS software. Most issues involve identifying which software tool should be used and how to use it effectively. — There are also regular challenges or problems that must be defined and practical solutions found (i.e. incumbent is working on varying projects with some having different but related problems would require incumbent to investigate and develop solutions). — Manuals, user guides, computer support and specialized staff are available as references or resources.

RESPONSIBILITY

Accountability and Decision-Making
— Work tasks are highly monitored or controlled. — There are very few decisions that can be made without written or verbal approval. Deleting information, filling client orders, changing procedures and purchases all require supervisory approval. — Activities that can be carried out with some discretion include decisions regarding quality control, creation and maintenance of maps, map components, metadata and file structure. — The procedures used to complete data editing, data manipulation, compiling metadata and quality control requires a high degree of independent discretion and judgement with respect to how errors are edited and resolved.
Impact
— There are various quality controls in place, both computer and human. — Results are directly felt within the immediate work area, department, within and outside the organization and on clients as products completed are used to produce maps that are used by the department, other agencies and the general public. — Results directly impact equipment and information (geographic information and the computer equipment used to collect and manage it). — The consequences of errors are directly felt within the immediate work area, department, within and outside the organization and on clients. The most common error in the information produced is positional error which may have an impact on final users. — Consequences of errors could be felt on equipment, information, facilities health and safety and the natural resources. — If errors are identified, problem resolution is started within 24 hours. Depending upon the error it could take an hour or up to a few weeks.
Development and Leadership of Others
— Not responsible for the supervision of staff.

— Provides feedback to supervisors and other employees, as well as guidance to other employees working on similar tasks.

WORKING CONDITIONS

Environmental Working Conditions
— Required to wear survey vests and steel toe boots occasionally when working in the field. — The likelihood of minor injury or illness and fractures is limited. — There is constant glare from computer screens. — Exposed to occasional travel by helicopters, varying and unexpected weather conditions, temperature extremes, dangerous heights, wet surfaces and isolation during field work. — Occasional exposure to hazardous chemicals, dust, noise, limited lighting and sharp objects during scanning procedures.