

CITY OF HAMILTON

CORPORATE SERVICES DEPARTMENT (INFORMATION TECHNOLOGY DIVISION - LOCATION - 55 YORK BLVD. 6th FLOOR)

GEOGRAPHIC INFORMATION SYSTEM (GIS) ANALYST - CUPE 5167

SUMMARY OF DUTIES

Reporting to the Supervisor, Business Applications (Spatial Solutions Services), the GIS Analyst facilitates the analysis, compilation, organization, interpretation, and dissemination of geographically referenced data sets through processing and inputting digital spatial and/or attribute data into a referenced database in order to produce a variety of data sets, digital files, hard copy maps, interactive web maps, and analytical reports.

The GIS Analyst will utilize their experience and knowledge of the City's business, GIS and Open Data best practices to support continued improvement in the collection and reporting of spatial and non-spatial data for consumption by City staff and where applicable, the public, via the City's Open Data portal.

GENERAL DUTIES

Prepares, maintains, updates, manipulates and analyzes the digital maps and associated databases related to the City's Geographic Information System.

Creates custom databases and maps (hard copy or interactive on the web)). Inputs, manipulates and retrieves spatial and tabular data and investigates attribute conditions as necessary.

Analyzes and translates/interprets customer business needs into GIS application and operational requirements.

Critically evaluates information gathered from multiple sources, reconcile conflicts, decompose high-level information into details, abstract up from low-level information to a general understanding, and distinguish user requests from the underlying true needs.

Performs quality assurance/quality control tasks to ensure data integrity.

Co-ordinates and completes the development of Python scripts, FME Scripts, customized user interfaces, menus and other GIS applications using vendor-supplied programming tools and various software languages.

Collaborates on the development, implementation and maintenance of the GIS and Open Data databases and standards, and in the development and review of GIS and Open Data database specification and design documents for both "in-house" and contracted database development.

Conducts research and development; analyze, interpret, and report on GIS and Open Data research findings, making appropriate recommendations.

Completes spatial analysis and/or GIS application development projects with functional business units to assist in decision making, public awareness, program implementation, and policy development.

Provides content administration, data dissemination, documentation, spatial analysis, map production, user training, and general GIS and Open Data user support to the business.

Collaborates on cross-functional teams with other City staff and consultants that may be involved in Open Data, spatial analysis, and/or GIS projects throughout the Corporation. Must manage workplan based on changing priorities.

Participates on the Open Data technical team, and the Open Data evaluation committee to ensure open data standards are met, and processes/protocols followed to safeguard data integrity on the City's Open Data portal.

Maintains metadata and/or GIS related application help documentation to include new or revised GIS and/or Open Data data layers and/or application functionality.

Employs existing software tools and procedures to analyze, extract and distribute GIS and Open Data in a variety of standard data and media formats, maintaining a detailed data service request log, ensuring data distribution contracts, copyright and statements of liability are complete and properly authorized.

Receives data from external agencies and, using existing tools, to analyze, verify and document the content and quality of the data, import it into the GIS environment, and propose a maintenance plan that meets the business user's requirements.

Participates in continuous improvement practices, on an ongoing basis, to minimize redundancy and maximize interoperability among databases and data structures across the corporate GIS and Open Data repositories.

May be assigned to an initiative or project requiring the individual to take direction from other IT Leads or the Chief Digital Officer.

May be required to provide on call support.

Performs other such duties as assigned which are directly related to the major responsibilities of the job.

QUALIFICATIONS

1. University Degree or College Diploma in Geographic Information Systems, Engineering, Land Surveying, Geography and Urban Planning or related disciplines including Library Science, Computer Science, Information Systems, Data Analytics.
2. Progressive responsible experience and proven knowledge in mapping and spatial database analysis and user support, including practical experience working with GIS technology (Esri suite of products preferred), preferably in a municipal environment.
3. Demonstrated previous experience and proven knowledge in designing and implementing spatial and open data database technology, preferably in a municipal or related environment with thorough working knowledge of spatial theory and practice.
4. Working knowledge and experience with a range of: computer and software including, desktop and online GIS products (e.g. Esri ArcGIS, Esri's Open Data Portal, etc.), GIS databases (e.g. ArcSDE, Geodatabases, Oracle 12c, SQL Server); GIS terminology; GIS methods and techniques; scripting languages (eg. FME, Python); cartography and cartographic procedures; coordinate systems and projections; geo-spatial digital imagery; digital equipment (e.g. survey, GPS, data collectors); on-site users GIS and tool support and trouble-shooting; managing GIS software and databases.
5. Experience and knowledge working in an Open Data program, utilizing Open Data best practices, standards, extrapolating data, preparing data in multiple formats for client consumption, and defining Open Data requirements,
6. Experience and knowledge defining GIS requirements, deciphering reports, and extrapolating data.
7. Demonstrated ability to translate complex data into meaningful information and useful products for different audiences using Esri tools such as Story maps, Open Data Portal, etc. i.e. Knowledge translation tools and techniques

8. Must have good attention to detail and demonstrate analytical, problem solving and technical skills to manage, maintain, update and prepare database records (spatial & tabular formats), manipulating, analyzing and managing tabular and spatial data; and to resolve technical problems and information requirements by gathering/analyzing data, selecting/designing desired file and record format requirements, documenting revisions undertaken.
9. Working knowledge of office software applications (e.g. Outlook, Word, Excel, PowerPoint) in support of communications, reporting, presentations and training.
10. Knowledge of project management methodologies, including capacity to monitor projects, track work and provide input into work planning
11. Knowledge of data modelling practices and database design standards including database security protocols with experience defining and implementing physical data models for standard business and spatial data/information
12. Experience gathering and translating business requirements into GIS solutions, and assessing impacts of business processes on data integrity
13. Good written and oral communications skills including experience preparing reports, technical instructions, and data share agreements
14. Strong interpersonal skills to effectively deal with requests and concerns of clients/partners
15. Ability to work both independently as well as in a team environment, work under pressure, make sound and logical judgments, and meet deadlines
16. Working knowledge of application and data quality assurance best practices, including backup, recovery and business continuity.
17. Ability to make sound and logical judgments.
18. Thorough working knowledge of spatial theory and practice.

THE INCUMBENT SHALL COMPLY WITH ALL HEALTH AND SAFETY POLICIES AND PRACTICES FOR THIS POSITION AND THE WORKPLACE.
