

CITY OF HAMILTON

PUBLIC WORKS DEPARTMENT (ENGINEERING SERVICES DIVISION – GEOMATICS & CORRIDOR MANAGEMENT SECTION LOCATION – 77 JAMES ST. N., SUITE 320)

GEOMATICS ENGINEERING TECHNOLOGIST - CUPE 5167

SUMMARY OF DUTIES

Reports to the Senior Project Manager (Technical Services) Geomatics and Corridor Management Section, the Geomatics Engineering Technologist facilitates the creation, analysis, and maintenance of 3-Dimensional (3D) engineering drawings, models, and technical reports; uses GIS applications to input, create, maintain, analyze, and manipulate corporate databases in relation to infrastructure management; apply statistical and mathematical closure calculations for the preparation of Legal Surveys and Plans. It is the responsibility of the Geomatics Engineering Technologist to independently transform data and information into completed Capital Works projects employing the requisite skills and knowledge.

GENERAL DUTIES

Process, analyze, and manipulate acquired raw survey data using Computer Aided Drafting (CAD) and 3D Civil data management software to produce 3D engineering plans and technical reports to facilitate Capital Works project development.

Prepares detailed quantity estimates for sewers, water mains, roads, and other engineering projects using Digital Terrain Model (DTM) and/or field acquired data.

Research projects by utilizing registered plans, deeds, title information at the Land Registry Office, raw field data, survey notes, inspector's reports, large service plans, and other archived materials to generate 3D engineering plans and models, technical reports, and Legal Survey Plans.

Prepare, transfer, process, register, and export LiDAR scan data using point cloud technology such as SCENE software to produce 3D engineering models, details, and cross sections as well as provide horizontal and vertical depth measurements, and offsets.

Use point cloud geometry extraction tools such as Bentley Descartes software. Use point cloud data to process geometry extractions used for engineering mapping, and modeling projects which includes configuration of point cloud data by categorizing, isolating, analyzing, measuring, and reviewing datasets to create 3D features representative of the real-world structures.

Prepares detailed volume calculations and technical reports for the Glanbrook landfill site using Digital Terrain Models (DTM).

Generates clash detection reports for conflicts in City's infrastructure.

Create, update, query, perform quality assurance and control checks on geospatial data using GIS computer applications and infrastructure management systems to maintain Corporate GIS utility and land databases as well as design, develop, and modify database structures using FME technology.

Generate technical reports, thematic queries, and other detailed information in the form of tables and/or maps.

Prepare legal, topographic, and engineering surveys that meet Corporate and Provincial standards.

Record, analyze, verify, calculate, reconcile and define precise survey positions and measurements.

Develop horizontal and vertical geodetic networks and use COGO tools.

Provide technical support, installation and training for engineering project and document management system (ProjectWise). Create and organize all Capital Projects within the system, create templates for other users, create user profiles with user permissions and restrictions to data access.

Measures and verifies legal and engineering project data on location. Co-ordinates additional data collection with field surveys staff for legal and engineering surveys.

Assists design engineers and consultants in distribution of CAD files and engineering design support files for engineering projects.

Liaises with Engineering Services and departmental contacts to ensure project deliverables are aligned with client's requirements.

Liaises between public and private sectors concerning City engineering and survey projects.

Assist junior staff in preparation of engineering plans and records.

Checks, comments on and approves engineering drawings and specifications submitted by private engineering consultant to ensure they conform to City standards and master plan. Examines engineering shop drawings submitted by contractors and forwards for approval.

Create 3D models/renderings and other visual aid materials for Upper Management to be used during public meetings, government gatherings, and media releases.

Operate print machines and microfilm reader printer.

Operate city vehicle.

Receive and answer inquiries from staff, Councillor Offices, other departments, consultants, external agencies, engineers, and the public.

Works in accordance with the provisions of applicable Health and Safety legislation and all City of Hamilton corporate and departmental policies and procedures related to Occupational Health and Safety.

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

QUALIFICATIONS

1. Demonstrated experience in Civil Engineering and/or Architectural Technology, Land Surveying, GIS, and/or Geomatics with extensive knowledge in drafting and modeling normally acquired by attaining a minimum three (3) year Diploma in Civil Engineering Technology/Architectural Technology, Geomatics/GIS Technology, and/or Surveying or an equivalent combination of education and relevant experience.
2. Proven knowledge of deploying and maintaining GIS databases, and previous experience in spatial analysis practices.
3. Proven knowledge of municipal design and infrastructure. Proven knowledge in Legal Surveys procedures and Regulations.
4. Experience in a computerized office environment. Bentley Microstation and InRoads experience is required. Knowledge of the City's CAD system, plotting and archiving systems is preferred.
5. Ability to express ideas effectively, verbally and in writing.

THIS POSITION REQUIRES A VALID CLASS "G" DRIVER'S LICENCE AND PROOF THEREOF IS REQUIRED AFTER HIRE.