



ENGINEERING TECHNOLOGIST

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| TITLE: | ENGINEERING TECHNOLOGIST |
| DEPARTMENT: | PUBLIC WORKS |
| SUMMARY OF DUTIES: | <p>The Engineering Technologist is responsible for reviewing, issuing, and coordinating all Municipal Consent Permit applications, attending pre-consultation meetings and reviewing design drawings related to proposed development, assisting the Planning Department in administering Site Plan and Subdivision Agreements, reviewing and approving lot grading plans, communicating with the public in relation to existing servicing information and drainage or infrastructure complaints, assisting with the creation and maintenance of the municipal standards document and CAD drawing template, performing traffic studies and preparing related reports, conducting field surveys of City infrastructure (roads, sidewalks, light standards, sewers, watermains, valves, etc.), property bars, municipal drains, roadside ditches, trees, etc. for the purpose of preparing plans or establishing ownership, assisting other internal departments by supplying information for miscellaneous projects.</p> |
| SUPERVISED BY: | Development and Asset Inventory Supervisor |
| EDUCATION: | Three-year College Diploma in Building, Architectural, Structural, Civil, or Survey Technology, or equivalent. Achieved or working towards Certified Engineering Technologist designation from the Ontario Association of Certified Engineering Technicians and Technologists. |
| EXPERIENCE: | Five years experience in municipal engineering, civil engineering, construction inspection, Ontario Land Surveying, or related field. Experience creating engineering drawings using Autodesk Civil 3D. |

MAJOR RESPONSIBILITIES: The following sets out the principle functions of the position and shall not be considered a detailed description of all work requirements.

1. Program/Services

- Review, issue, and coordinate Municipal Consent Permits for public utilities, contractors, and the public.
- Inspect approved Municipal Consent Permit works to ensure adherence to the specifications issued during the work.
- Attend meetings for various projects and purposes as assigned.
- Attend pre-consultation development meetings.
- Review and provide comments and recommendations on behalf of the Engineering Department regarding submitted site plan and subdivision designs.
- Review and provide comments and recommendations on behalf of the Engineering Department regarding lot grading plans and approve final lot grading submissions for all developments.
- Review and provide comments and recommendations on behalf of the Engineering Department for submissions to the Committee of Adjustment.
- Assist in administering site plan and subdivision agreements.
- Review City By-Laws and policies and provide input regarding updates or revisions that may be required.
- Assist in the creation and maintenance of the municipal standards document and CAD drawing template.
- Supply information about municipal services, plans, and projects to contractors, utilities, consultants, and other municipal departments.
- Maintain various databases, filing, and indexing systems for watermain, sanitary sewers, storm sewers, roads, registered plans, street lighting, tree surveys, snow plowing and sanding routes, etc.
- Prepare various reports (traffic studies, infrastructure maintenance assessments, etc.) by researching government regulations, laws, industry standards and best practices, and any other applicable guidelines.
- Scan large format drawings and file accordingly.
- Assist in preparing future project lists for all types of infrastructure for budget preparation to be considered by the Manager of Projects and Design.
- Prepare proposal, quotation, and tender documents based on the City's procurement policy and procedures and current industry standards.
- Evaluate proposal, quotation, and tender submissions for completeness, as required.
- Undertake research of current construction methods and materials relating to cost efficiency and durability of construction works.
- Perform management and inspection duties involving contractor forces, as required.
- Ensure all work is performed in accordance with contractual terms, municipal standards, and all other applicable regulations.
- Maintain open communication with public utilities for ongoing project coordination and attend regular South Niagara Public Utilities Coordinating Committee (SNPUCC) meetings.
- Perform field surveys of municipal road allowances, parks, and other municipal entities using field survey equipment including, but not limited to, GPS survey equipment, total station with data collector, and survey level.
- Ensure the safe handling, maintenance, and use of the specialized field surveying equipment described above.

- Survey manhole and chamber structures to determine elevations of the structures' features.
- Survey property bars and other features for the purpose of determining ownership in relation to necessary remediation or maintenance activities.
- Manipulate and interpret data in a variety of forms from different sources (electronic data, including GPS and total station data, written survey notes, existing plans and profiles, etc.).
- Assist other internal departments by investigating and supplying requested information related to City infrastructure.
- Supervise and train students in the use of survey equipment and the conducting of field surveys, as required.

2. Human Resources

- The position works under the general supervision of the Development and Asset Inventory Supervisor.
- The position is responsible for advising design staff as to the work required for data acquisition and plan preparation.
- The position is responsible for working directly with contractors, including instructing them to complete work accordingly and ensuring they abide by contractual terms.
- The position is responsible for supervision and training of students.

3. Financial Resources

- Assist in the preparation of reports and budgets for Water, Sewer, Roads, and other municipal infrastructure.
- Prepare, evaluate, and recommend payments for contract services.
- Approval of the Manager of Projects and Design required for acquisition of equipment and supplies.

4. Material Resources

Carries out work assignments using a variety of equipment including:

- AutoCAD Civil 3D
- Surveying GPS
- Total station and data collector
- Survey level
- City vehicle (it is the employee's responsibility to possess and maintain a valid and restriction-free driver's license of appropriate class to carry out the duties of the job)
- Miscellaneous other tools such as sledgehammer, pickaxe, measuring wheel, metal detector, etc.

SKILL AND EFFORT

5. Knowledge

- Ability to work with minimal supervision.
- Proficient comprehension of engineering drawings, principles, construction procedures, and standards.
- Comprehensive technical knowledge of AutoCAD Civil 3D and engineering software.
- Knowledge of Microsoft Windows operating system, Microsoft Office Suite, Lotus Notes, CityWide, Adobe Acrobat Professional, and image processing.
- Advanced knowledge of survey methods and procedures, basic trigonometry, and calculation.

- Technical understanding of total station, GPS units, and survey level.
- Ability to download and manipulate engineering data for use with CAD software.
- Knowledge of applicable legislation, requirements, procedures, and guidelines.
- Knowledge of municipal construction practices, principles, and criteria including field safety requirements.
- Proficient understanding of contract documents and legal requirements associated with construction practices.
- Knowledge and understanding of OTM Book 7 including any other safety requirements or regulations as it pertains to specific job tasks.
- General knowledge of routine office procedures, practices, and equipment.
- Working knowledge of the Ontario Building Code, Ontario Provincial Standards, Niagara Peninsula Standard Contract Document, and Transportation Association of Canada Geometric Design Guide.
- Willing and able to participate in additional training as required.
- Successfully complete Workplace Hazardous Materials Information System training.
- Successfully complete Confined Space Entry and Confined Space Rescue training.

6. Physical Skill and Effort

- Manual dexterity required to perform drafting and graphical function.
- Continuous periods of visual and mental concentration.
- Job involves walking, sitting, climbing, and driving in various terrain and weather conditions.
- Lifting manhole or catch basin lids to gain access using a manhole cover removal hook or lid lifter.
- Confined space entry into manholes or other similar structures.
- Occasional lifting of computer hardware and equipment.
- Occasional use of hand or power tools and equipment.

7. Decision Making and Judgement

- Ability to understand both written and oral direction.
- Preparation of detailed surveying plans, determination of feature ownership, drainage design, and cost calculations.
- Understanding detailed engineering drawings and documents and ensuring the contractor complies with the design and documents on construction projects. (The impact of errors for the above items is noted to be considerable on both cost and the public relations impact to the corporation.)
- Evaluating site conditions during field surveying activities to determine appropriate safety precautions for self and fellow workers.
- Recognition and resolution of field construction issues.
- Excellent organizational and analytical skills, including the ability to prioritize multiple demands.
- Above average ability to deal with issues and problems on a conceptual level.
- Exercises reliable judgement and excellent public relations.
- Demonstrated aptitude for problem solving and trouble shooting.
- Capable of adaptations to change including learning new skills and programs.
- Selection of equipment and drafting techniques.
- Use of proper procedures and manuals.
- Work with minimal guidance, however, issues are reported immediately to the supervisor.

8. Interpersonal Skills/Contacts

- Possesses excellent oral and written skills.
- Possesses excellent organizational skills.

Internal:

- Able to communicate effectively with staff of all departments to receive and exchange information and data.
- Able to communicate effectively with management in order to provide appropriate recommendations.
- Work harmoniously with other internal departments.

External:

- Able to communicate and provide information to public utilities for the purpose of obtaining or sharing information on engineering projects.
- Provide municipal infrastructure information to contractors, developers, and the public.
- Maintain high levels of communication with external sources while reviewing, processing, and inspecting all municipal consent permit approvals.
- Work harmoniously with external customers and staff from other agencies.
- City's representative on the South Niagara Public Utilities Coordinating Committee.

WORKING CONDITIONS

9. Environment

- Expected to work approximately 50% of the time outside in various types of weather and in various environments (urban setting, rural setting, and isolated setting). Remaining 50% of the time will be in an office setting.
- Required to travel to offsite meetings.
- Required to visit construction sites.

10. Control Over Work Schedule

- Expected to work in excess of normal working hours in order to adhere to project schedules, as needed.

The undersigned are in agreement with the duties and responsibilities of this position.

Employee's Signature: _____ **Date:** _____

Manager's Signature: _____ **Date:** _____

Director's Approval: _____ **Date:** _____

C.A.O.'s Approval: _____ **Date:** _____