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# JOB DESCRIPTION

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**JOB TITLE:**            **ENGINEERING ASSISTANT - ELECTRICAL**            **SCHEDULE:**    **B**

**DIVISION:**            **UTILITIES**            **PAYGRADE:**    **19**

**DEPARTMENT:**      **PUBLIC WORKS**

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## **JOB SUMMARY:**

This role provides technical support for the efficient operation of the City potable water supply and distribution system, wastewater collection and treatment system and streetlight and traffic controller infrastructure. This role provides technical support for computer modeling, supervisory control and data acquisition (SCADA), integration and management of operational components of the water, wastewater, streetlight and traffic controller systems in accordance and compliance with all City policies, relevant Provincial and Federal legislation as well as recognized and acceptable safety practices.

This is a skilled electrical, technical, instrumentation and mechanical position requiring the incumbent to support the maintenance of utility plant and instrumentation located within the City's water/wastewater/lighting/traffic facilities located centrally and remotely as required. Other responsibilities include: capital/utilities project designs and review, developing and coordinating projects and budgets, administering programs, liaising with and/or supervising consultants and construction crews (City or contractor), coordinating/processing subdivision referrals on behalf of the Utilities Division, writing studies/reports and correspondence, supervising others involved in the collection of data and other related duties. The incumbent must be available for stand-by call-outs after hours and on weekends.

## **MAJOR RESPONSIBILITIES:**

**Under the general supervision of the section Supervisor:**

### **Supports the Electrical Engineer and Electrical Operating Division by:**

- providing technical input for utility facility process equipment and plant upgrades;
- maintaining and managing software such as CAD and RIVA, etc.;
- identifying needs, and maintaining equipment and software to ensure City infrastructure operates efficiently with limited disruption;
- providing training and support to Utilities Division staff in the synthesis, manipulation and interpretation of data;
- identifying potential technological opportunities to enhance system performance and making recommendations;
- providing technical support in conducting computer modeling analysis on the water and wastewater systems;

- coordinating and overseeing projects as assigned such as meter installation, instrumentation installation in the water distribution system and wastewater collection system;
- performing other related electrical/mechanical or utility based tasks as assigned.

**Provides expertise on the SCADA software maintenance by:**

- planning, coordinating and providing technical expertise and guidance for the integration of water and wastewater data from a variety of sources including but not limited to GIS and SCADA, etc.;
- operating and maintaining the City's SCADA system and radio network to meet operational needs, and striving for continuous improvements in functionality, capacity and reliability;
- performing installations, enhancements and improvements to SCADA equipment, process control, communications, data acquisition, low voltage electrical, electronic, instrumentation equipment and associated hardware including the evaluation, selection, installation and configuration of microprocessor based devices;
- ensuring all field work pertaining to the City's SCADA system, such as designing and programming RTU/PLC logic, purchasing components, installing and commissioning of the same, troubleshooting, monitoring and diagnosing problems in the SCADA system;
- integrating operational and historical infrastructure services (GIS, SCADA, CAD, maintenance management etc.) to improve efficiency;
- facilitating and providing technical assistance to departmental staff in the collection and maintenance of data for the City's water and wastewater systems;
- working with the operation staff in maintaining and programming electronic instruments and SCADA for the water and wastewater systems.

**Supports divisional capital projects by:**

- assisting the Utilities Division in capital and operations projects including budgeting, development of drawings for construction and as-built records using CAD software, reviewing internal and external project plans to ensure they comply with the latest Subdivision and Development Servicing Bylaw, Electrical Code and Provincial and Federal guidelines and best management practices;
- working with a high degree of self direction while coordinating with other municipal employees, divisions and construction crews, contractors and other agencies. Priority to ensuring water supply and wastewater processing is maintained and ensuring public health and environmental protection is of critical importance.

**Provides other technical support such as:**

- assisting with PLC's (Sewer & Water) and traffic signal infrastructure (Transportation) by providing programming support technical recommendations for water / wastewater /streetlight/traffic controller systems and operation improvements;
- supporting radio communications and providing technical expertise to the City's plant radio network and all radio assets.

## **QUALIFICATIONS:**

**Education:** Completion of a two-year post-secondary diploma in Electrical Engineering Technology. Designation as an AScT is required.

**Experience:** Five years of previous experience including responsibility for developing, troubleshooting and maintaining SCADA systems and other instrumentation, and programming and instrumentation for water and wastewater systems. Computerized maintenance experience preferred. Relevant experience with power sources including solar, hydro and generators. Relevant experience in programming and tuning UHF and VHF radio equipment. Understanding the design and management of water and wastewater systems (or components thereof) preferred. Relevant experience in programming of traffic controllers preferred. Local government experience would be an asset.

**Knowledge and Skills:** Knowledge regarding secure industrial communications between PLC's using various connection options including Ethernet, wireless radio, internet and phone line. Knowledge of methods, practices, tools and equipment as they relate to maintenance of mechanical and electrical equipment, controls, instrumentation and SCADA systems that are used throughout the water, wastewater, streetlight and traffic control systems. Ability to read and understand working drawings as they relate to electrical/mechanical work requirements, reports, contracts and specifications. Thorough knowledge of UHF and VHF radio systems. Excellent interpersonal skills. Excellent verbal and written communication skills specifically in the preparation of reports and electronic presentations. Customer service skills in responding to and soliciting information from the public, developers, government agencies, regulatory agencies, various City departments and Council. Ability to prepare complex mathematical calculations to prepare engineering designs and studies. Ability to use skills in organization, prioritization, and time management to effectively handle multiple tasks and meet deadlines under a demanding workload. Ability to work effectively on a self-directed basis in a changing environment, and make timely and technically-sound decisions under pressure. Knowledge of applicable environmental protection, water act policies, guidelines, regulations and codes. Ability to maintain an effective and positive working relationship with others to help create a proactive and motivated team environment. Knowledge of and demonstrated ability to apply relevant computer programs to perform the work, including ,AutoCAD. Knowledge of WorkSafe BC regulations, occupational hazards and safe work procedures as it relates to the position, including but not limited to: bullying and harassment, working alone and other significant hazards.

Valid BC Drivers license:	Yes. BC Driver's License, full privilege Class 5.
Vehicle Usage:	Yes. As per the Transportation Policy
Police Information Check:	No

Prepared by: Diane Flannagan / Blake McIntosh  
Date prepared: November 2010  
Date revised: March 2017  
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