CITY OF BELLINGHAM

JOB DESCRIPTION

JOB TITLE: **Fiber Optic Network Engineer** **UNION:231**
SG:6
DEPARTMENT: **Public Works** **CS:N**
FLSA:N
EEO4CODE: PR

JOB SUMMARY:

Responsible for planning, developing, and managing the City's fiber optic communication infrastructure networks. Prepares and reviews comprehensive plans for the City, project plans, contracts and specifications. Manages capital improvement projects including budget, coordination of project permitting activities, procurement, consultant coordination and contract administration. Plays an active role in network planning and assisting field personnel in maintenance, replacement and renewal of fiber optic network infrastructure. Collaborates with City staff, private consultants, regulatory agencies, engineers, developers, utility representatives, boards and commissions, and contractors. Manages service agreements and leases for use of fiber optic network infrastructure.

SUPERVISORY RELATIONSHIP:

Reports to the Public Works Superintendent-Traffic and Signals/Parking/Fiber. Works under general supervision and under the guidance of City and Departmental policies and procedures, as well as local, state, and federal regulations, policies, and laws.

Supervises staff assigned to the fiber optic network workgroup. Works as part of a team and coordinates with design teams consisting of consultants, other engineers, technicians, surveyors, and maintains close working relationships with other City Departments. Collaborates with designated community organizations and committees.

ESSENTIAL FUNCTIONS OF THE JOB:

1. Plans, supervises, and participates in the design, construction, installation, maintenance, and repair of the City's fiber optic network. Develops site plans for significant construction and maintenance activities. Responsible for and assists staff in analysis and diagnosis of problems, troubleshooting equipment, and system failures. Coordinates response to emergency repairs.

2. Designs, develops and recommends capital projects and strategic long-term plans, consistent with established policy, for the City's fiber optic network ensuring all systems are integrated with other city infrastructure. Monitors inventory for equipment and materials needed to meet project goals. Ensures work standards adhere to regulations, policies, and procedures.

3. Manages capital projects including project scoping, budget, consultant selection and design contracting. Responsible for design review, project permitting and procurement of construction services. Oversees project construction including contract administration, change order authorization, payment review and authorization, submittal review, field changes, construction site inspection and consultant coordination.

4. Responsible for creating and updating documentation and as constructed drawings of the fiber network using design software, database software and other technical tools.

5. Conducts network modeling and analysis to plan, construct and operate a redundant, reliable, high-performance, and secure fiber optic network serving the City needs as well as County wide utilities, radio communications, emergency dispatch, public schools, transit and other critical public service providers.

6. Establishes and organizes priorities, schedules, and work assignments of assigned staff. Reviews daily accomplishments of the Fiber Network staff and modifies personnel assignments as necessary.

7. Participates in the employee hiring process and conducting performance evaluations. Responsible for coaching and corrective action and participates in disciplinary actions.

8. Coordinates ongoing on-the-job vendor and in-house training for Fiber Network staff. Assists with the development of and enforces safety and training policies and procedures.

9. Collaborates with City utility operators and other City staff as well as other users of the fiber optic network on the integration, installation, and use of fiber optic network to support city operations, Supervisory Control and Data Acquisition (SCADA), radio communications, and other public service providers.

10. Manages and tracks service agreements with partner agencies, including participating in negotiation of contracts and contract renewals.

11. Provides support to network operations staff in the Information Technology Services Department for daily fiber network operations and long-term planning.

12. Provides recommendations to department staff on budgets and projects.

ADDITIONAL WORK PERFORMED:

1. Performs other related work of a similar nature or level.

PERFORMANCE REQUIREMENTS (Knowledge, Skills, and Abilities):

Knowledge of:

- Advanced fiber optic theories, network operations, construction practices, industry standards, leasing and use agreements
- Fiber network operations and analysis

- Industry practices and trends
- Security and protection of critical IT infrastructure, including hardware and software
- Database management, specifically use of fiber network database tools such as OSPinsight or equivalent
- Network troubleshooting and service interruption response including managing fiber repair and re-rerouting services
- Local, state, and federal laws and processes relating to public works projects.
- Project management techniques and coordination procedures.
- Contract administration principles and practices.
- Mathematics and formulas for civil engineering computations.
- Presentation formats and procedures
- General engineering designs and practices
- Some knowledge of other local, regional and national standards of design and construction as related to fiber and communications infrastructure.
- Some knowledge of market trends in fiber optic and advanced communications infrastructure design/construction.

Skill in:

- Strong management skills including organization, problem analysis, decision-making, management control, and time management.
- Leadership skills including interpersonal sensitivity, and adaptability.
- Excellent oral communication skills for working with federal and state agency personnel, local government staff, residents, and public officials.
- Excellent written communication skills, both business and technical, for preparing detailed permit applications, reports and policy recommendations.
- Project development and strategic planning skills including the ability to organize the work of others, and train employees in work processes and techniques.
- Applying engineering principles, practices, standards and methods.
- Conducting studies and analyzing information.
- Reading, interpreting, and applying a variety of written regulations, codes, standards, and instructions.
- Conveying project scopes to the public and elected officials.
- Performing engineering mathematical computations.
- Interpreting planning documents;

Ability to:

- Maintain consistent and punctual attendance.
- Willingness and ability to demonstrate the Public Service Competencies of: Service Orientation, Results Orientation, and Teamwork and Cooperation.
- Physical ability to perform the essential functions of the job, including:
  - Frequently operate a computer and other office machinery such as a keyboard, mouse, phone, and fax machine;
  - Communicate accurate information and ideas with others;
  - Transport objects weighing up to 35 pounds;
  - Traverse uneven terrain in all weather conditions.

WORKING ENVIRONMENT:

Work is performed in an office setting with extensive work at a computer workstation. Occasional exposure to outdoor weather conditions. Occasional proximity to roadway traffic, noxious fumes, heavy equipment. Occasionally in confined spaces with infrequent lifting of heavy objects. Some travel to professional meetings is expected. This position requires minimal to moderate physical exertion requirements.

EXPERIENCE AND TRAINING REQUIREMENTS:

- Bachelor of Science in Electrical Engineering, Information Technology, Civil Engineering, or a related field required.
- Minimum of four (4) years of direct experience in fiber optic infrastructure construction and maintenance of which two (2) years in a lead or supervisory role preferred.
- Two (2) years' experience in database management and asset inventory tracking for fiber optic infrastructure or similar communications infrastructure required.
- An equivalent combination of education and experience sufficient to provide the applicant with the knowledge, skills and ability to successfully perform the essential functions of the job will be considered.

NECESSARY SPECIAL REQUIREMENT:

- Valid Washington State driver's license and good driving record. Candidates must submit a three-year driving abstract at time of hire.
- Project Management Institute (PMI) certification as a Project Manager, or an Institute of Asset Management Certificate, or equivalent, at the time of hire or the ability to obtain within 18 months of hire.
- Adaptability and flexibility to accept schedule changes as necessary, and willingness to accept "call out" status for emergency situations.
- Employment contingent upon passing a criminal conviction and local background check.
- Professional Engineer's (PE) license at time of hire preferred.

PREPARED BY: M. Olinger
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8/2022

REVIEWED BY: _____
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REVIEWED BY: _____
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