



CIVIL ENGINEERING TECHNICIAN IV

JOB DESCRIPTION

Department: Public Works	Division: Engineering
Work Location: Urbana Public Works Department	Percent Time: 100%
Job Type: Civil Service	FLSA Status: Non-exempt
Reports To: City Engineer	Union: Non-union

JOB SUMMARY

Under the direction of the City Engineer, the Civil Engineering Technician performs various engineering tasks and duties as assigned. Involved in the planning and implementation of municipal infrastructure improvement projects and maintenance programs; managing the City's regulatory programs; maintaining the City's compliance with state and federal regulations; conducting field investigations and inspections; collecting field data utilizing surveying techniques and instruments; monitoring construction work; and assessing condition of infrastructure.

Defining Characteristics

This is the full professional level within the Civil Engineering Technician classifications. The incumbent performs professional level work which involves responsibility for coordinating projects and programs in the Public Works Department. Assignments require the application of professional knowledge and technical skills to various public works engineering matters. Technicians of this level are expected to have a breadth of knowledge and experience to successfully complete projects independently. This position may include responsibilities for managing the scope, schedule, and budget of projects and programs and managing the work of lower-level Civil Engineering Technicians and Engineering part-time personnel. Positions in this level are normally filled by advancement from Civil Engineering Technician III, or when filled from the outside, by a technician with prior experience.

ESSENTIAL FUNCTIONS

- Perform a range of engineering related tasks requiring independent analysis and formulations of solutions to problems
- Perform measurements and calculations accurately

- Assist with planning and implementation of capital improvement projects and maintenance programs
- Assist with managing the City's regulatory programs, such as Utility / Right-of-Way Permits, Erosion Control Permits, and Development Review
- Assist with maintaining the City's compliance with state and federal regulations, such as National Bridge Inspections Standards (NBIS), National Pollutant Discharge Elimination System (NPDES) Permits, and others that may be identified in the future
- Assist with maintaining and updating data for the City's infrastructure assets
- Collect field data, such as existing topographical data, utilizing surveying techniques and instruments
- Obtain concrete samples for measurement of air entrainment and slump and cylinder testing; inspect manholes; drill cores; measure quantities; and calculate construction quantities and costs
- Monitor construction of contract work to ensure work is performed in compliance with contract plans and specifications and required quality is obtained
- Assist with design and development of construction plans, specifications, and contract documents
- Prepare exhibits, graphics, and special illustrations and attends public information meetings in conjunction with various City projects
- Draft plans for various contract projects from preliminary design stage through final "record" drawing stage
Prepare written analytical reports of a limited scope
- Coordinate contract work on concurrent projects with other departments and agencies; assists with the preparation of news releases, letters, and any other communication tools distributed to property owners, residents and necessary public or private agencies to effectively and efficiently communicate with impacted parties on any project
- Provide technical support to various City departments
Make public presentations to City Council, government agencies, project neighborhoods and other organizations
Facilitate public meetings to gather input from various shareholders
- Handle requests for information, service or complaints over the phone, via electronic or regular mail and in person, or makes referrals to appropriate staff on behalf of the City of Urbana
- Ensure that the City vehicle and other equipment to which he/she is assigned is maintained in clean, proper running condition; reporting to supervisor or other appropriate person when vehicle or other equipment is in need of repair
- Provide leadership, guidance and supervision to lower-level Civil Engineering Technicians and Engineering part-time personnel

- Perform other activities as assigned.

This job description reflects the general concept and intent of the classification and should not be construed as a detailed statement of all of the job requirements that may be inherent in the position.

JOB REQUIREMENTS

Education & Experience

Any combination of education and experience that would likely provide the required knowledge and abilities is qualifying. Typical ways the knowledge and abilities would be attained are:

- Associate's degree in Civil Engineering Technology or related field from an accredited post-secondary program.
- Four (4) years of experience in Civil Engineering Technician III position or twelve (12) years of equivalent experience in municipal, county, state, or federal engineering, engineering consulting, construction management, or related field. A bachelor's degree in Civil Engineering or a closely related field is preferred and may substitute for two (2) years of the experience requirement.

Preferred Attributes

- Familiarity with ArcGIS
- Familiarity with Granite XP Sewer Televising Software

Knowledge of

- Standard practices, procedures, materials, tools, and equipment used in the maintenance, repair, rehabilitation and construction of municipal infrastructure projects
- Engineering drafting techniques and tools
- Field survey instruments and techniques
- Mathematics through trigonometry
- Microsoft Office applications, including Word, Excel, Access, PowerPoint and Outlook
- AutoCAD or Microstation
- Familiarity with ArcGIS is preferred

Ability to

- Operate equipment, such as a theodolite, level, metal detector, computer, scientific calculator, plotter and mobile radio
- Layout construction projects, including sewers, new pavements, sidewalks and

bridges/structures

- Make quick and intelligent field judgments required during construction inspection
- Stand for long periods of time while inspecting construction projects
- Perform AutoCAD drafting and use computer spreadsheet and word processing software
- Measure and calculate construction quantities and costs
- Read figures quickly and accurately and make mathematical calculations
- Follow oral and written instructions
- Perform moderately complex technical tasks which are broad in scope and require application of fundamental concepts
- Observe, compare, or monitor objects and data to determine compliance with prescribed operating or safety standards
- Use graphic instructions, such as blue prints, schematic drawings, layouts, or other visual aids
- Communicate clearly and concisely, both orally and in writing, applying strong verbal and written skills for the preparation of technical and administrative reports and the presentation of recommendations
- Learn, interpret, and apply City policies and procedures, along with other standard policies and procedures related to the scope of work
- Determine which work processes and methods are most appropriate to accomplish technical assignments
- Learn to apply practical technical expertise toward the completion of projects
- Interpret and apply City policies and procedures, along with other standard policies and procedures from other regulating agencies
- Exercise independent judgment and decision making in the review, analysis and coordination of public works projects
- Establish and maintain effective working relationships with those contacted in the course of work including City officials and the general public
- Apply technical knowledge in making decisions in the review, analysis, coordination and delivery of public works projects
- Manage work to conform with project scope, schedule, and budget
- Work with confidential information
- Learn and apply procedures, methods and techniques of budget preparation and control
- Learn and apply principles and practices of project management
- Learn to prepare and administer assigned project budgets
- Apply knowledge of supervisory principles and practices

- Plan, direct, and coordinate the work of others
- Learn to allocate limited resources in a cost-effective manner
- Supervise paraprofessional Civil Engineering Technicians and/or Engineering part-time personnel
- Refer only the most complicated issues to higher levels.

Licenses, Certifications, and Memberships Required

- Must possess a valid Illinois driver's license or have the ability to obtain one within fifteen (15) days of employment and have the ability to operate a motor vehicle.
- Possession of at least one (1) of the following certifications (or the ability to obtain within one year of employment or promotion) is preferred:
 - American Public Works Association Certified Public Infrastructure Inspector
 - Illinois Public Service Institute or equivalent public works management training

Supplemental Information

Supervision received

- Works under the direction of the City Engineer; establishes procedures for attaining specific goals and objectives and is assigned responsibility for establishing the methods to attain them. Generally in charge of an area of work, but does not have the authority for approving policy.

Level and complexity of supervision exercised

- This position may supervise lower-level Civil Engineering Technicians and Engineering part-time personnel.

Security Level

- Level MVR: essential functions require frequent use of City vehicles

Physical Demands and Working Conditions

- Physical Demands: ability to lift and carry fifty (50) pounds; sit, stand and/or walk for extended periods and ability to walk on uneven terrain at construction sites and other surfaces; manual dexterity and eye-hand coordination needed to use a variety of office equipment such as computers, telephones, calculators, copiers, and topographic surveying equipment. Position requires visual acuity sufficient to read computer screens and printed documents and visually inspect work in progress and hearing in the normal audio range with or without correction.

- **Working Conditions:** Work generally occurs in both an office and field environment. A typical work schedule: Monday - Friday, 7:00 a.m. - 4:00 p.m. with flexibility depending upon the needs of the department. May be required to work in excess of 40 hours a week and/or work irregular hours, particularly during construction projects or emergency situations. Job requires outside work in all weather conditions, winter and summer as well as inside office work. Work occurs around traffic, in and around heavy equipment in construction zones, and around potentially hazardous fumes and caustic compounds. Incumbents may be subjected to dusts, fumes, extreme temperatures, inadequate lighting, and intense noises.

Job Dimensions

- General guidelines for work exist, but employee is increasingly responsible for determining the approach for performing the work.
- At the professional level, employee performs technical or trades-based work that requires a solid understanding of basic algebra and statistics at the professional level. Work complexity and independence increase relative to demonstrated proficiency and expertise. At advanced levels, employee performs work that encompasses advanced technical, scientific, legal, or mathematical concepts. Work directly contributes to the implementation of specific policies, programs, or initiatives of the organization.

The physical demands and work environment described herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

The duties listed above are intended only as illustrations of the various types of work that may be performed. The omission of specific statements of duties does not exclude them from the position if the work is similar, related or a logical assignment to the position.

The job description does not constitute an employment agreement between the employer and employee and is subject to change by the employer as the needs of the employer and requirements of the job change.

Class Specification History

New classification added: 02/10/2016

General Revisions: 05/25/2022

For HR/Finance Use

Title Code	Pay Grade
	243
EEO Category	
3-Technician	