



CITY OF URBANA  
Human Resources Division

# CIVIL ENGINEERING TECHNICIAN II

## JOB DESCRIPTION

<b>Department:</b> Public Works	<b>Division:</b> Engineering
<b>Work Location:</b> Urbana Public Works Department	<b>Percent Time:</b> 100%
<b>Job Type:</b> Civil Service	<b>FLSA Status:</b> Non-exempt
<b>Reports To:</b> <del>Assistant City Engineer/Civil Engineer III or designee</del>	<b>Union:</b> Non-Union

### JOB SUMMARY:

~~Journey level position that applies technical skills in support of assigned responsibilities. Assists with the design duties as assigned. Incumbent is involved in the planning and preparation implementation of construction plans and contract documents for municipal infrastructure improvement projects. Conducts and maintenance programs; managing the City's regulatory programs; maintaining the City's compliance with state and federal regulations; conducting field investigations; collects and inspections; collecting field data utilizing surveying techniques and instruments; performs construction layout; monitors monitoring construction work; assesses and assessing condition of infrastructure; measures and calculates quantities; and prepares pay estimates.~~

### Defining Characteristics ~~of the Class~~

~~**Level II:** This is the full journey level class within the Civil Engineering Technician series class. Employees within this class level are distinguished from the Civil Engineering Technician I by the performance of the full range of duties as assigned. Employees at this level receive occasional instruction or assistance as new or unusual situations arise, and are fully aware of the operating procedures and policies of the division. Positions in this class level are normally filled by advancement from the Level I level, or when filled from the outside by an employee with prior experience.~~

~~This These job description reflects descriptions reflect 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 DUTIES: ESSENTIAL FUNCTIONS**

- ~~Performs construction layout, marks locations for various pay items, measures amounts of approved materials used and the amount of work completed or accepted;~~
- Collects ~~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;
- ~~Assists in coordinating~~ 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;
- 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;
- ~~Performs calculations utilizing a personal computer and/or a scientific calculator;~~
- ~~Collects project data;~~
- ~~Conducts routine data analysis and determines viability of data collected;~~
- ~~Compiles pay estimates for various City projects and contracts utilizing computer spreadsheet;~~
- Reviews routine project plans Provide technical support to various City departments;

City of Urbana  
Civil Engineering Technician II

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- ~~Handle requests for information, service or complaints over the phone, via electronic or portions of complex plans to determine compliance with state and/regular mail and in person, or federal regulations and design standards;~~
- ~~Assists with the review of preliminary site development plans and related supporting documentation submitted~~makes referrals to the City for content, accuracy, and conformance with appropriate staff on behalf of the City of Urbana Subdivision and Land Development Codes;
- ~~Prepares exhibits, graphics, and special illustrations and attends public information meetings in conjunction with various~~ Ensure that the City projects;
- ~~Attends pre-construction meetings and construction progress meetings for various City projects;~~
- ~~Performs computer aided and manual drafting of contract plans, details and location maps;~~
- ~~Assists in preparing contract documents, plans and specifications;~~
- ~~Inspects contractor's daily work for compliance with plans and specifications; monitors field work performed by contract crews; and prepares progress reports;~~
- ~~Maintains project construction documentation;~~
- ~~Assists with on-site observation of bridge/structure construction;~~
- ~~Conducts inspection and testing of construction materials, as required for various City projects;~~
- ~~Works effectively and cooperatively with others;~~
- ~~Coordinates locations of various construction projects with local utility companies, obtaining locations of their facilities in the project area;~~
- ~~Collects final location data for completed projects and prepares "record" drawings;~~
- Uses all vehicle and other equipment with to which he/she is assigned is maintained in clean, proper care and ensures that running condition; reporting to supervisor or other appropriate person when vehicle or other equipment is maintained in good working order in need of repair; and
- Performs Perform other activities as assigned.

*This job descriptions 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:**

**PROFESSIONAL EXPERIENCE**

- ~~Minimum of four (4) years' experience in Civil Engineering Technician I position or equivalent experience in municipal, county, state, or federal engineering, or engineering consulting.~~

**Education & Experience**

**EDUCATION**

- ~~Associate's Degree in Civil Engineering Technology or related field from an accredited college or junior college program.~~

**LICENSES AND CERTIFICATIONS**

**GENERAL:**

- ~~Possess or obtain a valid State of Illinois Class D driver's license within fifteen (15) days of employment.~~
- ~~Successfully obtain Illinois Department of Transportation (IDOT) Portland Cement Concrete (PCC) Level I Technician Certification.~~
- ~~Successfully obtain IDOT Documentation of Contract Quantities Certification.~~

**DRAINAGE AND DEVELOPMENT ENGINEERING SECTION:**

- ~~Successfully obtain National Association of Sewer Service Companies (NAASCO) Pipeline Assessment and Certification.~~

**TRANSPORTATION ENGINEERING SECTION:**

- ~~Successfully obtain~~

**COMPUTER SKILLS**

**GENERAL:**

- ~~Proficient in Microsoft Office applications, including Word, Excel, Access, PowerPoint, and Outlook; AutoCAD or Microstation; and the Internet.~~
- ~~Familiarity with ArcGIS.~~

**DRAINAGE AND DEVELOPMENT ENGINEERING SECTION:**

- ~~Familiarity with Granite XP Sewer Televising Software.~~

**TRANSPORTATION ENGINEERING SECTION:**

- ~~Familiarity with AutoCAD Civil 3D or Geopak.~~
- ~~Familiarity with IDOT Illinois Construction of Records System (ICORS) software.~~

**KNOWLEDGE & 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:*

- Four (4) years of experience in Civil Engineering Technician I position or equivalent experience in municipal, county, state, or federal engineering, engineering consulting, construction management, or related field.
- A Bachelor of Science Degree in civil engineering technology or a related field may substitute for the experience requirement.

### Preferred Attributes

- Familiarity with ArcGIS is preferred.
- Familiarity with Granite XP Sewer Televising Software is preferred.
- Familiarity with City policies and procedures is preferred.

### Knowledge of

- Standard practices, procedures, materials, tools, and equipment used in the maintenance, repair, rehabilitation and construction of municipal infrastructure projects.
- ~~Knowledge of~~ Engineering drafting techniques and tools.
- ~~Knowledge and skill in the use of~~ Field survey instruments and techniques.
- ~~Knowledge of~~ Mathematics through trigonometry.
- ~~Knowledge of occupational hazards and safety precautions.~~
- Microsoft Office applications, including Word, Excel, Access, PowerPoint and Outlook
- AutoCAD or Microstation.
- ~~Familiarity with ArcGIS is preferred.~~
- ~~Familiarity with Granite XP Sewer Televising Software is preferred.~~
- ~~Familiarity with City policies and procedures is preferred.~~

- ~~Knowledge of Americans with Disabilities Act (ADA) regulations and experience with design, layout, and construction of ADA sidewalk facilities.~~

**Ability to**

- Operate or learn 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;
- 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;
- 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;
- Draft plans for various contract projects from preliminary design stage through final "record" drawing stage;
- Follow oral and written instructions;
- Performing 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; ~~and~~
- Learn and interpret ~~IDOT design~~ City policies and ~~construction manuals, procedures, along with other~~ standard specifications ~~policies~~ and highway standards as well as American Association of State Highway and Transportation Officials (AASHTO) design manuals, Standard Specifications of Water and Sewer Construction in Illinois, and Manual on Uniform Traffic Control Devices (MUTCD).

**RESPONSIBLE FOR:**

- ~~Performing moderately complex technical tasks which are broad in scope and require application of fundamental concepts.~~

- ~~Performing measurements and calculations accurately;~~
- ~~Observing contractor's work to ensure that work complies with contract requirements;~~
- ~~Maintaining project construction correspondence and records procedures from project conception to completion;~~
- Ensuring that the City vehicle and other equipment to which he/she is assigned are maintained in clean, proper running condition; reporting to supervisor or other appropriate person when vehicle or other equipment is in need of repair; and regulating agencies; and
- ~~Assisting with investigating problems, designing improvements, and preparing construction plans.~~
- Solving routine problems and referring more complex 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 the following certifications (or the ability to obtain within one year of employment or promotion) is preferred:
  - Illinois Department of Transportation (IDOT) Documentation of Contract Quantities Certification
  - IDOT Portland Cement Concrete (PCC) Level I Technician Certification
  - IDOT Hot Mix Asphalt Level I Technician Certification
- -or-
- National Association of Sewer Service Companies (NAASCO) Pipeline Assessment and Certification

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#### CONTACTS: INTERNAL/EXTERNAL

- ~~Daily contact with residents and contractor personnel during construction projects.~~
- ~~Regular contact with utility company personnel, businesses, citizens, other governmental agencies, consultants and other City departments.~~

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#### WORK ENVIRONMENT:

- ~~Ability to work in varying climates. Job requires outside work in all weather conditions, winter and summer as well as inside office work.~~
- ~~Works around traffic and in and around heavy equipment in construction zones. Works around potentially hazardous fumes and caustic compounds.~~

## 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 ~~Level and complexity of supervision exercised~~

- This position is not responsible for supervising any staff positions.

### Physical Demands and Working ~~ENVIRONMENT: Conditions~~

*The work environment characteristics described herein are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.*

- The work will occur in 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. Incumbents may be subjected to dusts, fumes, extreme temperatures, inadequate lighting, and intense noises. 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.

### PHYSICAL REQUIREMENTS:

*The physical demands 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.*

- ~~Must be able to lift and carry fifty (50) pounds.~~
- ~~Sit, stand and/or walk for extended periods;~~
- ~~Have manual dexterity and eye-hand coordination needed to use a variety of office equipment such as computers, telephones, calculators, copiers, and topographic surveying equipment;~~



City of Urbana  
Civil Engineering Technician II

- ~~Have corrected vision in order to review plans and specifications and perform other essential functions of the job; and~~
- ~~Walk on uneven terrain at construction sites, etc.~~

**ADDITIONAL PHYSICAL REQUIREMENTS:**

**VISION AND HEARING**

~~See in the normal visual range with or without correction; vision sufficient to read computer screens and printed documents; visually inspect work in progress. Ability to hear in the normal audio range with or without correction.~~

*The physical demands*

**Job Dimensions**

- General guidelines for work exist, but employee is increasingly responsible for determining the approach for performing the work.
- At the entry level, employee performs technical or trades-based work that requires a solid understanding of basic algebra and statistics at the para-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.*

Prepared By: John Zeman and Tim Cowan 03/22/2022  
Signature Date

**Class Specification History**

New classification added: 02/10/2016-

General Revisions: 03/30/2022-

*For HR/Finance Use*

<b>Title Code</b> <u>166II:</u>	<b>Pay Grade</b> <u>40II-240</u>
<b>EEO Category</b> <u>33</u> -Technician	

