

CITY OF MADISON
POSITION DESCRIPTION

<p>1. Name of Employee (or "vacant"):</p> <p>Work Phone:</p>	<p>5. Department, Division & Section: Public Works/Water Utility/Engineering</p>
<p>2. Class Title (i.e. payroll title): Water Civil Technician 3</p>	<p>6. Work Address: 119 E. Olin Ave, Madison WI 53713</p>
<p>3. Working Title (if any): Water Engineering Tech 3</p>	
<p>4. Name & Class of First-Line Supervisor: Jeffrey Belshaw (Construction Supervisor) Work Phone: 608-261-9835</p>	<p>7. Regular daily hours of work: Hours/Week: 40.0 plus overtime No mid-shift lunch break From: 7:00 a.m. To: 3:00 p.m.</p>
<p>8. Date of hire in this position:</p>	
<p>9. From approximately what date has employee performed the work currently assigned:</p>	
<p>10. Position Summary:</p> <p>This class series is designed to describe paraprofessional engineering technician work performed in association with the design and construction of public works projects and/or other activities requiring technical and construction expertise. The series is structured to provide for career progression from Water Civil Tech 1 to 2 and 2 to 3 based on overall work experience, increased employee expertise and responsibility, independence of action, and knowledge of City systems and processes associated with the work. The levels of the Water Civil Tech series are structured as follows:</p> <p><i>Water Civil Tech 3</i></p> <p>Perform all work of a Water Civil Technician 2 with greater professional expertise, independence, leadership, and responsibility for the completion of major project components.</p> <p>This is responsible advanced level public works paraprofessional engineering and construction administration work. The work includes but is not necessarily limited to surveying, base map development, project setup, construction inspection of the installation of water mains, valves, water services, hydrants, and facility construction, record keeping, and computer aided drafting of as constructed information for utility long term records. Incumbents may serve as leadworkers to lower level staff and seasonal employees on complex individual projects and multi-inspector/large projects. Responsibilities include, but are not limited to, set up of project records and files, computer aided drafting work, surveying, detailed record keeping, preparation of record drawings from construction records, evaluating changes to construction, review of pay requests, assistance with the resolution of construction conflicts, and contract closeout. Work also includes but is not limited to independently conducting leak surveys and documenting the results, system survey, water sampling, pressure testing, valve exercising and mapping, hydrant work and water system flushing.</p> <p>This position requires thorough knowledge of field survey work, computer aided drafting, understanding and interpreting construction drawings, specification development and interpretation, construction procedures and standards for public works construction, and system operation. In addition to these duties, the position is required to enforce City of Madison, Madison Water Utility, State, and Federal requirements and codes for utility construction and operation.</p> <p>Work in this position is largely independent in nature and shall manage multiple projects simultaneously while effectively working with other agencies, the general public and public works contractors. The work is performed under the direction of the Water Utility Construction Supervisor and other supervisory and management personnel.</p>	

11.

Time % Functions and Worker Activities: (Do not include duties done on an "Out-of-Class" basis.)

20% **Project Survey/Preparation/Setup**

Conduct field surveys

- Operate total station and automatic level survey instruments and specialized GPS equipment
- Lead and/or work on a survey crew as required
- Inspect, photograph, catalogue, GPS, and measure existing field conditions for inclusion in Utility records, maps, and other drawings.
- Reduce field notes to plan drawings for base map drawing preparation
- Conduct valve surveys
- Obtain buried utility information either from field survey or paper records

Prepare Base Maps and Other Project Drawings

- Effectively use computer aided drafting, word processing, and spreadsheet software
- Use information from survey notes, field observations, previous maps and plans, and other sources to prepare base maps and project coordination documents
- Obtain and research utility maps and include utility information on base maps as required.
- Use computer aided drafting software and databases to perform a wide range of technical support functions and analysis as requested by other Water Utility sections and supervisors.

Setup and/or Edit Project Records and Files for Construction/Project Review Checks

- Review and evaluate survey and mapping data for completeness and accuracy
- Review proposed utility designs for constructability and advise engineer.
- Conduct a utility risk assessment review for proposed construction projects
- Conduct field evaluations of existing Water Utility systems for proposed reconstruction, lining, or new construction projects
- Assist Water Utility Engineering staff to prepare quantity take-offs and cost estimates for water main projects.
- Attend pre-bid or pre-construction meetings as necessary
- Work closely with other City Agencies to plan and execute construction work in an efficient and effective way.
- Field stake construction work and special details from engineering layouts, sketches and special instructions.
- Other tasks as assigned

50% **Construction Administration and Inspection**

- Inspect construction projects to ensure compliance with contract drawings and specifications and other requirements.
- Exercise considerable independent judgment in identifying potential problems and conflicts. Take necessary corrective action while serving as the Water Utility representative in the field.
- Serve as a leadworker for complex and/or large projects requiring multiple inspectors.
- Serve as a leadworker, trainer, and mentor for seasonal employees, and lower level staffAttend project progress meetings.
- Respond to emergency situations such as main or service breaks, dirty water, and loss of service. Assist with resolution of the emergency situation, verify public notification, coordinate with other governmental agencies, assist with main flushing, and assist with cleanup and resolution of the emergency.
- Take construction measurements, monitor and record material quantities and other information required for construction documentation, payments, and record drawings
- Check contractor provided materials for compliance with City of Madison specifications
- Observe excavation, pipe laying, backfill and compaction
- Check survey stakes for line, grade, and compatibility with drawings
- Maintain an accurate written daily record of all construction work

11.

Time % Functions and Worker Activities: (Do not include duties done on an "Out-of-Class" basis.)

- Assist with the flushing and testing of new mains and conduct pressure and other required tests for certifying of acceptable construction and compliance with contract documents
- Respond to inquiries from City officials, the business community, property owners, tenants, private utilities, contractors and the general public regarding design, bidding, inspection and construction considerations related to assigned projects,
- Work with these individuals and groups to resolve the problems caused by construction activities.
- Monitor and document revisions to the work
- Review and recommend partial payment requests
- Review and recommend change order requests. Utilize computer and communication equipment as required
- Other tasks as assigned

20% **Construction Records/As-Built Drawings/Contract Administration**

- Assist with survey of completed construction work.
- Assist with project contract close outs and final payments
- Prepare as-constructed drawings and records for water utility projects using field and survey information
- Provide field verification of construction records
- Coordinate with other City, County, State, and Federal agencies
- Coordinate with Utility Mapping Group to ensure complete accurate records and information
- Conduct quality control review of construction records, drawings and payment information
- Use computer aided drafting techniques to prepare electronic record drawings for transfer to Utility's GIS and Accounting systems
- Other tasks as assigned

10% **Flushing/Maintenance/Operations**

- Assist with water system flushing operations
- Plan and conduct a comprehensive leak survey of portions of the system using sound locating equipment
- Inspect service installation
- Conduct valve operating surveys and mapping
- Assist with hydrant maintenance
- Assist with Utility locator services if needed
- Conduct system pressure monitoring studies
- Under the direction of Utility Engineers, provide field data for system hydraulic capacity studies
- Survey existing system features using total station, GPS equipment, or other means
- Perform any other related work as required and assigned.

12. Primary knowledge, skills and abilities required:

This position requires a thorough knowledge of public works construction to include but not be limited to: water main installation, maintenance, repair, and testing. Requires an ability to read and interpret complex construction drawings. Requires an in depth understanding of the operation of technically sophisticated survey equipment and an understanding of how to accurately take and record measurements for construction record drawings, survey stakes, grade stakes, and permanent survey markers.

This position requires thorough knowledge of and the ability to operate and maintain Water Utility system features including but not limited to pipe, valves, hydrants, disinfection equipment, and flushing operations. Requires the ability to quickly identify and locate system leaks and to trouble shoot and analyze operational problems to minimize impact on Utility customers.

This position requires an in depth knowledge and the ability to enforce regulations and City of Madison specifications for public works construction. Ability to independently work from oral or written instruction. Ability to calmly and effectively mediate problems with engineers, surveyors, contractors, and construction workers to complete construction projects. Ability to independently oversee numerous construction projects running simultaneously. Ability to analyze complex dynamic situations quickly and independently make sound technical decisions based on limited information in a construction environment. Ability to calmly, efficiently, and quickly respond to emergency situations. Ability to lead and direct the work of lower level field staff and anticipate issues in the field in a rapidly changing construction environment.

Thorough knowledge of the use of a computer and other mobile technology to utilize computer aided drafting tools, spreadsheets, word processing, and email. Ability to work independently without close supervision finishing tasks efficiently and on schedule both in the office and in the field. Ability to maintain required attendance and comply with City and Utility work policies and rules.

13. Special tools and equipment required:

radio equipment	
computer	tape measure
calculator	engineers scale
gauges	measuring wheel
survey level	water main and service keys
metal detector	hydrant tools and wrenches

14. Required licenses and/or registration:

Wisconsin State Drivers license

15. Physical requirements:

Capability to work safely and efficiently on a public works construction site. The ability to stand for long periods of time, walk over rough terrain on a construction site, withstand adverse weather extremes (cold, hot, rain, or sun), tolerate loud noises, dust, and pollen. Ability to work extended hours for long periods of time. Ability to write and draw clearly and concisely, and drive a motor vehicle following traffic regulations. The ability to occasionally lift 75 lbs. Ability to routinely lift 30 lbs and carry it over rough terrain for 100 yards several times per day.

Capability to effectively work in an office environment. Ability to work at a desk for extended periods of time including 8 hours per day for weeks at a time. Ability to work on a computer for extended periods of time including repetitive motion tasks such as using a computer mouse up to and including 8 hours per day for weeks at a time.

16. Supervision received (level and type):

General supervision by Water Utility Construction Supervisor

17. Leadership Responsibilities:

This position:

- is responsible for supervisory activities (Supervisory Analysis Form attached).
- has no leadership responsibility.
- provides general leadership (please provide detail under Function Statement).

18. Employee Acknowledgment:

- I prepared this form and believe that it accurately describes my position.
- I have been provided with this description of my assignment by my supervisor.
- Other comments (see attached).

Employee's Signature

Date

19. Supervisor Statement:

- I have prepared this form and believe that it accurately describes this position.
- I have reviewed this form, as prepared by the employee, and believe that it accurately describes this position.
- I have reviewed this form, as prepared by the employee, and find that it differs from my assessment of the position. I have discussed these concerns with the employee and provided them with my written comments (which are attached).
- I do not believe that the document should be used as the official description of this position (i.e., for purposes of official decisions).
- Other comments (see attached).

Supervisor's Signature

Date

Note: Instructions and additional forms are available from the Human Resources Dept., Room 501, City-County Bldg. or by calling 266-4615