



JOB POSITION: Hydraulic Modeling Engineer (Engineer I-IV)

Division: Engineering
Status: Exempt/Paid
Grade: 18 – 24 Depending on Qualifications & Experience
Job Code: 212
Reports To: Program Manager – Engineering and Capital Improvements
Date: 12-09-2020
Revised Date: 12-09-2020
Last Reviewed Date: 12-09-2020

SUMMARY OF JOB

Assist with water and wastewater modeling and related technical services to support the Authority's planning, development and capital improvement initiatives. Leads in the analysis of the Authority's water storage, transmission, and distribution networks, and sewer collection and conveyance networks as needed to support the Authority's mission.. Responsible for assessing alternatives and making recommendations on proposed operational and capital improvements to Authority infrastructure. This position will work with a variety of teams and Divisions within the Authority including operations, capital project management, and asset management to enhance organizational understanding of system performance and assist in developing plans to optimize system performance and efficiency. This position will also provide technical support and assistance to external stakeholders in the planning and review of proposed development plans, improvements, and additions to Authority infrastructure.

ESSENTIAL DUTIES AND RESPONSIBILITIES

Includes the following. Other duties may be assigned or scheduled.

- Performs engineering work and technical analysis of water and wastewater infrastructure.
- Computer modeling of infrastructure networks, including development, calibration, and updating models.
- Reviews existing and proposed system improvements and ensures appropriate capacity, including sizing of gravity and pressure pipes, lift and pump stations, and storage facilities.
- Preparation of deliverables associated with assigned tasks, reports, graphics, presentations, technical memoranda, and cost analyses.
- Reviews reports, studies, plans and other technical documents to prepare updated plans and improvement recommendations.
- Monitor, review, and analyze system components and data to identify hydraulic anomalies such as flow and capacity constraints and develop recommendations to investigate and mitigate.
- Assist with system analysis and investigations related to I&I and non-revenue water reduction initiatives.

- Maintains accountability of assigned work based on meeting established schedule, budget, and quality objectives as required.
- Monitors and provides timely feedback on project status.
- Assists management in the development and implementation of quality control processes, programs, and procedures applicable to activities undertaken by the Division.
- Assists management in the preparation of design documents, request for proposals for professional services and contract studies and reports.
- Participates in and contributes to the Authority's Asset Management Program related to infrastructure maintenance, renewal/replacement and capital investments.
- Proficiently operates typical computer software applications including; asset management, GIS, work order system(s), billing and financial systems, Microsoft Office (Word, Excel, Access, etc.), and Authority-specific enterprise software applications.
- Reviews plans, specifications, and submittals for various projects, including site and subdivision plans for development projects.
- Conducts site visits and field inspections as necessary.
- Evaluates new equipment, processes, methodologies and technologies related to area of responsibility and makes recommendations to management, as appropriate.
- Assists in the formulation and administration of departmental policies, procedures, standards, plans and programs.
- Provides technical support and assistance to internal and external customers relating to Authority facilities, infrastructure, and services.
- Participates in various work teams as assigned.

SUPERVISORY RESPONSIBILITIES

May oversee the work of assigned employees. Assists responsible supervisor in interviewing, hiring, and training employees; planning, assigning, and directing work; appraising performance; rewarding and disciplining employees; addressing complaints and resolving problems.

QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- Ability to work with minimal supervision.
- Ability to develop, review and recommend processes and procedures for assigned area, identifying and discussing impact on assigned area, the Division and the entire organization.
- Ability to effectively present information to management, public groups, and/or employees as necessary.
- Ability to define problems, collect data, establish facts and draw valid conclusions.
- Ability to analyze and solve difficult technical and administrative problems.
- Ability to work safely and obey all safety rules.
- Ability to communicate effectively, both verbally and in writing.
- Ability to think logically and analyze data.
- Ability to work alone or in a team environment.
- Ability to establish and maintain effective working relationship with coworkers, other Authority departments, regulatory agencies, and the general public.
- Ability to carry out instructions furnished in writing, oral or diagram form.
- Must possess and maintain a good work ethic with a strong emphasis on good attendance, reporting to work on time, completing job assignments in a timely manner, maintaining a good work attitude, performing all job duties as assigned and/or scheduled.
- Ability to write reports, correspondence and procedures in a clear concise manner.
- Ability to research technical issues and present information to project managers, engineers, and senior staff.
- Ability to read and interpret construction plans, specifications, and correspondence.
- Ability to read and interpret company policies, safety rules, operating and procedure manuals, business periodicals, professional journals, technical procedures or government regulations.
- Strong computer skills that extend into mapping, design and drafting applications, including Global Positioning Systems (GPS) Geographic Information Systems (GIS), computer-aided design (CAD), surveying software, Microsoft office, and Internet.

- Technical expertise obtaining, manipulating, and organizing information; defining, planning, and implementing analyses, processes and projects.

EDUCATION and/or EXPERIENCE

Bachelor's degree from an accredited college or university with a major in civil or environmental engineering, or related field, plus two (2) or more years related experience and/or training in engineering design, water resources, hydraulics, computer modeling, or equivalent combination of education and experience. Demonstrated experience in executing water/sewer hydraulic modeling activities typical of a municipal utility is required. Experience with Innovyze suite of software is preferred (InfoAsset ICM and Infoworks WS), but other experience will also be considered (InfoWater, WaterGEMS, WaterCAD, EPANET, InfoSewer, SewerGEMS, SewerCAD, InfoSWMM).

Experience with private firm specializing in design and construction of water and sewer infrastructure or with a public utility serving a population greater than 50,000 is desired. Experience with geographical information systems, computer aided design (CAD) software packages, project management software and water/sewer network modeling software preferred.

CERTIFICATE, LICENSE, REGISTRATION REQUIREMENTS

- Must possess a valid Virginia driver's license or have the ability to obtain one within 60 days of employment date. No more than six (6) demerit points on driving record if required to drive Water Authority vehicles.
- Possession of or ability to obtain by reciprocity within 90 days of employment a valid professional engineer license from the Commonwealth of Virginia is preferred.

PHYSICAL DEMANDS OF THE JOB

The physical demands described here 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.

- While performing the duties of this job, the employee is regularly required to walk, stand, and sit; use hands to finger, handle or feel; reach with hands and arms; talk and hear.
- Specific vision abilities required by this job include ability to adjust focus. If corrective lenses are noted on driver's license, the lenses must be worn when operating Authority vehicles.
- Repetitive movement using equipment is involved.
- While performing the duties of this job, the employee is regularly required to stoop, kneel, crouch, bend, climb, balance or crawl.
- Employee must be able to stand for an extended amount of time at the jobsite.
- Employee must be physically able to walk several miles during the day.
- Employee must be physically able to regularly reach overhead.
- Employee must regularly lift, carry and/or move up to 50 pounds and occasionally 100 pounds. Assistance is required on weight amounts above those listed. Failure to do so could result in injury and denied Worker's Compensation benefits.

WORK ENVIRONMENT ENCOUNTERED IN THIS JOB

The work environment characteristics described here 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.

- Employee will be regularly exposure to moderate or high noise level, extreme outside weather conditions, uneven, steep, slippery terrain conditions, dusty conditions and wet and/or humid conditions.
- Employee will be subject to exposure to moving mechanical parts and heavy equipment operation.
- Employees will be subject to roadway hazards, i.e. traffic.
- Employee will be subject to outside hazards, i.e. poison ivy, bees, spiders, dirt, animals.
- Employee will be subject to confined areas, i.e. confined spaces, sewer manholes, water vaults, wastewater pits, and/or protected trenches.

GENERAL STATEMENT AND SELECTION GUIDELINES

The above statements describe the general nature and level of work assigned to in this job position. They should not be construed as an exhaustive list of all job duties or tasks performed by personnel so classified.

The following will identify the selection guidelines for job placement:

- WVWA application
- Rating of education, experience, training and qualifications
- Reference checks
- Interview with WVWA management team
- Applicant must pass a pre-employment physical and drug/alcohol test
- A criminal background check and social security number verification will be performed. The results must match information provided by the applicant on the WVWA application
- Job related skills test may be required and would be administered to all applicants applying for the position