

## City of Fort Worth, Texas Job Description

<b>Classification Title</b>	Graduate Engineer		
<b>Job Code:</b>	PR1600	<b>Job Family:</b>	Professional
<b>Pay Grade</b>	609	<b>Date Reviewed:</b>	07/11/15
<b>FLSA Status</b>	Exempt	<b>Date Revised:</b>	

### GENERAL SUMMARY

Performs engineering duties in the design, construction and operation of public works projects, including streets, storm water systems, traffic controls, water and wastewater facilities, and utility systems; evaluates, reviews and prepares plans and specifications; and performs a variety of tasks relative to assigned area of responsibility.

### ESSENTIAL DUTIES & RESPONSIBILITIES

*The intent of this job description is to provide a representative summary of the major duties and responsibilities performed by incumbents of this job. Incumbents may be requested to perform job-related tasks other than those specifically presented in this description.*

1. Performs civil engineering duties supporting the design of public works projects, including street, storm water systems, traffic controls, water and wastewater facilities, utility systems. Prepares and/or reviews the accuracy of computations, preliminary layouts and design work from field and survey data.
2. Reviews and approves changes to approved plans and specifications.
3. Provides assistance to construction inspectors in the interpretation of plans and resolution of problems during construction; and reviews as-built plans to ensure compliance with original plans and specifications.
4. Prepares engineering designs, specifications, costs and quantity estimates for public work projects; and obtains required easements or permits for street, utility, water and wastewater, sewer and other public works system construction.
5. Prepares project specifications and cost estimates supporting the selection of outside engineering services.
6. Prepares maps, deeds, legal descriptions, and other contract documents; and utilizes a variety of engineering programs and applications, including CAD.
7. Conducts field inspections to ensure construction plans and specifications are accurate.
8. Maintains awareness of progress on assigned projects to assure compliance with designated time and cost schedules.
9. Conducts and reports on alternative treatment processes and optimization.
10. Performs other related duties as required.

11. Adheres to assigned work schedule as outlined in the Department and City attendance policies and procedures; ensures all behaviors comply with the City's Personnel Rules and Regulations.

## **KNOWLEDGE, SKILLS & ABILITIES**

- **Knowledge of:**

- Principles and practices of civil engineering in assigned area, including streets, storm water systems, traffic controls, water, wastewater and utility systems.
- Terminology, methods, practices, and techniques used in civil engineering.
- Methods and techniques of conducting engineering studies.
- Recent developments, current literature, and sources of information in the field of civil engineering.
- Utility and facility construction.
- City Standard Construction Specifications & Design Requirements.
- Engineering contract requirements and the city funding process.
- Materials, tools, and equipment used in assigned engineering area.
- Principles of advanced mathematics.
- Office equipment including computers and supporting word processing and spreadsheet applications.
- Specialized computer programs or systems utilized in civil engineering design including CAD and/or GIS.
- Pertinent Federal, state, and local laws, codes, and regulations including civil engineering laws and regulations.

- **Skill in:**

- Research and analysis.
- Negotiation.
- Computers and applicable software.
- General inspection.
- Interpersonal relations.

- **Ability to:**

- Communicate clearly and effectively, both orally and in writing.
- Perform engineering services in assigned area including streets, storm water systems, bridges, traffic controls, water, wastewater and utility systems, and related public works areas.
- Apply principles and practices of civil engineering in assigned projects.
- Troubleshoot electrical, mechanical and processing systems in routine and stressed conditions.
- Apply terminology, methods, practices, and techniques used in the preparation of engineering reports and studies.
- Develop, review and modify civil engineering plans, designs, and specifications
- Investigate problem areas; conduct engineering studies and develop solutions and recommendations.
- Compile technical data and prepare statistical and narrative reports from field studies.
- Prepare and maintain civil engineering records and prepare reports.

- Operate office equipment including computers and supporting word processing and spreadsheet applications.
- Operate specialized computer programs or systems utilized in civil engineering design including CAD.
- Establish and maintain effective working relationships.

## **MINIMUM JOB REQUIREMENTS**

Bachelor's degree in civil engineering or other engineering discipline from an accredited college or university with no experience required.

## **OTHER REQUIREMENTS**

Valid Texas driver's license.

## **WORKING CONDITIONS**

*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.*

Depending on assignment, positions in this class typically require touching, talking, hearing, seeing, grasping, standing, stooping, kneeling, crouching, reaching, walking and repetitive motions.

## **PHYSICAL DEMANDS**

*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.*

Light Work – Depending on assignment, positions in this class typically exert up to 20 pounds of force occasionally, up to 10 pounds of force frequently, and/or a negligible amount of force constantly having to move objects. If the use of arm and/or leg controls requires exertion of forces greater than that for the Sedentary Work category and the worker sits most of the time, the job is rated Light Work.