

## **DESIGN ENGINEER**

### **GENERAL STATEMENT OF DUTIES**

Performs advanced engineering, drafting and design work in the office and in the field in connection with the investigation, development, and maintenance of civil engineering projects; performs other duties as assigned. This is a professional level position performed under the general supervision of a Civil Engineer, the Assistant City Engineer, or the City Engineer.

### **DISTINGUISHING FEATURES OF THE CLASS**

The work in this class requires high level skills in the use of Computer Aided Drafting (CAD) design software used for the design of civil engineering projects. Skills are also desired in the use of surveying equipment, including conventional survey equipment (total station, data collector, level, etc.) and both mapping-grade and survey-grade GPS equipment.

### **EXAMPLES OF WORK (Illustrative Only)**

- Utilizes CAD design software for the purpose of drafting topographic maps; designing plans for various engineering improvements and installations; prepares construction drawings based on engineer's notes, survey notes, field and records research, and engineering calculations; updates utility maps, street number systems maps, plats, subdivisions, and other engineering records based on "as built", survey notes, and other information;
- Performs quantity take-offs for construction cost estimates;
- Performs field survey work on an as-needed basis, including, but not limited to, topographic surveys, construction layout staking, utility marking, traffic flagging, and courthouse research;
- Performs research for and prepares plans, specifications and reports for projects for other City Departments;
- Conducts courthouse research for property ownership, boundary and right-of-way resolution, deeds, easements, etc.;
- Conducts research of engineering plans showing underground utilities and other City facilities and provides information to contractors, consultants, property owners, and other City Departments;
- Maintains a variety of records pertaining to utility and other public works installations and projects;
- Prepares record plans, plats of survey, legal descriptions, and easement documents;
- Maintains complete and accurate daily work logs and reports as directed;
- Undertakes special projects as assigned;

## **REQUIRED KNOWLEDGE, SKILLS, AND ABILITIES**

Thorough knowledge of the standard tools, materials, methods, and practices of civil engineering design for roadways, traffic signals, street lighting, utilities, bridges, culverts, and surveying. Thorough knowledge of CAD design software (Autodesk Civil 3D). Ability and experience with desktop and/or laptop computer applications for various uses, including but not limited to, Microsoft Office, surveying-specific software, and ESRI GIS software. Ability to read, interpret, and work from technical sketches, construction documents, and maps (both paper and digital); to maintain complete and accurate records and reports; to work effectively with fellow employees, contractors, and the general public. Excellent verbal and written communication skills. Thorough knowledge of basic math, algebra, geometry, and trigonometry used in surveying, civil engineering design and drafting, and construction.

## **ACCEPTABLE EXPERIENCE AND TRAINING**

The ideal applicant will have a minimum of a Bachelor's degree in Civil Engineering, Geodetic Engineering, Construction Engineering, or a related field from an ABET-accredited institution. Significant specialized training, education and experience in civil engineering principles and practices, which provides the required knowledge, skills, and abilities may be considered in lieu of academic degrees. Municipal engineering design experience is preferred. Thorough knowledge and experience with utilizing Autodesk Civil 3D CAD design software is strongly desirable. Must have the ability to quickly learn, develop, and maintain a thorough knowledge and professional skills and abilities in those areas noted under Required Knowledge, Skills, and Abilities.

Approved:



---

Date:

1/10/17

---