

## **ENGINEERING TECHNICIAN**

### **SUMMARY/PURPOSE**

To perform technical and paraprofessional engineering work in the areas of street, bridge, traffic, water, gas, sanitary sewer and storm sewer infrastructure systems.

### **ESSENTIAL DUTIES AND RESPONSIBILITIES (other duties may be assigned)**

1. Assist in the analysis of construction plans and specifications for survey purposes.
2. Perform work to locate survey points.
3. Prepare survey field notes.
4. Direct the activities of other survey party members.
5. Operate and maintain survey and GPS (Global Positioning System) equipment to obtain accurate survey measurements and point locations.
6. Collect, analyze, and record data.
7. Create construction plans, maps, and charts manually or using a computer-aided-design (CAD) system.
8. Prepare graphic representations of Geographic Information Systems (GIS) using GIS software.
9. Process survey information, including computer data entry work.
10. Estimate construction quantities and prepare appropriate charts.
11. Recommend upgrades and revisions to project procedures and practices.
12. Maintain daily log of construction activities and write progress and final reports.
13. Assist in preparing change orders and supplemental agreements for approval.
14. Document construction quantities.
15. Perform quality control tests on construction materials.
16. Locate underground utilities including water, gas, sanitary sewer and storm sewer systems.
17. Investigate complaints, inquiries, and requests.
18. Study and report findings, conclusions, and recommendations in oral or written form.
19. Review construction plans and specifications for compliance with City standards.
20. Maintain, revise, and research manual or computer records.
21. Participate in technical engineering studies and provide recommendations.
22. Maintain, add, or modify existing GIS databases.
23. Review existing or incoming GIS data for accuracy, quality, and completeness.

### **JOB REQUIREMENTS**

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, skills, and abilities required.

1. License Requirements
  - A. Possession of a valid Minnesota Class "D" driver's license or privilege by date of appointment and thereafter in order to operate city vehicle.
2. Education & Experience Requirements
  - A. Completion of a two-year Civil Engineering Technology degree, or equivalent; and
  - B. Two (2) years of verifiable work experience in an engineering position; or
  - C. A combination of education and/or experience determined to be equivalent.
3. Knowledge Requirements
  - A. Knowledge of algebra, geometry, and trigonometry.
  - B. Knowledge of technical engineering principles and practices.

- C. Knowledge of the principles, methods, equipment, and materials used in construction of streets, sidewalks, water and gas mains, sanitary and storm sewers, and various public works structures.
  - D. Knowledge of the principles of drafting.
  - E. Knowledge of applicable safety principles and practices.
  - F. Knowledge of the principles of technical writing.
  - G. Knowledge of principles of surveying.
4. Skill Requirements
- A. Skill in drafting, mapping, and surveying.
  - B. Skill in the operation of drafting and surveying equipment.
5. Ability Requirements
- A. Ability to operate computers, GIS, and CAD systems.
  - B. Ability to apply standard engineering principles to utility and other public work improvements.
  - C. Ability to prepare specifications, plans, technical reports, resolutions, and petitions.
  - D. Ability to perform supervised drafting and design work.
  - E. Ability to communicate effectively in oral and written forms.
  - F. Ability to attain and maintain state certification requirements.
  - G. Ability to establish and maintain effective working relationships with co-workers, supervisors, contractors, consultants, outside agencies, and the general public.
  - H. Ability to attend work on a regular basis.
6. Physical Ability Requirements
- A. Ability to transport oneself to, from, and around work sites.
  - B. Ability to work outdoors year round.
  - C. Ability to walk for long distances.
  - D. Ability to transport and erect survey equipment up to 50 pounds.
  - E. Ability to frequently stand, walk, sit, type, talk, hear, use near, mid, and far vision with frequent field of vision.
  - F. Ability to occasionally lift, carry, push, pull, climb, balance, stoop, crouch, reach, handle, smell, and use depth perception, visual accommodation, and color vision.

HR: MS	Union: Basic	EEOC: Technicians	CSB: 12/10/2013	Class No: 4106
WC: 9410	Pay: 28	EEOF: Utilities/Transportation	CC: 10/13/2014	Resolution: 14-0533R