

Senior Engineering Specialist

SUMMARY/PURPOSE

To perform complex engineering work related to the design, construction, inspection, and maintenance of street, bridge, and traffic infrastructure systems including water, gas, storm sewer, and sanitary sewer utility systems, including easement and permits associated with the work.

SUPERVISION RECEIVED

The supervisor provides minimal guidance on day-to-day operations by indicating generally what is to be done, the limitations, quality and quantity expected, deadlines, and priority of assignments. The supervisor provides additional, specific instructions for new, difficult, or unusual assignments, including suggested work methods or advice on source material available.

SUPERVISION GIVEN

Does not have direct supervisory responsibility but does have significant oversight of employees or projects that require delegation and direction over the work of others.

ESSENTIAL DUTIES AND RESPONSIBILITIES

1. Perform all duties listed under the Senior Engineering Technician job duties and responsibilities.
2. Review plans and inspect construction for conformance with standards and specifications.
3. Prepare documentation for annual State Aid Maintenance, Finance and Needs reporting.
4. Prepare financial reports for Municipal State Aid and federally funded projects using the delegated contract process.
5. Manage engineering projects including plan preparation and review, consultant selection and management, and coordination with other agencies.
6. Prepare, manage, negotiate compensation for consultants and contractors and prepare project closeout documents utilizing various City of Duluth financial software programs.
7. Hold and attend project meetings as necessary.
8. Prepare construction budget estimates and estimate costs using previous bids and regional trends.
9. Inform, educate, and exchange ideas with other professionals, agencies and the public regarding engineering projects, standards and City of Duluth policies and programs.
10. Act as competent person during emergency situations and incident commander if the Emergency Response Plan is activated.
11. Research Engineering records to respond to questions from engineers, agencies, the public, and other City departments, including responding to citizen complaints on behalf of the City Engineer, Chief Engineer of Transportation, and Chief Engineer of Utilities.
12. Maintain the City's Engineering records.
13. Review and issue Engineering permits, including informing and educating the public on City policies and standards.
14. Coordinate with other city departments, public and private property and utility owners, and state and federal regulatory agencies, related to the review of proposed infrastructure work and changes to Right-of-Way, including providing guidance with property line and easement disputes to city employees and the public.
15. Apply advanced knowledge of the Engineering Division's practices, policies and procedures to recognize and independently respond to problems.
16. Be an effective team member by exhibiting self-motivation, supporting other employees in handling tasks, interacting effectively and respectfully with others, showing a desire to contribute to the team effort, accepting assignments willingly, and completing tasks within agreed-upon timelines.
17. Coordinate with various City departments, other government agencies, and community groups to develop methods of sharing resources, minimizing duplication and simplifying procedures.
18. Provide training and mentor staff on new or modified procedures and policies to all affected parties.
19. Coordinate and perform complex engineering functions and programs for the City.

20. In collaboration with the supervisor, organize and direct the work activities of assigned team, and determine work priorities, assignments and work schedules.
21. Provide input on decisions regarding the hiring processes and onboarding procedures of personnel.
22. Establish and maintain positive working relationships with the supervisor and employees by maintaining two-way communication, producing consistent results, advocating for the team when appropriate, and offering expertise to improve processes, systems and the organization.
23. Other duties may be assigned.

JOB REQUIREMENTS

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed are representative of the knowledge, skills, and abilities required.

1. Education & Experience Requirements
 - A. Associate of Art & Science (AAS) degree in Civil Engineering Technology or equivalent and a minimum of ten (10) years of full-time, verifiable professional experience to include civil engineering technology as a primary responsibility; OR a minimum of three (3) years of experience as a Senior Engineering Technician with the City of Duluth.
2. License Requirements
 - A. Possess and maintain a valid Minnesota Class D driver's license or privilege.
 - B. Must obtain and maintain state certification requirements if necessary.
 - C. Must obtain and maintain Operator Qualifications (OQs).
3. Knowledge Requirements
 - A. Knowledge of all requirements for the Senior Engineering Technician job classification.
 - B. Knowledge of the City of Duluth's Utility systems.
 - C. Knowledge of Geographic Information Systems (GIS).
 - D. Knowledge of State Aid rules for plan preparation, construction quantity, documentation, maintenance, drainage and needs reporting.
 - E. Knowledge of Minnesota Office of Pipeline Safety (MNOPS) regulations, Federal Code Section 192 and natural gas procedures.
 - F. Knowledge of Emergency Response Procedures.
 - G. Knowledge of appropriate sections of City code and how those laws impact City liability related to property, easement, or right of way ownership.
 - H. Knowledge of problem-solving and conflict-resolution techniques.
 - I. Knowledge of applicable safety requirements.
 - J. Knowledge of, or ability to learn, City policies and procedures.
 - K. Knowledge of federal, state and local laws, statutes, regulations, codes, and design standards related to the area of responsibility.
 - L. Knowledge of effective leadership and personnel practices.
4. Skill Requirements
 - A. Skill in all requirements for the Senior Engineering Technician job classification.
 - B. Skill in operation of locating equipment and records to locate underground utilities.
 - C. Skill in communicating logically, persuasively and accurately in oral and written forms to groups and individuals.
 - D. Skill in project planning, implementation, and evaluation.
 - E. Skill in organizing projects or events involving diverse groups and factors.
 - F. Skill in the operation of office equipment including, but not limited to, general computer systems, job-required software applications, the internet, and modern office equipment.
 - G. Skill in managing one's own time and the time of others.
 - H. Skill in completing assignments accurately and with attention to detail.
 - I. Skill in using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

5. Ability Requirements

- A. Ability to obtain all requirements for the Senior Engineering Technician job classification.
- B. Ability to create and maintain a positive working environment that welcomes diversity, ensures cooperation, and promotes respect by sharing expertise with team members, fostering safe work practices, and developing trusting work relationships.
- C. Ability to prepare specifications, technical reports, contracts, resolutions and petitions.
- D. Ability to work independently from peers and supervisors to accomplish a broad range of engineering directives to identify problems and provide resolution using sound engineering practices.
- E. Ability to read, interpret, analyze and explain technical manuals, data, plan sets, maps and other complex materials.
- F. Ability to work outside in inclement weather and under traffic conditions.
- G. Ability to work at heights above an excavation and to climb into and out of excavations.
- H. Ability to communicate and interact effectively with members of the public, contractors, consultants, state and local agencies, and other City divisions.
- I. Ability to communicate effectively both orally and in writing.
- J. Ability to recognize, analyze and solve a variety of problems.
- K. Ability to organize and prioritize work while meeting multiple deadlines.
- L. Ability to handle difficult and stressful situations with professional composure.
- M. Ability to work successfully as a member of a team and independently with minimal supervision.
- N. Ability to mentor, train, and lead others.
- O. Ability to interpret and apply laws, contracts, regulations, policies, and procedures.
- P. Ability to enforce safety rules and regulations.
- Q. Ability to maintain confidential information.
- R. Ability to demonstrate dependability, integrity, responsibility, and consistency in job performance.
- S. Ability to attend work as scheduled and/or required.

Physical Demands

The work requires some physical exertion such as long periods of standing; walking over rough, uneven, or rocky surfaces; recurring bending, crouching, stooping, stretching, reaching, or similar activities; recurring lifting of moderately heavy items such as record boxes. The work may require specific, but common, physical characteristics and abilities such as above.

Work Environment

The work environment involves everyday risks or discomforts requiring normal safety precautions typical of places such as offices, meeting and training rooms, libraries, and residences or commercial vehicles (e.g., use of safe work practices with office equipment, avoidance of trips and falls, observance of fire regulations and traffic signals, etc.). The work area is adequately lighted, heated, and ventilated.

HR: CK	Union: Basic	EEOC: Technicians	CSB: 03/14/2023	Class No: 3119
WC: 9410	Pay:	EEOF: Varies	CC:	Resolution:

SENIOR ENGINEERING SPECIALIST

Senior Engineering Specialist

SUMMARY/PURPOSE:— ~~Under direction of a licensed engineer,~~
To perform complex engineering work related to the design, construction, inspection, and maintenance of street, bridge, and traffic infrastructure systems and including water, gas, storm sewer, and sanitary sewer utility systems, including easement and permits associated with the work.

FUNCTIONAL AREAS:

1. ~~Perform engineering work in the design, construction, and maintenance of street, bridge, and traffic infrastructure systems and water, gas, storm sewer, and sanitary sewer utility systems.~~
 - A. ~~Write specifications for transportation and utility improvements.~~
 - B. ~~Estimate costs using previous bids and trends.~~
 - * C. ~~Perform difficult design work.~~
 - D. ~~Operate computers to prepare drawings, plans, estimates, and preliminary reports.~~
 - * E. ~~Coordinate with other utilities and agencies on projects.~~
 - * F. ~~Collaborate with consultants and contractors to ensure that projects are constructed properly and adhere to the same standards used for other projects and are completed on time.~~

*** G. SUPERVISION RECEIVED**

The supervisor provides minimal guidance on day-to-day operations by indicating generally what is to be done, the limitations, quality and quantity expected, deadlines, and priority of assignments. The supervisor provides additional, specific instructions for new, difficult, or unusual assignments, including suggested work methods or advice on source material available.

SUPERVISION GIVEN

Does not have direct supervisory responsibility but does have significant oversight of employees or projects that require delegation and direction over the work of others.

ESSENTIAL DUTIES AND RESPONSIBILITIES

1. Perform all duties listed under the Senior Engineering Technician job duties and responsibilities.
2. Review plans and inspect construction for conformance with standards and specifications.
2. ~~Administer contracts and funding sources for Municipal State Aid, Municipal Turnback, and Federal Aid Projects.~~
3. * A. ~~Prepare documentation for annual State Aid Maintenance, Finance and Needs reporting.~~
* B. ~~Prepare financial reports for Municipal State Aid Funded projects.~~
4. * C. ~~Prepare financial reports for federal and federally funded projects using the delegated contract process.~~
* D. ~~Write technical and environmental narratives for project memorandum.~~
* E. ~~Administer Federal and State Aid contracts.~~
* F. ~~Participate with and assist the City Engineer in State Screening Board meetings.~~
5. 3. Organize/Manage engineering projects including plan preparation and review, consultant selection and management, and coordination with other agencies.
6. Prepare, manage, negotiate compensation for consultants and contractors and prepare project closeout documents utilizing various City of Duluth financial software programs.
7. Hold and attend project meetings as necessary.
8. Prepare construction budget estimates and estimate costs using previous bids and regional trends.

9. Inform, educate, and exchange ideas with other professionals, agencies and the public regarding engineering projects, standards and City of Duluth policies and programs.
 10. Act as competent person during emergency situations and incident commander if the Emergency Response Plan is activated.
 11. Research Engineering records to respond to questions from engineers, agencies, the public, and other City departments, including responding to citizen complaints on behalf of the City Engineer, Chief Engineer of Transportation, and Chief Engineer of Utilities.
 12. Maintain the City's Engineering records.
 13. Review and issue Engineering permits, including informing and educating the public on City policies and standards.
 14. Coordinate with other city departments, public and private property and utility owners, and state and federal regulatory agencies, related to the review of proposed infrastructure work and changes to Right-of-Way, including providing guidance with property line and easement disputes to city employees and the public.
 15. Apply advanced knowledge of the Engineering Division's practices, policies and procedures to recognize and independently respond to problems.
 16. Be an effective team member by exhibiting self-motivation, supporting other employees in handling tasks, interacting effectively and respectfully with others, showing a desire to contribute to the team effort, accepting assignments willingly, and completing tasks within agreed-upon timelines.
 17. Coordinate with various City departments, other government agencies, and community groups to develop methods of sharing resources, minimizing duplication and simplifying procedures.
 18. Provide training and mentor staff on new or modified procedures and policies to all affected parties.
 19. Coordinate and perform complex engineering functions and programs for the City. In collaboration with the supervisor, organize and direct the work activities of assigned personnel.
 20. * A. Determine team, and determine work priorities, assign work, assignments and coordinate work schedules of assigned personnel.
 - * B. Monitor work sites to ensure compliance with established methods, guidelines, standards, Provide input on decisions regarding the hiring processes and onboarding procedures.
 21. * C. Train of personnel in correct and safe operating procedures.
 - * D. Direct all work to accomplish assignments in the safest manner possible.
4. Administer the Street Improvement Program.
- * A. Develop a five year plan for street improvements.
 - * B. Schedule and facilitate public meetings.
 - * C. Establish annual calendar of public meetings, project management activities, and financial deadlines.
 - * D. Coordinate work activities with engineering consultants.
 - * E. Troubleshoot and resolve program problems.
 - * F. Attend meetings as required.
 - * G. Assist the Special Assessment Board in establishing current assessments and develop projections for future assessments.
5. Perform related work.
- A. Prepare technical reports.
 - * B. Prepare petitions for transportation and utility improvements.
 - * C. Investigate, prepare and present information at public hearings.
 - D. Prepare council resolutions for projects.
 - * E. Investigate citizen complaints and provide answers to their questions.
 - F. Represent or assist the City Engineer at various meetings and activities.

~~G. Assist in developing and administer capital, asset management, and maintenance programs.~~

22. Establish and maintain positive working relationships with the supervisor and employees by maintaining two-way communication, producing consistent results, advocating for the team when appropriate, and offering expertise to improve processes, systems and the organization.

23. Other duties may be assigned.

JOB REQUIREMENTS

~~1. To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed are representative~~ License Requirements

~~A. Possession of a valid Minnesota Driver's License or equivalent by date of appointment and thereafter.~~

~~2. of the knowledge, skills, and abilities required.~~

1. Education and Experience Requirements

~~A. Ten Associate of Art & Science (AAS) degree in Civil Engineering Technology or equivalent and a minimum of ten (10) years of full-time, verifiable education and professional experience into include civil engineering technology; or~~

A. B. Three as a primary responsibility; OR a minimum of three (3) years of experience as a Senior Engineering Technician or with the City of Duluth.

2. License Requirements

A. Possess and maintain a valid Minnesota Class D driver's license or privilege.

B. Must obtain and maintain state certification requirements if necessary.

C. Must obtain and maintain Operator Qualifications (OQs).

3. Knowledge Requirements

A. Knowledge of all requirements for the Senior Engineering Technician (#) with the City of Duluth job classification.

~~1. 3. Knowledge Requirements~~

~~** A. Knowledge of algebra, geometry, and trigonometry.~~

~~** B. Knowledge of technical engineering principles and practices.~~

~~** C. Knowledge of 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 traffic engineering principles.~~

B. ** E. Knowledge the City of design and layout methods Duluth's Utility systems.

C. ** F. Knowledge of regulatory agencies affecting design and construction. Geographic Information Systems (GIS).

~~** G. Knowledge of applicable safety principles and practices.~~

~~** H. Knowledge of the principles of technical writing.~~

~~** I. Knowledge of federal, state, and local legislation affecting departmental operations and appropriate professional design standards.~~

~~** J. Knowledge of various funding sources for municipal projects.~~

~~** K. Knowledge of the design and administration of databases~~

D. ** L. Knowledge of State Aid rules for plan preparation, construction quantity, documentation, maintenance, drainage and needs reporting.

E. Knowledge of Minnesota Office of Pipeline Safety (MNOPS) regulations, Federal Code Section 192 and natural gas procedures.

- F. Knowledge of Emergency Response Procedures.
- G. Knowledge of appropriate sections of City code and how those laws impact City liability related to property, easement, or right of way ownership.
- H. Knowledge of problem-solving and conflict-resolution techniques.
- I. Knowledge of applicable safety requirements.
- J. Knowledge of, or ability to learn, City policies and procedures.
- K. Knowledge of federal, state and local laws, statutes, regulations, codes, and design standards related to the area of responsibility.
- L. Knowledge of effective leadership and personnel practices.

4. Skill Requirements

~~4. Skill Requirements~~

- ~~** A. Skill in drafting, mapping, and surveying.~~
- A. ~~** B. Skill in all requirements for the Senior Engineering Technician job classification.~~
- B. Skill in the operation of drafting and surveying locating equipment and records to locate underground utilities.
- C. ~~** C. Skill in presenting technical and complex information communicating logically, persuasively and accurately in a user-friendly way to small oral and large written forms to groups and individuals.~~
- D. ~~** D. Skill in writing technical memoranda and reports project planning, implementation, and evaluation.~~

~~4. Ability Requirements~~

- E. ~~** A. Ability to operate computers Skill in organizing projects or events involving diverse groups and CAD factors.~~
- F. Skill in the operation of office equipment including, but not limited to, general computer systems, job-required software applications, the internet, and modern office equipment.
- G. Skill in managing one's own time and the time of others.
- H. Skill in completing assignments accurately and with attention to detail.
- I. Skill in using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

5. Ability Requirements

- ~~** B. Ability to apply standard engineering principles to utility and other public work improvements.~~
- A. ~~** C. Ability to obtain all requirements for the Senior Engineering Technician job classification.~~
- B. Ability to create and maintain a positive working environment that welcomes diversity, ensures cooperation, and promotes respect by sharing expertise with team members, fostering safe work practices, and developing trusting work relationships.
- C. Ability to prepare specifications, plans, technical reports, contracts, resolutions, and petitions.
- ~~** D. Ability to perform supervised design and layout work.~~
- D. ~~** E. Ability to work independently from peers and supervisors to accomplish a broad range of engineering directives to identify problems and provide resolution using sound engineering practices.~~
- E. Ability to read, interpret, analyze and explain technical manuals, data, plan sets, maps and other complex materials.
- F. Ability to work outside in inclement weather and under traffic conditions.
- G. Ability to work at heights above an excavation and to climb into and out of excavations.
- Ability to communicate and interact effectively in oral and written forms.
- F. Ability to attain and maintain state certification requirements.

- H. ~~**~~ G. Ability to establish and maintain effective working relationships with co-workers, supervisors with members of the public, contractors, consultants, outside state and local agencies, and the general public/other City divisions.
H. Ability to provide training to co-workers.
- I. ~~**~~ I. Ability to transport oneself to, from, and around worksites communicate effectively both orally and in writing.
- J. J. Ability to work outside year round recognize, analyze and solve a variety of problems.
- K. K. Ability to walk for long distances organize and prioritize work while meeting multiple deadlines.
- L. L. Ability to ~~remove~~ handle difficult and install manhole covers stressful situations with professional composure.
- M. M. Ability to transport work successfully as a member of a team and erect survey equipment independently with minimal supervision.
- N. Ability to 50 pounds mentor, train, and lead others.
- O. ~~**~~ N. Ability to interpret and apply laws, contracts, regulations, policies, and procedures.
- P. Ability to enforce safety rules and regulations.
- Q. Ability to maintain confidential information.
- R. Ability to demonstrate dependability, integrity, responsibility, and consistency in job performance.
- S. Ability to attend work on a regular basis as scheduled and/or required.

* Essential functions of the job.

** Job requirements necessary on the first day of employment.

Physical Demands

The work requires some physical exertion such as long periods of standing; walking over rough, uneven, or rocky surfaces; recurring bending, crouching, stooping, stretching, reaching, or similar activities; recurring lifting of moderately heavy items such as record boxes. The work may require specific, but common, physical characteristics and abilities such as above.

Work Environment

The work environment involves everyday risks or discomforts requiring normal safety precautions typical of places such as offices, meeting and training rooms, libraries, and residences or commercial vehicles (e.g., use of safe work practices with office equipment, avoidance of trips and falls, observance of fire regulations and traffic signals, etc.). The work area is adequately lighted, heated, and ventilated.

HR: KGCK	Union: Basic	EEOC: Technicians	CSB: 20040206	Class No: 3119
WC: 9410	Pay: 34	EEOF: Varies	CC: 20040326	Resolution: 04-0429R