

Utility Operator Apprentice

SUMMARY/PURPOSE

As part of an approved Joint Apprenticeship and Training Program, to acquire the knowledge, skills and abilities to perform skilled and semiskilled work in order to install, maintain, and repair the water and gas distribution systems, and sanitary and storm water collection systems.

DISTINGUISHING FEATURES OF THE CLASS

Employees at this level are distinguished from the Utility Operator level by the amount of guidance and instruction needed to perform duties as assigned and are not expected to function with the same amount of knowledge, proficiency, or skill level as the Utility Operator. Work is supervised while in progress and fits an established structure or pattern of the Joint Apprenticeship and Training Program. Positions at the Utility Operator Apprentice level are normally filled by advancement from the Utility Maintenance Worker classification.

SUPERVISION RECEIVED

For both one-of-a-kind and repetitive tasks, the supervisor makes specific assignments that are accompanied by clear, detailed, and specific instructions. Incumbents work as instructed and consult with the supervisor.

SUPERVISION GIVEN

Does not supervise.

ESSENTIAL DUTIES AND RESPONSIBILITIES

1. Assist with installation, repair, modification, and maintenance of the City's water, natural gas, sewer, and stormwater systems, including mains, services, and infrastructure.
2. Operate and maintain equipment for system maintenance, including trenchers, backhoes, jet rodders, rod truck, excavators, easement machine, crane truck, dump truck, skidsteer, dozer and CCTV units.
3. Assist in emergency situations to assess damage and urgency, assist personnel and resources, and document actions in compliance with Minnesota Office Pipeline Safety (MNOPS) and Pipeline and Hazardous Materials Safety Administration (PHMSA).
4. Use the Enterprise Asset Management (EAM) system to track utility projects, including work performed, progress, and materials.
5. Ensure worksite safety and compliance with procedures, inspecting equipment, barricades, and tools, and conducting necessary maintenance.
6. Read maps (e.g., ArcGIS) to locate and repair utility systems.
7. Restore work sites by refilling trenches, mixing and pouring concrete, and repairing road surfaces.
8. Set up and maintain traffic control plans.
9. Assist in addressing health/safety violations to ensure compliance.
10. Use appropriate safety equipment in hazardous conditions, such as exposure to asbestos, confined spaces, and sewage.
11. Assist in the maintenance of motors, pumps, and other equipment, and report defects or failures.
12. Support wastewater and stormwater monitoring and sampling.
13. Perform winter maintenance, including snow removal, ice removal, and steaming at pump stations, hydrants, and valve boxes.
14. Assist with the installation and maintenance of water and gas mains, meters, valves, and regulator stations, as well as sewer and stormwater infrastructure.
15. Prepare worksites, including setting up traffic control, digging, and shoring.
16. Repair road surfaces by refilling trenches, and applying asphalt, gravel, or concrete.
17. Perform pipe installation, including cutting, threading, tapping, sealing joints, and installing valves and stops.

18. Inspect, operate, and repair hydrants, valves, mains, and services, including replacing connections and stop boxes.
19. Respond to and control water, gas, and sewage leaks safely to minimize environmental impact.
20. Maintain wash rack and garage areas, ensuring cleanliness and safe conditions.
21. Ensure access to vehicles, equipment, and work sites by performing snow removal.
22. Dispose of demolition debris properly, including concrete, asphalt, and pipe materials.
23. 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.
24. Coordinate with various City departments, other government agencies, and community groups to develop methods of sharing resources, minimizing duplication, and simplifying procedures.
25. Establish and maintain positive working relationship 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.
26. 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. Completion of one (1) year of employment as a Utility Maintenance Worker; OR
 - B. Two (2) years' full-time equivalent education and/or experience in water, wastewater, storm water or gas utility construction or maintenance.
 - C. Complete Wastewater Collection Systems volume I & II and Water Distribution System Operation and Maintenance courses within three (3) years of date of hire.
2. License Requirements
 - A. Possess and maintain a valid Minnesota Class "A" Commercial Driver's License including Tanker and Combination Vehicle Endorsement or equivalent.
 - B. Ability to obtain a valid Minnesota class "D" Water Operators license and/or a valid Minnesota Wastewater Facility Operator Class SD Certificate by the end of the apprenticeship period.
 - C. Acquire and maintain Operator Qualification (OQ) certification as required by the U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration (PHMSA) within one (1) year of hire.
3. Knowledge Requirements
 - A. Knowledge of gas- and diesel-powered equipment used in the repair, installation, and maintenance of a utility operations system.
 - B. Knowledge of the materials, equipment, procedures, and practices used in a utility operations system.
 - C. Knowledge of policies and procedures used in the construction, repair, and maintenance of the utility operations system.
 - D. Knowledge of Occupational Safety and Health Administration (OSHA), Commercial Driver's License (CDL), Department of Transportation (DOT), Environmental Protection Agency (EPA), Minnesota Pollution Control Agency (MPCA), Minnesota Department of Health (MDH) and Minnesota Office of Pipeline Safety (MNOPS) regulations.
 - E. Knowledge of flow monitoring and sampling of water, wastewater, and storm water.
 - F. Knowledge of Confined Space entry procedures.
 - G. Knowledge of sanitary sewer force main operation and maintenance.
 - H. Knowledge of problem-solving and conflict-resolution techniques.

- I. Knowledge of applicable safety requirements.
 - J. Knowledge of, or the ability to learn, City policies and procedures.
 - K. Knowledge of federal, state, and local laws, statutes, regulations, codes, and standards related to the area of responsibility.
 - L. Knowledge of safe, proper trenching, shoring procedures to include trench box operation.
 - M. Knowledge of location and topography of the City of Duluth.
 - N. Knowledge of WIN-911 and Supervisory Control and Data Acquisition (SCADA) system.
 - O. Knowledge of business and management principles involved in strategic planning, resources allocation human resource practices, leadership techniques and coordination of people and resources.
4. Skill Requirements
- A. Skill in inspecting, diagnosing, and repairing the distribution and collections systems.
 - B. Skill in setting up appropriate traffic controls.
 - C. Skill in using and operating utility equipment used in the construction, repair, installation, and maintenance of the utility operations system.
 - D. Skill in using hand and power tools used in utility operations.
 - E. Skill in pinpointing natural gas leaks using CGI, four-gas meter or other tools.
 - F. Skill in pinpointing water main breaks using tools such as correlator or ground microphone.
 - G. 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.
 - H. Skill in managing one's own time and the time of others.
 - I. Skill in completing assignments accurately and with attention to detail.
 - J. 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 learn Federal Motor Carriers Safety Administration (FMCSA) and Entry Level Driver Training (ELDT) standards.
 - B. Ability to read and implement maps, specifications, and construction plans used in utility construction work.
 - C. Ability to establish and maintain effective working relationships with supervisors, other employees, and the public.
 - D. Ability to prepare clear, concise reports.
 - E. Ability to identify excess clear water flows in the sanitary collection system.
 - F. Ability to set expectations and provide training in safe and proper work methods, development and coaching for employees in conjunction with the supervisor.
 - G. Ability to successfully complete a "Competent Person" training program.
 - H. Ability to maintain confidential information.
 - I. Ability to demonstrate dependability, responsibility, and consistency in job performance.
 - J. Ability to attend work as scheduled and/or required.

Physical Demands

The work requires considerable and strenuous physical exertion such as frequent climbing of tall ladders, lifting heavy objects over 50 pounds, crouching or crawling in restricted areas. Requirements also include entry into confined spaces and lifting heavy objects at unusual angles.

Work Environment

The work environment involves high risks with exposure to potentially dangerous situations or unusual environmental stress requiring a range of safety and other precautions (e.g., working at great heights under extreme outdoor weather conditions, or in similar situations in which conditions cannot be controlled).

HR: HD	Union: Basic	EEOC: Skilled Craft Workers	CSB: 03/04/2025	Class No: 4225
WC: 6319	Pay: 27A-30	EEOF: Utilities/Transportation	CC:	Resolution:

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SUPERVISION RECEIVED

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SUPERVISION GIVEN

Does not supervise.

ESSENTIAL FUNCTIONS/DUTIES AND RESPONSIBILITIES (other duties may be assigned)

- ~~1. Operate and maintain equipment in order to Assist with installation, repair, clean, install/modification, and maintain/maintenance of the City's water and, natural gas distribution, sewer, and stormwater systems and sanitary and storm water collection systems.~~
- ~~1. Perform routine maintenance checks on vehicles, including mains, services, and equipment/infrastructure.~~
- ~~2. Operate and maintain equipment used in sewer line and distribution line for system maintenance and repair, including high pressure jet rodder, mechanical rodder, cleaning bucket machine, trenchers, mobile steamer, backhoe, loader/backhoes, jet rodders, rod truck, excavators, and hydro-excavator, cable easement machine, crane truck, dump truck, skidsteer, dozer and CCTV units.~~
- ~~3. Assist in emergency situations to assess damage and urgency, assist personnel and resources, and closed circuit television/document actions in compliance with Minnesota Office Pipeline Safety (MNOPS) and Pipeline and Hazardous Materials Safety Administration (PHMSA).~~
- ~~4. Use the Enterprise Asset Management (EAM) system to track utility projects, including work performed, progress, and materials.~~
- ~~5. Ensure worksite safety and compliance with procedures, inspecting equipment, barricades, and tools, and conducting necessary maintenance.~~
- ~~6. Read maps (e.g., ArcGIS) to locate and repair utility systems.~~
- ~~7. Restore work sites by refilling trenches, mixing and pouring concrete, and repairing road surfaces.~~
- ~~2-8. Set up and maintain traffic control plans.~~
- ~~9. Assist in the preparation of work sites to include the erection of addressing health/safety violations to ensure compliance.~~
- ~~3-10. Use appropriate barricades, warning devices, safety equipment in hazardous conditions, such as exposure to asbestos, confined spaces, and shoring equipment/sewage.~~
 - ~~A. Operate and maintain equipment used in ditch, open channel, and shoreline maintenance and repair, including excavators and backhoes.~~

- ~~2. Perform routine service work in order to maintain water, sanitary and storm water pumping stations, and regulator stations.~~
 - ~~A. Analyze and record hour meter data at pump stations.~~
- ~~4.11. Record~~ Assist in the maintenance of motors, pumps, and other equipment, and report defects or failures in collection, filtration, and conveyance of wastewater, gas, water, and storm water.
 - ~~B. Assist in the maintenance and repair of motors and pumps and report equipment defects or failures.~~
 - ~~C. Assist in cleaning wet wells and bar screens in sanitary pump stations.~~
 - ~~D. Assist in the removal of filter media at the City of Duluth Water Treatment Plant.~~
 - ~~E. Assist in snow removal at pump stations.~~
- ~~5.12. Assist in~~ Support wastewater and storm water flowstormwater monitoring and sampling.
- ~~13. Perform skilled~~winter maintenance, including snow removal, ice removal, and semiskilled work in order to install, maintain, steaming at pump stations, hydrants, and repairvalve boxes.
- ~~6.14. Assist with~~ the installation and maintenance of water and gas distribution and sanitary mains, meters, valves, and stormregulator stations, as well as sewer collection systems and assist in the training of apprenticesstormwater infrastructure.
 - ~~A. Install and maintain water mains, valves, hydrants, gas mains, and sanitary and storm sewer mains, services, manholes, catch basins and leads.~~
- ~~7.15. Prepare work site by~~worksites, including setting up traffic control, breaking street surfaces, digging, and shoring.
- ~~8.16. Make repairs to work sites~~Repair road surfaces by refilling trenches, mixing, pouring, and smoothingapplying asphalt, gravel and other materials to replace street surfaces, including landscaping, or concrete.
 - ~~B. Perform work to cut, thread and tap pipes.~~
 - ~~C. Install pipe sections by positioning, joining, aligning, calking, and~~installation, including cutting, threading, tapping, sealing joints.
- ~~9.17. Install, and installing~~ valves and stops.
 - ~~D. Operate, inspect, Inspect, operate, and~~ repair, and test hydrants, valves, mains, and services, and mains.
 - ~~E. Operate and maintain tools and equipment such as compressors, pneumatic hammers, taping machines, and hand tools in a safe and efficient manner.~~
- ~~10.18. Operate water and gas valves~~including replacing connections and stop boxes.
 - ~~F. Install and replace water and gas services and sewer wye connections.~~
 - ~~G. Instruct apprentices in all areas of the Utility Operator apprenticeship program, as assigned.~~
- ~~14.19. Respond to emergencies and act to control water, gas, and sewage leaks in a manner that is safe for self and public and~~safely to minimize environmental impact.
 - ~~H. Provide information to customers related to utility operations in a professional manner.~~
- ~~3. Perform maintenance duties within and around Utility Operations facilities including work sites.~~
- ~~12.20. Perform routine cleaning and maintenance of vehicle~~Maintain wash rack and garage areas, including sweeping, hosing floors, washing walls, and cleaning wash rack pitsensuring cleanliness and safe conditions.
 - ~~A. Maintain stock piles of materials such as gravel, blacktop, and sand, and operate a gravel pit burner to keep materials from freezing.~~
- ~~13.21. Maintain accessibility~~Ensure access to vehicles, equipment, materials, pump stations, and work sites by plowing, shoveling, and removingperforming snow removal.
- ~~22. Organize disposal~~Dispose of demolition debris such as brokenproperly, including concrete, blacktopasphalt, and pipe materials.
- ~~23. 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.

24. Coordinate with various City departments, other government agencies, and community groups to develop methods of sharing resources, minimizing duplication, and ~~deliver to simplifying~~ procedures.

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

15.26. Perform related ~~Other~~ duties and assignments as directed ~~may be assigned~~.

JOB REQUIREMENTS

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

1. Education ~~and~~ Experience Requirements

- A. Completion of one (1) year of employment as a Utility Maintenance Worker; OR
- B. Two (2) years' full-time equivalent education and/or experience in water, wastewater, storm water or gas utility construction or maintenance.
- C. Complete Wastewater Collection Systems volume I & II and Water Distribution System Operation and Maintenance courses within three (3) years of date of hire.

2. License Requirements

- A. Possess and maintain a valid Minnesota Class "A" Commercial Driver's License including Tanker and Combination Vehicle Endorsement or equivalent.
- B. Ability to obtain a valid Minnesota class "D" Water Operators license and/or a valid Minnesota Wastewater Facility Operator Class SD Certificate by the end of the apprenticeship period.
- C. Acquire and maintain Operator Qualification (OQ) certification as required by the U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration (PHMSA) within one (1) year of hire.

3. Knowledge Requirements

- A. Knowledge of gas- and diesel-powered equipment used in the repair, installation, and maintenance of a utility operations system.
- ~~A. Knowledge of all safety rules and regulations related to a utility operations system.~~
- B. Knowledge of the materials, equipment, procedures, and practices used in a utility operations system.
- C. Knowledge of policies and procedures used in the construction, repair, and maintenance of the utility operations system.
- ~~B. Knowledge of OSHA, CDL, and MNOPS regulations.~~
- D. Knowledge of Occupational Safety and Health Administration (OSHA), Commercial Driver's License (CDL), Department of Transportation (DOT), Environmental Protection Agency (EPA), Minnesota Pollution Control Agency (MPCA), Minnesota Department of Health (MDH) and Minnesota Office of Pipeline Safety (MNOPS) regulations.
- ~~D-E.~~ Knowledge of flow monitoring and sampling of water, wastewater, and storm water.
- F. Knowledge of Confined Space entry procedures.
- G. Knowledge of sanitary sewer force main operation and maintenance.
- H. Knowledge of problem-solving and conflict-resolution techniques.
- I. Knowledge of applicable safety requirements.
- J. Knowledge of, or the ability to learn, City policies and procedures.

- K. Knowledge of federal, state, and local laws, statutes, regulations, codes, and standards related to the area of responsibility.
- L. Knowledge of safe, proper trenching, shoring procedures to include trench box operation.
- M. Knowledge of location and topography of the City of Duluth.
- N. Knowledge of WIN-911 and Supervisory Control and Data Acquisition (SCADA) system.
- O. Knowledge of business and management principles involved in strategic planning, resources allocation human resource practices, leadership techniques and coordination of people and resources.

4. Skill Requirements

- ~~A.~~ Skill in inspecting, diagnosing, and repairing the distribution and ~~Collection~~collections systems.
- B. Skill in setting up appropriate traffic controls.
- C. Skill in using ~~hand~~ and ~~power tools~~operating utility equipment used in the construction, repair, installation, and maintenance of the utility operations system.
- D. Skill in ~~operating~~using hand and ~~maintaining vehicles and equipment~~power tools used in utility operations.
- E. Skill in pinpointing natural gas leaks using CGI, four-gas meter or other tools.
- F. Skill in pinpointing water main breaks using tools such as correlator or ground microphone.
- G. 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.
- H. Skill in managing one's own time and the time of others.
- I. Skill in completing assignments accurately and with attention to detail.
- J. 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 learn Federal Motor Carriers Safety Administration (FMCSA) and Entry Level Driver Training (ELDT) standards.
- ~~A-B.~~ Ability to read and implement maps, specifications, and construction plans used in utility construction work.
- ~~A.~~ Ability to use good judgment and work independently under limited supervision.
- ~~B.~~ Ability to communicate and to follow written and oral directions.
- ~~B-C.~~ Ability to establish and maintain effective working relationships with supervisors, other employees, and the public.
- ~~C-D.~~ Ability to prepare clear, concise reports.
- ~~D-E.~~ Ability to identify excess clear water flows in the sanitary collection system.

~~1.~~ Physical Ability Requirements

- ~~A.~~ Ability to work outside in inclement weather.
- ~~B.~~ Ability to enter manholes, catch basins, set expectations and to workprovide training in confined spaces.
- ~~C.~~ Ability to remove safe and replace manholeproper work methods, development and catch basin covers.
- ~~D.~~ Ability to lift and carry supplies and equipment up to 50 pounds, and occasionally carry up to 90 pounds.
- ~~E.~~ Ability to take samples of city water, wastewater, and storm water.
- ~~F.~~ Ability to work expanded shifts and/or be called incoaching for emergency workemployees in conjunction with little or no advance notice.
- ~~E-F.~~ Ability to complete the training program as approved by the Joint Apprenticeship and Training Committee (J.A.T.C.)-supervisor.
- ~~F-G.~~ Ability to successfully complete a "Competent Person" training program.

- ~~G.H.~~ Ability to successfully complete a Gas Operator Qualifications program ~~maintain confidential information.~~
- ~~H.I.~~ Ability to stand, kneel, stoop ~~demonstrate dependability, responsibility, and~~ crouch for extended periods ~~consistency in job performance.~~
- ~~I.J.~~ Ability to attend work on a regular basis ~~as scheduled and/or required.~~

Physical Demands

The work requires considerable and strenuous physical exertion such as frequent climbing of tall ladders, lifting heavy objects over 50 pounds, crouching or crawling in restricted areas. Requirements also include entry into confined spaces and lifting heavy objects at unusual angles.

Work Environment

The work environment involves high risks with exposure to potentially dangerous situations or unusual environmental stress requiring a range of safety and other precautions (e.g., working at great heights under extreme outdoor weather conditions, or in similar situations in which conditions cannot be controlled).

HR: S	7	Union: Basic	EEOC: Skilled Craft Workers	CSB: 08/07/2012	Class No: 4225
WC: 19	63	Pay: 25A*	EEOF: Utilities/Transportation	CC: 08/13/2012	Resolution: 12-0410R