

WATER CONVEYANCE SPECIALIST

SUMMARY/PURPOSE

Ensure the dependability and functionality of regulated pressurized distribution systems, water/wastewater/storm water pump stations, and perform flow monitoring and sampling operations of wastewater and storm water.

ESSENTIAL DUTIES AND RESPONSIBILITIES

1. Perform skilled work in the operation and maintenance of water/wastewater/storm water pump stations.
2. Perform proper safety methods when entering manholes, vaults, reservoirs, wet wells, confined work spaces, working with electricity, using hand and power tools, operating heavy equipment, or driving a motor vehicle.
3. Monitor the daily operation of pumping stations, booster stations, and drinking water storage tanks, with the Supervisory Control & Data Acquisition (SCADA) system to ensure the proper operation of all equipment at each station so the normal flow is not interrupted.
4. Ensure proper operation and maintenance of City-owned water and low pressure sewer systems to include but not limited to grinder stations, booster stations, pumps, structures, controls, or air release valves.
5. Implement emergency procedures on each pump station in the event of the malfunction of either primary pumping equipment or any auxiliary equipment.
6. Troubleshoot for the cause of any malfunction affecting pumps or any related equipment of each pump station.
7. Maintain and repair all types of water and wastewater pumps.
8. Maintain and repair industrial type electric motors.
9. Monitor, perform, and record required predictive maintenance program tasks.
10. Train assigned personnel in proper, safe operating and maintenance procedures.
11. Build, install, adjust, maintain, and repair water distribution system regulators, reliefs, pressure reducers, and pressure transmitters.
12. Maintain and operate large standby generators for emergency backup or a planned power service shutdown.
13. Maintain and repair various wet well and reservoir level sensing systems.
14. Maintain and repair valves, couplings, and drive-shafts.
15. Maintain wet wells, reservoirs, storage basins, bar screens, tipping trough systems, and grinder pump stations.
16. Calibrate water regulators, reliefs, reducers, computerized pressure transducers, and related equipment.
17. Monitor and maintain inventory of parts for proper pump station system operation.
18. Maintain and operate large auxiliary pumps for emergency backup or bypass pumping.
19. Perform skilled work in the installation and collection of data utilizing flow monitor/sampling equipment.
20. Perform work to install, connect, calibrate flow poke equipment.
21. Install various types of flow meters; bubbler, area velocity, ultrasonic, and submerged probe.
22. Install, maintain and collect data from various types of water/wastewater samplers and rain gauges.
23. Monitor and maintain sampling/flow monitor inventory; loggers, batteries, battery chargers, spring rings, flow metering inserts, and rapid transfer devices.
24. Monitor and maintain magnetic flow meters to include transmitters.
25. Perform work to download, upload, and review data between computer and field installed data collecting devices.
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 below are representative of the knowledge, skills, and abilities required.

1. Education & Experience Requirements
 - A. Completion of the City of Duluth Lift Station Operator Apprenticeship Program; or
 - B. Three (3) years of experience as a Water Conveyance Technician.

2. License Requirements
 - A. Possess and maintain a valid Minnesota Driver's License or privilege.
 - B. Possess a valid Minnesota Pollution Control Agency (MPCA) Wastewater Facility Operators S-D Certificate.
 - C. Ability to obtain and maintain a valid Minnesota Pollution Control Agency (MPCA) Wastewater Facility Operators S-C Certificate and Minnesota Department of Health Class C Water Operator Certificate within 18 months of appointment.
 - D. Possess and maintain an unlicensed individual electrical registration.

3. Knowledge Requirements
 - A. Extensive knowledge of the methods, equipment, and materials used in high pressure plumbing, pipe fitting, and related trades as they apply to water distribution.
 - B. Knowledge of construction work methods and procedures related to maintenance and repair of water distribution systems.
 - C. Knowledge of electricity and electronics.
 - D. Knowledge of personal computers and related data processing equipment.
 - E. Knowledge of telemetry/SCADA software and hardware.
 - F. Knowledge of the National Electrical Code in relation to pump station functions.
 - G. Knowledge of plumbing and building codes in relation to pump stations.
 - H. Knowledge of Minnesota Pollution Control Agency regulations pertaining to wastewater discharge.
 - I. Knowledge of Minnesota Department of Health regulations pertaining to water distribution systems.
 - J. Knowledge of confined space entry procedures.
 - K. Knowledge of lock-out tag-out procedures.

4. Skill Requirements
 - A. Skill in diagnosing and repairing water regulated system problems.
 - B. Skill in the repair of heavy duty pumps and electric motors.
 - C. Skill in the operation/maintenance of sampling/flow meter installation and data collection.
 - D. Skill in the operation and use of a variety of maintenance and testing tools and equipment – flow meters, poly-phase meter, volt-ohm meter, gear pullers, conduit benders, tap and die sets, atmospheric-testing meters, portable generators, and electric hoists.
 - E. Skill in setting up appropriate traffic controls.

5. Ability Requirements
 - A. Ability to communicate effectively in both written and oral form.
 - B. Ability to calculate water and wastewater volumes.
 - C. Ability to read and interpret schematic drawings.
 - D. Ability to diagnose and repair regulators and reliefs.
 - E. Ability to identify good flow monitoring sites.
 - F. Ability to successfully complete a "Competent Person" training program.
 - G. 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.

6. Physical Ability Requirements

- A. Ability to frequently lift and carry equipment and materials weighing up to 50 pounds.
- B. Ability to occasionally lift and carry with assistance equipment and materials weighing up to 100 pounds, such as generators and pumps.
- C. Ability to frequently push, pull, stoop, kneel, crouch, and reach to perform maintenance on pumps.
- D. Ability to occasionally climb and balance while working on tanks and basins at heights up to 30 feet.
- E. Ability to work in confined spaces.
- F. Ability to work outside in inclement weather.
- G. Ability to attend work on a regular basis.
- H. Ability to transport oneself to, from, and around sites of projects, tests, and other assignments.

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