

**CITY OF BAY CITY
WASTEWATER TREATMENT PLANT DIVISION
INSTRUMENT TECH/ELECTRICIAN
UWUA LOCAL #542**

Revised: 7/12/2017

Reports to: WWTP Maintenance Supervisor

POSITION SUMMARY

This position performs a variety of skilled instrumentation and electrical work in the maintenance of the Wastewater Treatment facilities and systems, with emphasis on instrumentation, control panels, Supervisory Control and Data Acquisition (SCADA) systems, Programmable Logic Controllers (PLC), Human Machine Interface (HMI) operations; inspection, calibration, troubleshooting, installation and repair of a variety of process monitoring and control equipment such as pumping control systems, communication systems, gas detectors, laboratory equipment, electronic level pressure and flow measuring, transmitting and recording devices, development and implementation of improvement projects.

ILLUSTRATIVE JOB DUTIES AND RESPONSIBILITIES

- Reads and interprets electrical and mechanical blueprints and unit flow sheets.
- Installs and maintains all instrumentation related to operation of all Wastewater Plant facilities.
- Does necessary drawing, sketching, and designing.
- Does special work in fundamental physical measurements and assembles special apparatus for such measurements.
- Disassembles, cleans, repairs, and reassembles meters, gauges, indicators, instruments, timers, and related devices.
- Uses measuring instruments, such as voltmeters, ammeters, wattmeter's, ohmmeters, meggers, etc.
- Performs common preventive maintenance by inspecting equipment, checking voltage and amperage, tightening and cleaning equipment and locating potential problems.
- Performs common preventive and corrective maintenance by isolating power, ground wires, troubleshooting problems, making repairs, restoring power and checking for proper operation.
- Performs common electrical and instrumentation circuit installation for additions of modifications by bending and installing conduit, pulling wire, wiring in circuit as shown on blueprints and testing system for proper installation.
- Maintains and repairs electrical equipment at pump stations such as motors, switchgears, and substation and control equipment.
- Updates and maintains current as-built drawings of electrical and instrumentation equipment facilities such as motors, generators, switch-gears, substations and control equipment.
- Test, adjust, modifies and maintains analog, digital and logic circuitry, microprocessor controlled devices, elements and components such as programmable logic controllers on wastewater treatment process instruments and devices.
- Generates power at pump stations during outages by connecting emergency generators to pump stations.
- May perform the duties of a Plant Mechanic II in emergencies.
- Serves as relief operator to maintain plant operations, in case of emergencies.
- May be contacted for after hour call in for equipment repairs, power outages, and rain/snow melt events.
- Maintains proper housekeeping and safety practices.
- Maintains tools and equipment.
- May be ask to respond to plant emergencies.
- Perform other related work as required.

QUALIFICATIONS

Knowledge of:

- Occupational hazards of standard safety precautions necessary in the work.
- The standard practices, methods, tools, and materials used in the mechanical trades, and demonstrated skill in their application.

Ability to:

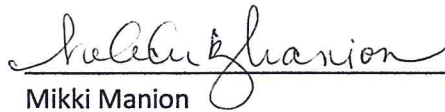
- Perform skilled mechanical tasks independently.
- Read and interpret electrical, instrumentations controls, process flow, and mechanical drawings and diagrams.
- Complete work from sketches, blueprints, and diagrams.
- Read meters and gauges correctly.
- Act quickly and competently in making necessary wastewater operation adjustments.
- Demonstrated proficiency in completion of mathematical calculations with speed and accuracy.
- Enter confined space areas to assist for inspection and maintenance.
- Understand and carry out oral and written instructions, as well as establish and maintain effective working relationships with other employees.
- Communicate effectively, both orally and in writing and the ability to understand and accurately follow oral and written instructions to maintain and prepare accurate records and written reports.
- Operate the Wastewater Treatment Plant's standby generators when needed.
- Solve complex problems and work effectively under stress.

EDUCATION/EXPERIENCE

- High School diploma or GED, equivalent.
- Associate Degree in a relevant technical field from an accredited college or university, required.
- Considerable experience as a journeyman electrician and completion of an approved instrumentation or electrical apprenticeship program, required.
- Minimum of three (3) years of instrumentation and electrical experience in a large capacity wastewater treatment plant, providing broad areas of experience and expertise in the instrumentation and electrical fields.
- Previous working experience or training with the use and operation of, but not limited to, Centrifugal Pumps, Piston Pumps, and Diaphragm Pumps.
- Must possess and maintain a valid State of Michigan driver's license.
- Must have basic computer skills in order to work with preventive maintenance software.

PHYSICAL/MENTAL/VISUAL DEMANDS

- Must have and wear protective footwear (steel-toe or equivalent) per MIOSHA regulations at all times, and all footwear must meet federal (ANSI Z41.1) standards.
- Must wear personnel protective equipment (PPE) when required.
- Vision 20/20 corrected.
- Ability to distinguish colors appropriately.
- Expose to both inside and outside environments of on-site activities, including exposure to oil, dirt dust, grime, water treatment chemicals, and inclement weather conditions.
- Work involves walking, climbing, sitting, kneeling, twisting, stooping and squatting on a regular basis.
- Overhead work, work above ground, and work in confined spaces is required.
- Lifting up to 50 pounds and exerting force from 50-100 pounds frequently.
- Climbing of ladders is required.



Mikki Manion
Human Resources Director



Ross Dean
UWUA L542 Union President

Original: 6/28/17

The above statements are intended to describe the general nature of the work being performed by employees assigned to this classification. They are not intended to be construed as an exhaustive list of all responsibilities, duties, and skills required for personnel so classified.