

SECTION 01850

TRAINING

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Instruct and train Owner's personnel in maintenance and operation of equipment for systems supplied under this Contract, including the following items:
 - 1. All process, mechanical, service and other equipment as noted in the detailed specifications.
- B. Incorporate the following maintenance and operation data and training services into the training program:
 - 1. Shop Drawings.
 - 2. Equipment Operation and Maintenance Manuals.
- C. Prepare instruction training materials, and student notes/guides for complete classroom and hands-on training of all individuals requiring training.

1.2 RELATED REQUIREMENTS

- A. General Requirements including:
 - 1. Section 01300 – Submittals.
 - 2. Section 01730 – Operation and Maintenance Data.
 - 3. Section 11321 – Vertical Wastewater Pumps

1.3 QUALITY ASSURANCE

- A. Preparations of training materials and instruction to be provided shall be performed by personnel trained and experienced in maintenance and operation of equipment and systems to be installed under this Contract.

1.4 SCHEDULE OF CONDUCTING TRAINING

- A. Field training programs shall be conducted after performance testing begins but prior to substantial completion.
- B. Training programs shall be planned and conducted for:
 - 1. Operations Personnel.
 - 2. Maintenance Personnel.
- C. Provide training of operations and maintenance staff as indicated in Specification Section 11321 – Vertical Wastewater Pumps.
- D. All scheduling shall be coordinated through the Engineer.

1.5 TRAINING FOR OPERATION AND MAINTENANCE OF PUMPS

- A. Train the Owner's maintenance personnel as follows:
 - 1. Describe and provide field instruction for all preventive maintenance required on entire pump and motor assembly.
 - 2. Locating the probable source of pumps malfunction, determining the symptoms of the trouble, establishing the probable cause and effecting a solution.
- B. Course materials to be used for training Owner's maintenance personnel shall include pertinent portions of the submittals specified in the Specifications including calibration data, trouble-shooting guides and maintenance instructions.
- C. The training program shall not include the time required for system start-up instructions or the field acceptance tests.
- D. Train the Owner's operations personnel as follows:
 - 1. Implement start-up and shutdown procedures for each piece of equipment individually. This instruction shall include normal operation, alternative operations, and emergency operations.
 - 2. Discuss the operating modes possible as a result of the modifications and installations made under this Contract.
 - 3. Locating the probable source of pumps trouble, determining the symptoms, establishing the probable cause, and re-stabilizing system efficiency or systems installed under this contract.
 - 4. Demonstrate necessary precautions for safe operation of the pumps.
 - 5. Demonstrate emergency procedures for pumps.
- E. Course materials to be used for training Owner's operation personnel include pertinent portions of the Operations and Maintenance Manuals, including start-up and shutdown procedures; descriptions of equipment and instrumentation functions and modes of operations, control and monitoring; trouble-shooting instructions and process control instructions.
- F. Methods of training Owner's operations personnel shall include a field training program at the Owner's site consisting of classrooms and hands-on training using the Owner's equipment and systems.
- G. The field training program shall not include the time required for system start-up instructions or the field acceptance test.

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CITY OF ANN ARBOR
WASTEWATER TREATMENT PLANT
SECONDARY EFFLUENT PUMPS PURCHASE

TRAINING
01850 / 3

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION