

CONSTRUCTION SPECIFICATION

PA 441 - IRRIGATION SYSTEM, MICROIRRIGATION

1. SCOPE

The work will consist of furnishing materials and installing all components as required to provide a complete micro irrigation system as shown on the specifications and drawings.

2. SOURCE OF WATER

The source of water shall be as shown on the drawings, and as previously determined by the landowner. The source shall provide the design capacity for the system being installed.

3. MATERIALS

The materials shall be fabricated in accordance with the design and specifications and in accordance with the manufacturer's instructions. The system shall be tested to determine if the system is in proper working order, and will deliver the required capacity to meet the design use, and the specified uniformity distribution rate.

Applicators. Applicators shall be installed as recommended by the manufacturer. The contractor shall provide the manufacturer's performance specifications of the applicator installed in the system to the owner prior to installation. They shall be manufactured from materials resistant to the normal effects of water, weather, sun, and commonly injected agricultural chemicals used for cleaning, chemigation and water amendments. Applicators placed beneath the ground surface will be placed deep enough to protect them from normal farming operations. Spray type emitters will be installed in such a manner that the wetted area (P_w) used in the design can be obtained.

Pumps, Power Units and Filters. Pumps, power units, and filters shall be set on a firm base, be placed in proper alignment, and shall meet the power, capacity, and pressure requirements specified. All pertinent safety codes and manufacturer's recommendations shall be met for the type of equipment installed.

Pipe. The manufacturer's performance data will be provided by contractor for pipe (tubing) used

as laterals in the system and all other pipe not included in the standard for irrigation pipelines (430). The manufacturer's data must include the maximum allowable operating pressure and inside diameter. This pipe and tubing shall be installed as recommended by the manufacturer. A copy of the manufacturer's data shall be provided prior to installation.

Joints and Connections. All joints and connections involved in installation of laterals to the manifold lines shall be made in accordance with the pipe manufacturer's recommendations and shall be constructed to withstand the maximum design working pressure for the pipelines without leakage. Connections of applicators to the lateral lines shall be in accordance with the manufacturer's recommendations.

Valves. All valves which must pass the design discharge should be equal to the size of pipe, but shall not be smaller than the size recommended by the manufacturer. The manufacturer's performance data and specifications for valves shall be provided by the contractor. The valves shall be type and of the material specified. Valves shall be installed according to manufacturer's recommendations to withstand the maximum design working pressure without damage, or leakage.

Injectors (Chemical, Fertilizer or Pesticides) and Automatic Operating Equipment (Timer).

Where automatic equipment or injectors (chemical, fertilizer, and pesticide) have been planned for the system, it shall be located adjacent to the pump and power unit and installed in accordance with manufacturer's recommendation. When chemicals are injected, back-flow prevention devices shall be provided.

4. TESTING THE SYSTEM

The system shall be thoroughly and completely tested at the design pressure for strength, proper functioning, and leakage. Any leaks shall be repaired and the system retested.

During the initial start-up, but prior to the placement of end plugs, the manifold and lateral lines shall be flushed for a sufficient time to remove any sediment or foreign material from each line.

There shall be no objectionable flow conditions at or below design capacity and all appurtenances shall perform properly.

5. EROSION CONTROL AND WATER REMOVAL

There may be potential for soil erosion during construction. Construction operations shall be carried out so that erosion, air, and water pollution are minimized.

6. ADDITIONAL CONDITIONS WHICH APPLY TO THIS PROJECT ARE: