

**UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE**

CONSTRUCTION SPECIFICATION

**IRRIGATION SYSTEM - SPRINKLER
(No. and Acre)**

Code 442

SCOPE

The designer of the sprinkler irrigation system (consulting engineer, equipment vendor, or others) shall furnish the owner with a complete set of engineering plans and specifications covering all components of the system and performance requirements. The engineering plans and specifications shall contain sufficient details to allow the irrigation system to be installed by someone unfamiliar with the job. The installation shall be checked for conformance to this standard. The plan shall specify type, grade, quality, size, and construction material of all equipment and appurtenances included in the system design.

MATERIALS AND INSTALLATION

The irrigation system and components shall be installed as designed and shown on the engineering plans or as staked in the field. Materials and components shall be of type, size, and quantities specified in the plans and specifications.

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

Sprinklers shall be installed as recommended by the manufacturer. Sprinkler performance tables provided by the manufacturer shall be used to determine that the sprinklers meet the requirements specified in the plan and design.

Risers may be constructed of standard galvanized steel, aluminum, or plastic. On permanent sprinkler systems, they shall be installed in a vertical position and adequately supported by anchor blocks or other suitable means. Plastic materials that will be exposed to sunlight shall be made of ultraviolet-resistant materials or protected by coating or shielding as recommended by the manufacturer. Plastic risers shall meet or exceed the pipe material requirements specified for the mains and laterals.

All joints and connections shall be made in accordance with the manufacturer's recommendations and shall be constructed to withstand the maximum design working pressure for the pipelines without damage or leakage.

All valves shall be equal to the size of pipe in which they are installed and of the material and type specified. Valves shall adequately withstand the maximum design working pressure and meet the performance requirements of the system without damage or leakage.

TESTING

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

The system shall be checked to ensure that it functions properly at design capacity, that the distribution pattern and spacing requirements are met, and that the variation in pressure or discharge rate is within the allowable rate specified. At or below design capacity, there shall be no objectionable flow conditions and all appurtenances shall perform properly.