

CONSTRUCTION SPECIFICATIONS

NATURAL RESOURCES CONSERVATION SERVICE

Irrigation System, Sprinkler

SCOPE

This work includes the design and installation of a sprinkler irrigation system that meets the requirements of Conservation Practice Standard 442, Irrigation System, Sprinkler. Complete all work in accordance with all federal, state and local laws and regulations.

DESIGN

Use a qualified professional (certified irrigation designer or professional engineer) to complete the system design. Require that the designer of the sprinkler irrigation system furnish the owner with a complete set of engineering plans and specifications covering all components of the system and performance requirements. Ensure that the engineering plans and specifications contain sufficient details to allow the irrigation system to be installed by someone unfamiliar with the job. Check to ensure that the plan specifies type, grades, quality, size, and construction materials of all equipment and appurtenances included in the system design.

MATERIALS AND INSTALLATION

Install the irrigation system and components as shown on the engineering plans or as staked in the field. Use materials and components of the type, size, and quantities specified in the plans and specifications.

Set pumps, power units, and filters on a firm base and place them in proper alignment. Follow all pertinent safety codes and manufacturer's recommendations for the type of equipment installed. Use equipment that meets the power, capacity, and pressure requirements specified.

Install sprinklers as recommended by the manufacturer. Use sprinkler performance tables provided by the manufacturer 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, install risers in a vertical position and adequately support the riser by anchor blocks or other suitable means. When plastic materials will be exposed to sunlight use materials made of ultraviolet-resistant materials or protect the material by coating or shielding as recommended by the manufacturer. Use plastic risers that meet or exceed the pipe material requirements specified for the mains and laterals.

Make all joints and connections in accordance with the manufacturer's recommendations and construct them to withstand the maximum design working pressure for the pipelines without damage or leakage.

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

TESTING

Thoroughly and completely pressure test the system at the design pressure for proper functioning and leakage. Repair any leaks and retest the system.

Check the system 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 range specified. Ensure that when the system is operating at or below design capacity, there are no objectionable flow conditions and all appurtenances perform properly.