

Designing Wastewater Irrigation Systems: Engineering Design Inputs

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Abstract. In order to complete a Surface Irrigation System Design, there are many factors that influence the best equipment choices. Quality of effluent and site specific conditions will drive the decision for equipment types that may be available for use. Once an instantaneous loading rate and a long-term application rate are established, the designer must select irrigation system components that match the requirements and abilities of the site. This includes Irrigation Equipment, Pumps Valves, System Controls, and Storage Facility. This presentation explores the different irrigation equipment types depending on area size and application rates, and carries the participants through the design process to create a functional system. Listeners will discover the primary design considerations, such as precipitation rate, loading rate, and how spatial considerations such as field shape and slope contribute to the design. Single or multiple zone requirements, pressure system capabilities, and coordinating with soils and hydrogeologic reports may influence the design, and will ultimately give operators the most flexibility in system operation and effectiveness.