

## Equipment Requirements

Six specific equipment requirements are included in the laws relating to chemigation. These items must be in place before any system is approved for a permit, and must also be in place and in use during any application.

### **Mainline Check Valve**

An irrigation line check valve must be located in the pipeline between the irrigation pump and the point of chemical injection into the irrigation pipeline. The check valve must stop the water and chemicals from draining or siphoning back into the irrigation well. The check valve must have a positive closing action and a watertight seal. It should be easy to repair and maintain.

### **Vacuum Relief Valve**

A vacuum relief valve must be located on the pipeline between the irrigation pump and the mainline check valve. The valve allows air into the pipeline when the water flow stops, preventing a vacuum that could cause siphoning.

### **Inspection Port**

An inspection port must be located between the irrigation pump discharge and the mainline check valve. The inspection port enables the operator to make a visual inspection for possible leaks of the check valve. The vacuum relief valve connection often serves as the inspection port.

### **Automatic Low Pressure Drain**

The low pressure drain, made of corrosion-resistant material and having at least a three-quarter inch orifice, must be located on the bottom of the horizontal pipe between the irrigation pump and the irrigation pipeline check valve. The drain must discharge at least 20 feet from the water source. The drain inlet should not extend beyond the inside surface of the pipe unless a check dam is also present. This drain will help keep any water/chemical mixture away from the irrigation water source if the mainline valve leaks.

### **Chemical Injection Line Check Valve**

A chemical injection line check valve must be located between the point of chemical injection into the irrigation pipeline and the chemical injection pump. This valve shall be chemical resistant. With a minimum opening of 10 psi, this check valve is needed to stop the flow of water from the irrigation system into the chemical supply tank, and to prevent gravity flow from the chemical supply tank through the injection pump and into the irrigation pipeline after a system shutdown.

### **Simultaneous Interlock Device**

The irrigation pump and the chemical injection pump need to be interlocked so that if the irrigation pump stops, the chemical injection pump will also stop. The interlock may be electrical or mechanical. This interlock prevents the pumping of chemicals from the supply tank into the irrigation pipeline after the irrigation pump stops.

### **Equipment Changes**

The Lower Niobrara Natural Resources District should be notified within 72 hours of any replacement or alterations involving chemigation equipment. The Lower Niobrara Natural Resources District must then make an inspection. If compliant, the permit will be continued. If the equipment does not comply, the permit must be suspended until compliance is achieved and the Lower Niobrara Natural Resources District gives approval to the permit.

As required by law, the Lower Niobrara Natural Resources District will conduct area-wide, selective, and periodic inspections to ensure Chemigation Act compliance.