

PATHFINDER IRRIGATION DISTRICT

District Policy Concerning Submerged Measuring Devices

Adopted Date: October 5, 2010

INTRODUCTION

This policy is enacted to provide information to landowner/irrigators and District staff on how the District will address water measurement problems created by changes in the irrigators water application techniques (e.g. gated pipe, plastic ditch, cement ditch, side-roll sprinklers and center pivot sprinkler systems), that result in making the District's water measurement devices inaccurate or unusable, and create other problems for the District's irrigation facilities.

BACKGROUND

With the ever increasing demand being place upon water resources in Nebraska and the United States in general, it is becoming more and more important that water is managed, measured and accounted for in as accurate a manner as is practical. With tightening water supplies, more importance is being placed on water measurement and accounting. If you can't measure the water being diverted and delivered to it's location of beneficial use, then you can't properly manage the resource.

By state law, federal contract and District bylaw, the District is obligated to provide for the fair and equitable distribution of the available water supply to all lands in the District. Without properly maintained and accurate measuring devices in place, it is impossible for the District to

meet this requirement. The Nebraska Supreme Court in *Peterson v. Gering Irrigation District*, 219 Neb. 275, 363 N.W.2d 141 (1985), specifically ruled that an Irrigation District was only required to deliver water to the farm unit at the high point of the land, and that landowner irrigation systems, which interfered with the District's duty to properly measure water were in violation of the District's statutory responsibilities. The Nebraska Supreme Court, in that case, also noted that a District is not required to build checks in the canal to raise the elevation of the deliveries to accommodate landowner irrigation systems, reciting that such changes would not only be costly and require more district maintenance, but would make the canal susceptible to damage or overflow in periods of high waters, rains, etc., and could also produce a shortage of water at the end of the canal.

More and more irrigators are converting to more convenient and efficient means to deliver their irrigation water across their fields and to the crops. In almost all cases the new more efficient practice requires more head (fall) to convey the water. As a result, the District's measuring devices are being submerged and in such cases do not provide for an accurate measurement of the water being delivered. The Nebraska Supreme Court in the *Peterson* case specifically ruled that the District was not responsible for providing more head or delivering water at a point above the high point of the farm unit. That is the landowner's responsibility. The District is not opposed to the improved practices, but they need to be installed such that they do not back water into the District measuring device, making them unusable for the proper measurement of water, and do not jeopardize or interfere with the integrity, operation and maintenance of the District's canals, lateral and delivery systems.

POLICY

1. Existing submerged measuring devices.

1.1. Irrigation practices that currently submerged District measuring devices will be required to be modified to insure that the measuring device reads accurately. Modifications could include, but are not limited to the following.

1.1.1. Change the application method to one that requires less head and does not submerge the measuring device.

1.1.2. Installation of the ditch, gated-pipe or plastic ditch at a lower point in the field to obtain the head needed to operate the irrigation system without submerging the measuring device.

1.1.3. Land level the field to provide the head necessary to operate the irrigation system without submerging the measuring device.

1.1.4. Install a lift pump to provide the necessary head to operate the irrigation system without submerging the measuring device. If a lift pump is utilized the system must be set up to overflow without backing water into the District's measuring device, canal, lateral or pipeline.

2. Future changes in irrigation practices/methods.

2.1. Landowners/irrigators who wish to install a new irrigation method, should have the irrigation practice designed by a professional experienced in the proper design of the

method being proposed. District staff will be happy to assist the professional with any information they require to properly design the system.

3. Failure to Comply with District Policy.

3.1. The District will take the following action to address submerged measuring devices, if existing situations are not corrected, and new installations do not comply with this policy.

3.1.1. When water is delivered to a parcel that submerges the measuring device the measuring device will be set at the proper reading for the volume of water the unit is entitled to receive regardless of the fact it is submerged.

3.1.2. The District will not raise the historic water levels in the lateral/canal to make delivery to a submerged measuring device.

3.1.3. The transfer of additional water above what the unit/field is entitled to draw or receive for the established limit will not be allowed.