



Natural Resources Conservation Service
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August 30, 2002

Lori Graves
Idaho Department of Water Resources
2735 Airport Way
Boise, ID 83705-5082

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SEP 03 2002

WATER RESOURCES
WESTERN REGION

Re: Measuring Device and Headgate – Alan Ellis

Dear Lori,

On Thursday, August 29, 2002, I met with Mr. Ellis at his property and looked at the Submerged Orifice Measuring Device installation on the Underwood Ditch. This device is properly installed to provide accurate measurement of the irrigation water assuming proper operation.

For reference, I reviewed the Bureau of Reclamation publication Design of Small Canal Structures, pages 150-161. Note that on pages 150 and 151 is the following: "At least two gates are required for the structure to operate. The first gate, the upstream gate, controls the size of the rectangular orifice. A second gate, the downstream gate, controls the water depth below the orifice and is operated to maintain the head across the orifice at a constant value." The structure in question has a fixed size orifice opening at the upstream end, thereby eliminating the need for an adjustable gate. The downstream gate needs to be operated to maintain a backwater condition within the structure in order to completely submerge the upstream orifice.

I hope that this will answer any questions and resolve the issue with the subject structure. If you have any questions please give me a call.

Sincerely,

Robin P. Hadeler
Civil Engineering Technician
Weiser Field Office, NRCS

Cc: Alan Ellis