State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Boise, ID 83706 - P.O. Box 83720, Boise, ID 83720-0098
Phone: (208) 327-7900 Fax: (208) 327-7866 Web Site: www.idwr.state.id.us

DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

November 18, 2002

Re: Order Requiring Measuring Devices and Headgates in Water District 73, Pahsimeroi River and Tributaries

Dear Water User,

The Idaho Department of Water Resources (the Department) has issued the enclosed order requiring installation of measuring devices and headgates for all diversions of water from the Pahsimeroi River and tributaries. Please note that headgates and measuring devices must be installed prior to diversion of water in 2003. A copy of the order and this letter is being sent to those users identified in Attachment A of the order.

On April 16, 2002 the Department sent notice to water users in Water District 73 advising that both measuring devices and lockable headgates must be installed on all diversions from the Pahsimeroi River and tributaries. That notice allowed for installation of these devices to be delayed until the start of the 2003 irrigation season subject to several conditions, one of which was to submit plans for installation of the devices. A majority of the users in the district have not complied with the 2002 deadline to submit installation plans. The attached order is intended to re-emphasize the requirement for users to submit plans for installation of measuring devices and headgates. Plans must be submitted to the Department on or before January 31, 2003. Plans should include descriptions of the general type or make of measuring devices and headgates, as well as a schematic showing the dimensions and locations of headgates and measuring devices. Please also describe the water source, legal description and name of the diversion for which any plan is submitted, and include your name, address and phone number with the plan.

The Department understands that some users may have installed measuring devices or headgates this year or that users believe that they were in compliance with the attached order prior to our last notice. A written description of the measuring devices and/or controlling works now in place will satisfy the requirements to file plans. Please contact Bob Foster, IDWR Salmon Field Office, if you have any questions or concerns as to whether your diversion is in compliance with the order or if you wish to schedule a site visit to check compliance.

Pursuant to Section 42-701, Idaho Code, users who neglect to comply with any provision of Department orders requiring installation of measuring devices and lockable controlling works may be subject to the administrative enforcement actions provided by Section 42-1701B, Idaho Code. Enforcement actions may include the issuance of

Notices of Violation and Cease and Desist Orders, as well as possible civil penalties. The Department will seek a court order if necessary to ensure compliance with the order requiring measuring devices and controlling works.

The department asks for your full cooperation concerning this matter. If you have questions concerning this matter please contact me directly at the above location or contact Bob Foster, IDWR Salmon Field Office, 208-756-6644, or contact the IDWR Eastern Regional office in Idaho Falls at 208-525-7161.

Respectfully,

Tim Luke
Manager, Water Distribution Section

Cc: Bob Foster, IDWR Salmon Field Office
IDWR Eastern Region
Jim Martini, Water District 73 Watermaster

Attachments: Order Requiring Measuring Devices and Controlling Works
Minimum Standards for Measuring Surface Water Diversions

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BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE

STATE OF IDAHO

IN THE MATTER OF REQUIRING MEASURING DEVICES AND CONTROLLING WORKS ON THE PAHSIMEROI RIVER AND TRIBUTARIES, WATER DISTRICT 73	)	ORDER

On April 16, 2002 the Department sent notice to water users in Water District 73 with diversions from the Pahsimeroi River and tributaries regarding the need to install measuring devices and headgates. This notice advised users that the Department expects compliance with the adopted resolutions of the water district and a previous order of the Department concerning installation of measuring devices and headgates. The notice also advised users that the start of the 2003 irrigation season is the final deadline for installing measuring devices and headgates in the district. Section 42-701, Idaho Code, provides in pertinent part:

42-701. INSTALLATION AND MAINTENANCE OF CONTROLLING WORKS AND MEASURING DEVICES BY WATER APPROPRIATORS – PROCEDURE UPON FAILURE TO INSTALL AND MAINTAIN – MEASURING AND REPORTING OF DIVERSIONS – PENALTY FOR FAILURE TO COMPLY – REPORT FILING FEE.

1. The appropriators or users of any public waters of the state of Idaho shall maintain to the satisfaction of the director of the department of water resources suitable headgates and controlling works at the point where the water is diverted. Each device shall be of such construction that it can be locked and kept closed by the watermaster or other officer in charge, and shall also be of such construction as to regulate the flow of water at the diversion point. Each such appropriator shall construct and maintain, when required by the director of the department of water resources, a rating flume or other measuring device at such point as is most practical in such canal, ditch, wellhead or pipeline for the purpose of assisting the watermaster or department in determining the amount of water that may be diverted into said canal, ditch, wellhead or pipeline from the stream, well or other source of public water. Plans for such headgates, rating flumes or other measuring devices shall be approved by the department of water resources.

3. Any appropriator or user of the public waters of the state of Idaho that neglects or refuses to construct or maintain such headgates, controlling works, or measuring devices..., upon receiving ten (10) days' notice from the director of the department of water resources within

which to begin and diligently pursue to completion the construction or installation of the required device or devices or to begin and diligently pursue to completion a remedy to such defects as exist in accordance with said notice, then the director of the department of water resources may order the duly qualified and acting watermaster of the water district to shut off and refuse to deliver at the point of diversion, the water owned by such appropriator or user until the user does construct and maintain such headgates, controlling works or measuring devices or remedy the defects which exist or the director may take action pursuant to section 42-1701B, Idaho Code, to enforce the requirement to construct, install or maintain such devices.

4. The appropriators or users of the public waters of the state of Idaho shall be given a reasonable time within which to complete construction of such headgates, controlling works or measuring devices, depending upon the size and extent thereof, when due diligence has been used in the prosecution of such work.

ORDER

IT IS HEREBY ORDERED AS FOLLOWS:

1. Those water users identified in Attachment A of this order and all other users diverting water from the Pahsimeroi River and tributaries shall install measuring devices and lockable controlling works of a type acceptable to the Department prior to diverting water during the 2003 irrigation season.

2. Those water users identified in Attachment A of this order and all other users diverting water from the Pahsimeroi River and tributaries must submit plans for measuring devices and controlling works to IDWR no later than January 31, 2003. Plans shall be reviewed by the Department to determine whether proposed measuring devices and controlling works are of a type acceptable to the Department. If measuring devices and/or controlling works are already in place, a written description shall be submitted by January 31, 2003.

3. The watermaster shall shut off and refuse to deliver water to any diversion in the Pahsimeroi River and tributaries that does not have an adequate measuring device and/or lockable controlling works at any and all times during the 2003 irrigation season.

Dated this 18TH day of NOVEMBER, 2002.

NORMAN C. YOUNG
ADMINISTRATOR

Attachment A

CERTIFICATE OF SERVICE

I DO HEREBY CERTIFY that on this 18th day of Nov., 2002, the attached Preliminary Order was served upon the following individuals by placing a copy of the same in the United States Mail, postage prepaid, certified with a return receipt and properly addressed as follows:

#1
Doug Robbins
HC 62 Box 2216
May ID 83263

#2
Duane Moen
19 Moen Lane
May ID 83263

#3
Pines Grazing
C/O Lynn Trithart
HC 63 Box 1769
Challis ID 83226

#4
Sulpher Creek
Livestock
Whitworth / Eaton
PO Box 159
May ID 83263

#5A
Goldberg Grazing
C/O Thad Whitworth
HC 62 Box 2150
May ID 83263

#5B
Goldberg Grazing
C/O Judd Whitworth
HC 62 Box 2120
May ID 83263

#6
Bill Gydesen
PO Box 178
May ID 83263

#7
Bert Hatch
HC 62 Box 2180
May ID 83263

#8
Don Barnes
HC 62 Box 2190
May ID 83263

#9
Scott Hayes
2610 Starcrest Rd
Boise ID 83712

#10
Jim Dowton
HC 62 Box 2320
May ID 83263

#11
Bob Whitwork
HC 62 Box 2290
May ID 83263

#12
A.L. Troutner
C/O Leon Ziegler
HC Box 2140
May ID 83263

#13
Larry Whittier
HC 62 Box 2161
May ID 83263

#14, 15
Circle Pi Ranch
HC 62 Box 2295
May ID 83263

#16
Parkinson Potato
Farm
PO Box 66
Ellis ID 83235

#17
Steve Lawrence
60 Jennifer Ln
Alamo CA 94507

#18
Chuck Charlton
HC 62 Box 1080
Ellis ID 83235

#19
Last Stand Ranch
HC 62 Box 1200
Ellis ID 83235

#20
Leon Ziegler
HC 62 Box 2140
May ID 83263

#21
Challis Creek Cattle
Box 10
Challis ID 83276

#22
Mark Brown
Box 135
May ID 83263

#23
Sulper Creek
Livestock
PO Box 151
May ID 83263

#24
Judd Whitworth
PO Box 161
May ID 83263

#25
Broken River Ranch
5660 W 4920 N
Mackay ID
83251

#1
Don O'Neal
HC 62 Box 2230
May ID 83253

#2
John Folsom
HC 62 Box 2340
Salmon ID 83467

#3
Lee Watson
4177 RD L
Orland CA
95963

#4
George Santee
PO Box 2365
Idaho Falls ID 83403

#5
Jim Martini
83 Hooper Ln
May ID 83263

#6
Doug Whitworth
PO Box 134
May ID 83263

#7A
Whitworth Ranches
PO Box 167
May ID 83263

#7B, 8, 9B
Scott Whitworth
PO Box 147
May ID 83263

#9A, 17
Duane Moen
19 Moen Ln
May ID 83263

#10
Grace Martiny
168 Hooper Ln
May ID 83263

#11
Spring Creek Grazing
C/O Brent Cutler
PO Box 298
Challis ID 83263

#12
Jess
C/O B.M. Yates
HC 62 Box 2296
May ID 83263

Attachment A

#13A
Kenny Madsen
HC 62 Box 2340
May ID 83263

#14B
Bill Bar Ranch
333 Pahsimeroi Rd
May ID 83263

#14A
Ralph Hatch
HC 62 Box 1000
Ellis ID 83235

#14B
Last Chance Ranch
402 Main St
Salmon ID 83467

#15
Mr. Ellis
150 Pahsimeroi Rd
Ellis ID 83235

#16
Dave Giorgi
950 Glenn Annie
Canyon Rd
Goleta CA 93117

#18
Judd Whitworth
HC 62 Box 2150
May ID 83253

#19
Mark Brown
PO Box 135
May ID 83263

#20
George Miller
HC 62 Box 2110
May ID 83263

#21
Circle Pi Ranch
HC 62 Box 2295
May ID 83263

#22
Harley Wallis
HC 62 Box 2060
May ID 83263

#23
Dick Bergman
2200 Pahsimeroi Rd
May ID 83263

#24A
Mary White
HC 62 Box 2050
May ID 83263

#24B
Troy Ziegler
HC 62 Box 1571
Challis ID 83276

#25
Gary Slominski
HC 62 Box 2085
May ID 83263

#26
Syd Dowton
PO Box 7
Ellis ID 83235

#27
Scott Whitworth
PO Box 147
May ID 83253

#28
Marie Osborn
PO Box 149
Stanley ID 83276

#29
Pat Simpson
PO Box 414
Hailey ID 83333

Dayna M Ball

Dayna M. Ball, Office Specialist II
Water Distribution Section

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES (IDWR)

MINIMUM ACCEPTABLE STANDARDS FOR MEASUREMENT AND REPORTING OF SURFACE WATER DIVERSIONS

The source and means of diversion of water, whether surface or ground water, generally determines the measurement and reporting process. Surface water sources such as streams, springs and waste channels are normally diverted into open channels (ditches or canals), but closed conduits (pipes or culverts) are also used. Ground water is usually diverted into pipes (which may also discharge into open channels).

Measuring devices are required at or near the point of diversion from the public water source.

Open Channel

SURFACE WATER DIVERSIONS

I. Flow Measurement

The following discussion is applicable only to diversions from surface water sources. Measurement of a ground water diversion with an open channel measuring device must be pre-approved by the Department.

A. Standard Open Channel Measuring Devices

All open channel flow diversions should be measured using one of the following standard open channel flow measuring devices commonly used in Idaho:

- contracted rectangular weir
- suppressed rectangular weir
- Cipolletti weir
- 90 degree V-notch weir
- ramped broad crested weir (or ramped flume
- Parshall flume
- trapezoidal flume
- submerged rectangular orifice
- constant head orifice

Construction and installation of these devices should follow published guidelines. References are available upon request.

B. Non-standard open channel devices: Rated Structures or Rated Sections

IDWR may authorize the use of non-standard devices and rated sections provided the device or section is rated or calibrated against a set of flow measurements using an acceptable open channel current meter or a standard portable measuring device. Further restrictions and requirements are available from the Department upon request.

CLOSED CONDUIT MEASURING DEVICES

Closed conduit or pipe line diversions require installation of a flowmeter.

I. Flow Measurement

There are many flowmeters on the market, with costs ranging from several hundred dollars to several thousand dollars. In general, the higher priced meters are more accurate and require less maintenance. Most meters on the market have an acceptable accuracy rating for IDWR's guidelines. However, some types and designs are much more prone to maintenance problems. Moving parts tend to wear when sand or silt is present, and moss often plugs small orifices and slows moving parts. No single flowmeter is best for every situation. We recommend that you visit with qualified dealers and discuss your needs with them.

A. Minimum Standards

The following are minimum standards for closed conduit flowmeters:

- Minimum manufacturers' design accuracy of +/- 2 percent of reading
- Installed accuracy of at least +/- 10 percent of reading
- Meter must be calibrated with an independent, secondary measuring device when installed, and at least once every four years thereafter
- Must read instantaneous flow or be capable of flow rate calculation
- Must record total volume
- Non-volatile memory (power outage does not zero volume reading)
- Sufficient digits to assure "roll-over" to zero does not occur within 2 years
- Volume reading cannot be "reset" to zero
- Installed to manufacturers' specifications

Meter manufacturers typically specify that a meter must be located in a section of straight pipe at least 10 pipe diameters downstream and 5 pipe diameters upstream of any valves, bends, contractions, or other interferences which will distort the flow pattern. However, some types of meters will produce acceptable results when installed in shorter sections of straight pipe. For example, at least one electro-magnetic flowmeter provides excellent measurement accuracy with only 5 lengths of straight pipe upstream from the meter.

Each manufacturer should provide the installation specifications for its meters. These **specifications must be adhered to** in order to achieve the accuracy required for the water measurement program. Again, we stress the importance of visiting with a qualified dealer and discussing your specific needs with them.

B. Types of Measuring Devices for Closed Conduits

Types	Pipe Sizes	Maintenance Required	Relative Purchase Price
Differential Head • Orifice • Venturi • Annubar	small to large	Low to high. Sand wears on sharp edges, and particles can plug small orifices and tubes.	low to medium
Force Velocity • Turbine • Propeller • Impeller	small to large	Typically moderate to high. Often problematic when exposed to sand or moss. Some cannot measure low velocities	low to medium
Ultrasonic	small to large	Low. Typically non-invasive with no moving parts to wear	high
Vortex	small to medium (about 12 to 14 inch maximum pipe diameter	Low. Few or no moving parts to wear.	high
Electro-Magnetic	small to medium (about 12 to 14 inch maximum pipe diameter	Low. No moving parts. Can provide good results with shorter lengths of straight pipe.	high